

CM20210330 - Additional Council Meeting - 30 March 2021 Attachments

7.1 ADOPTION OF SHEPPARTON AND MOORoopNA 2050: REGIONAL CITY GROWTH PLAN.....	2
7.1.1 Shepparton & Mooroopna 2050 Regional City Growth Plan, Community Engagement Summary Report - January 2020.....	2
7.1.2 Greater Shepparton City Council Conversation Report – Shepparton & Mooroopna 2050 Regional City Growth Plan - Additional Community Consulation - March 2021.....	20
7.1.3 Shepparton East Agricultural Land Use Options Study - March 2021.....	38
7.1.4 Addendum to Shepparton East Agricultural Land Use Options Report - November 2020.....	99
7.1.5 Land Supply Review - Shepparton and Mooroopna 2050: Regional City Growth Plan - November 2020.....	112
7.1.6 Shepparton & Mooroopna 2050 Regional City Growth Plan, Background Report - July 2020.....	145
7.1.7 Shepparton & Mooroopna 2050 Regional City Growth Plan - March 2021....	186



Shepparton & Mooroopna 2050

Regional City Growth Plan

Community Engagement Summary Report

January 2020





CONTENTS

1.0 INTRODUCTION	4
1.1 Context and Purpose	4
1.2 Project background	5
1.2.1 Vision and outcomes	6
1.3 Planning process	6
1.4 Project partners	6
2.0 THE ENGAGEMENT PROCESS	7
2.1 Method of Engagement	7
2.1.1 Postcard	7
2.1.2 Online communication tools	7
2.1.3 Community drop-in session	8
3.0 WHAT WE HEARD	9
3.1 what we heard and planning response	9
4.0 REFLECTION AND IMPROVEMENTS	10
5.0 NEXT STEPS	11
6.0 APPENDIX	11
6.1 A5 postcard	11
6.2 Survey	12
6.3 Facebook posts	16

1.0 INTRODUCTION

1.1 CONTEXT AND PURPOSE

The Victorian Planning Authority (VPA) recognises that the community input is integral to achieving its vision of planning great places and is committed to undertaking robust and comprehensive engagement with the communities and other stakeholders it works with.

Community engagement on the draft *Shepparton & Mooroopna 2050: Regional City Growth Plan* (Growth Plan) occurred between 23 September and 28 October 2019.

The VPA and the Greater Shepparton City Council (council) sought feedback on any missed opportunities in the previous round of engagement (phase 1 engagement). The phase 1 engagement on the *Shepparton & Mooroopna 2050: Regional City Growth Plan Key Issues and Opportunities report* occurred in February 2019. Six clear themes emerged, these were:

- continue to celebrate the open space offerings in the area
- renew sites to revitalise Shepparton and Mooroopna
- resolve uncertainty around future residential and industrial land supply
- support and prioritise the delivery of infrastructure to support growth
- improve access to and use of the river and its surrounding environments
- ensure agricultural land continues to be productive.

The engagement on the draft Growth Plan focused on hearing if there are any opportunities associated with these themes that we missed. The response to the engagement process consisted of:

- 13 people completed the online survey
- 26 submissions were received via email
- 10 people attended two community pop-up sessions
- 5 direct contacts from the community (phone calls).

This community engagement report summarises and responds to the feedback received throughout the engagement process.

The engagement process was transparent, accessible and interactive. Those who responded to the previous community engagement process were directly contacted. The engagement process was also advertised through VPA and council website's and on social media.



1.2 PROJECT BACKGROUND

The VPA in partnership with council has prepared the draft Growth Plan.

The draft Growth Plan is a high-level document that will be used to coordinate, guide and inform the preparation and consideration of future growth in the Shepparton and Mooroopna area. It will provide opportunities for residents and visitors while ensuring Shepparton and Mooroopna become greener, sustainable and resilient to climate change.

The draft Growth Plan:

- sets out the future vision for Shepparton and Mooroopna
- guides sustainable future growth and development over the next 30 years
- identifies the steps needed to manage growth
- defines key projects and infrastructure required to support growth
- provides an improved and more certain environment for making both public and private investment decisions.

Table 1 highlights the themes that emerged from the phase 1 community engagement and the actions in the draft Growth Plan that address these themes.

Table 1: Phase 1 community engagement theme and draft Growth Plan response

Community Engagement Theme	Draft Growth Plan response
Continue to celebrate the open space offerings in the area	Action 2.3.1 to develop an open space strategy
	Action 5.2.1 to implement the Urban Forest Strategy 2017
	Action 5.4.1 to better align open space with drainage infrastructure
Renew sites to revitalise Shepparton and Mooroopna	Action 1.3.2 to develop a data base of available development and rental sites
	Action 1.4.1 to develop a business case for investment in health and tertiary education
	Action 3.4.1 to promote opportunities provided by the Activity Centre Zone
	Action 3.5.1 to prepare a structure plan for Mooroopna
Resolve uncertainty around future residential and industrial land supply	Action 1.1.1 to plan for industrial land and advocate for funding for regionally significant infrastructure
	Actions 3.1.1 to 3.1.7 to facilitate new housing in identified growth areas
Support and prioritise the delivery of infrastructure to support growth	Action 1.1.2 to advocate for investment in road and rail infrastructure
	Action 1.1.3 to advocate for funding for the GV Link site
	Actions 2.1.1 to 2.1.3 to improve pedestrian accessibility
	Actions 2.2.1 & 2.2.2 to invest in cycling infrastructure
	Actions 4.1.1 to 4.1.4 to support investment in transport infrastructure
	Actions 4.2.1 to 4.2.4 to support investment in public transport infrastructure
	Actions 4.3.1 & 4.3.2 to support investment in community infrastructure
	Actions 6.4.1 to 6.4.4 to invest in sustainable waste management infrastructure
Improve access to and use of the river and its surrounding environment	Actions 5.3.1 to 5.3.3 to increase recreation opportunities along the Goulburn and Broken River corridors
Ensure agricultural land continues to be productive	Actions 1.2.1 to 1.2.3 to reinforce the importance of the Goulburn Murray Irrigation District

1.2.1 VISION AND OUTCOMES

The vision for Shepparton and Mooroopna identified in the draft Growth Plan is that by 2050 it will:

- be a thriving regional hub with diverse and sustainable economy supported by essential infrastructure
- new residents and investors will be drawn to the area due to the affordable and liveable lifestyle
- the natural and cultural heritage significance of the area will be protected and enhanced
- engaging, transparent and financially responsible leadership will be committed to deliver positive and sustainable outcomes.

The vision will be achieved by implementing strategies and actions under six outcomes:

1. **Outcome 1** – A city for the Goulburn region
2. **Outcome 2** – A city of liveable neighbourhoods
3. **Outcome 3** – A city of growth and renewal
4. **Outcome 4** – A city with infrastructure
5. **Outcome 5** – A city that is greener and embraces water
6. **Outcome 6** – A city of innovation and resilience

1.3 PLANNING PROCESS

The preparation of the draft Growth plan has been informed by state and local policy and:

- the Shepparton & Mooroopna 2050 Primary School Engagement Report (2018)
- the Shepparton & Mooroopna 2050: Regional City Growth Plan Key Issues and Opportunities Report (February 2019)
- the Key Issues and Opportunities Community Engagement Summary Report (June 2019)
- the Shepparton & Mooroopna 2050: Regional City Growth Plan Background Report (September 2019) which contains complementary information provides an evidence base for this plan
- background reports
- community and stakeholder engagement.

Figure 1 outlines the planning process that has occurred.

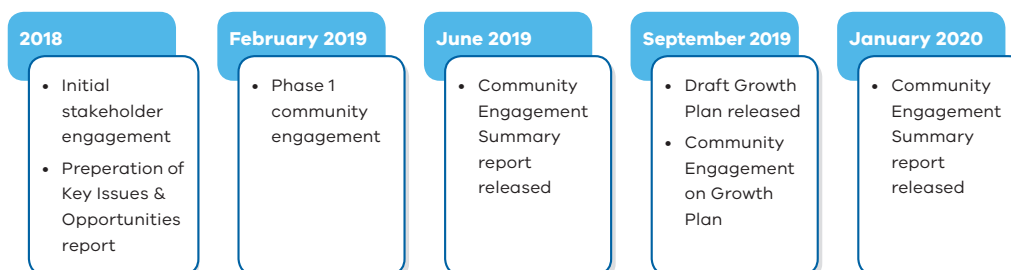


Figure 1: Project Process stages

1.4 PROJECT PARTNERS

The VPA worked in partnership with council to prepare the draft Growth Plan. A number of state agencies, community groups and landowners were actively involved in the development of the draft Growth Plan and were engaged with via meetings, workshops, phone calls and emails.

2.0 THE ENGAGEMENT PROCESS

2.1 METHOD OF ENGAGEMENT

Engagement on the draft Growth Plan occurred between 23 September and 28 October 2019. The draft Growth Plan was shared with the community:

- online via the VPA website
- promoted by A5 postcard (Appendix 6.1)
- promoted through Facebook advertising
- via email notification to subscribers and previous submitters
- through hard copies made available at pop-ups.

2.1.1 POSTCARD

The objective of the postcard was to drive traffic to the website and to the online survey to capture community sentiment on the draft Growth Plan. The postcards were handed out at the community pop-up events to allow people to read about the project and provide feedback at a later date.

2.1.2 ONLINE COMMUNICATION TOOLS

The online engagement survey was promoted through council's Facebook page with geotargeted Facebook advertisements, as well as on the VPA and council websites.

The Survey

An online survey was available, which was designed to capture any gaps that the draft Growth Plan may have missed from the local community and key stakeholders.

The survey received 13 responses, all sections were completed by the respondents.



2.1.3 COMMUNITY DROP-IN SESSION

Community engagement culminated in three pop-up sessions, which aimed to ascertain whether anything was missed from the draft Growth Plan:

- **Sunday 6 October 2019**
 - 9am – 1pm
 - Shepparton Farmers' Market, Kialla
- **Thursday 24 October 2019**
 - 10.30am – 2pm
 - At Woolworths/Aldi, Mooroopna
 - 3pm – 6pm
 - Vaughan Central, Shepparton (outside Coles and KMART)

For the community drop-in session, A1 boards were prepared to help the community understand the context and the issues and opportunities being explored. These were:

- What is the Shepparton & Mooroopna 2050: Regional City Growth Plan?
- What's included in the draft Growth Plan?
- Summary of actions under each outcome area
- Were the community involved in the development of the draft Growth Plan?
- Interactive "Have we missed anything" A1 board where community members could add sticky notes to key themes, they care about including:
 - open space
 - revitalising Shepparton and Mooroopna
 - future residential and industrial land
 - infrastructure
 - the river and environment
 - ensure agricultural land continues to be productive.
- A table of project collateral including hardcopies of draft Growth Plan, newsletter and postcards.

No one participated in the interactive activity as part of the engagement process, however approximately 250 postcards were handed out to passers-by.



3.0 WHAT WE HEARD

We heard from:

- 17 community members
- 5 Agencies
- 13 organisations and community groups

3.1 WHAT WE HEARD AND PLANNING RESPONSE

37 written submissions were received, via email and via the online survey. These have been grouped into key themes and a planning response is provided in Table 2. The themes that emerged from the submissions are:

- conflicts between farming and urban uses
- cycling, walking and horse trails
- residential land supply
- industrial land supply
- retail
- infrastructure
- Mooroopna.

Table 2: Online submissions received and planning response

Theme:	Condensed Respondent Comments:	Planning response
Conflicts between farming and urban uses	<ul style="list-style-type: none"> • Farming locations next to residential and industrial areas, there are conflicts in relation to noise, traffic and spray from farming practices. 	<p>In response to feedback received during the consultation process, council and the VPA are undertaking the <i>Shepparton East Agricultural Land Options Study</i>. The Study will investigate possible solutions to apparent land use conflict between agricultural uses and urban development in the wider Shepparton East area. Council has commissioned RMCG Pty Ltd, a multi-disciplinary environmental and agricultural consultancy firm, to provide Council and the VPA with advice on the viability of agriculture in the area, comment on possible alternative farm management practices that may be better suited for the land and, critically, comment on appropriate planning responses to the existing land use conflict.</p> <p>This study is expected to be completed by the end of February 2020 and will inform the final Growth Plan.</p>
Cycling, walking and horse trails	<ul style="list-style-type: none"> • When planning for walking and cycle paths, also consider the needs of horse riders and if these paths can be designed for them. • Parks Victoria need to be involved in mountain bike trail planning • Include reference to the Murchison to Rushworth rail trail. 	<p>A reference to the Murchison to Rushworth rail trail will be included in the final Growth Plan.</p> <p>The final Growth Plan will be amended to acknowledge the need to engage with Parks Victoria as part of planning for mountain bike trails.</p> <p>The final Growth Plan will also acknowledge the need to consider horse riders when planning new path infrastructure.</p>

Residential land supply	<ul style="list-style-type: none"> • There should be consideration of development to the east. • There is a need for larger lot sizes in Shepparton and Mooroopna, the Kialla north or Kialla west growth corridors should be given a higher priority to meet this demand. • Kialla Central should be considered for shorter term growth. 	<p>It is anticipated that approximately 350 dwellings per annum are required to accommodate projected population growth. However, the land supply figures and land allocated for growth will be reviewed to ensure the Growth Plan accurately responds to the <i>Residential Land Supply and Demand Assessment</i> (September 2019) that was finalised after the draft Growth Plan was prepared. This identifies a shortage of larger lot sizes and this will be considered in the final Growth Plan.</p>
Industrial land supply	<ul style="list-style-type: none"> • The current zoned industrial land will not be sufficient to 2050. 	<p>Further discussion will be included in the final Growth Plan to acknowledge the development constraints to be addressed to facilitate industrial development.</p>
Retail	<ul style="list-style-type: none"> • Prepare a Structure Plan for the Shepparton North Activity Centre. 	<p>This action will be acknowledged in the final Growth Plan.</p>
Infrastructure	<ul style="list-style-type: none"> • New regional airport • Urgency around the Bypass • More open space should be planned for 	<p>An Action will be included in Outcome 1 to acknowledge the potential to relocate the existing Shepparton Aerodrome. There is sufficient guidance provided in the Growth Plan in the draft Growth Plan in relation to the Bypass and planning for open space.</p>
Mooroopna	<ul style="list-style-type: none"> • Support for the re-development of the Mooroopna hospital site • Increased connectivity within Mooroopna • Upgrade of Mooroopna train station • Expand existing recreation facilities 	<p>Further discussion will be included in the final Growth Plan to address concerns raised by the Mooroopna Community Planning Committee.</p>

4.0 REFLECTION AND IMPROVEMENTS

The VPA reviews every engagement event it hosts, to build on success and refine processes that did not meet expectations.

The online submission form allowed community members to leave clear and direct feedback on the Draft Growth Plan. The VPA will consider using this method of engagement again in the future. We received feedback that the A1 display boards with images and information were clear and easy to understand and had a good amount of information on them.

The location of the first pop-up outside of Woolworths in Mooroopna was perhaps a poor location. Few stakeholders stopped to talk, and we received feedback from the store manager of Woolworths indicating that the community members were not keen to talk to us at that location.

This will be improved in the future by better investigation of appropriate locations in consultation with Council. It may also be beneficial to use Eventbrite or another online booking platform to gauge interest with the local community.

New advertising mechanisms will be explored in future projects. We need to ensure community members are attracted to our events to ensure their views are adequately expressed throughout the planning process

Our marketing and communication campaign could have been improved by more effectively harnessing Council social media platforms with engaging digital content. Another factor may have been that this was the second round of consultation on the plan and that it was not sufficiently distinguished from the first round making it clear that new input was being sought from the community.

The final reflection is in relation to the engagement activity at the pop-up events. The activity assumed the general public would have a general understanding of the draft Growth Plan contents. As no one participated in this activity, we will think about simplifying the activities and marketing collateral used at engagement events in the future.

5.0 NEXT STEPS

All the feedback and comments received will be considered and will inform the final Growth Plan by April 2020, which will be considered for adoption by council at a future ordinary council meeting.

Following this, a planning scheme amendment will be prepared to make the Growth Plan part of the Greater Shepparton Planning Scheme. This process is likely to commence in mid-2020 and may take up to 12 months to complete. The community will also have an opportunity to provide a submission to this process. It will inform future planning projects and help council advocate for the delivery of identified infrastructure.

6.0 APPENDIX

6.1 A5 POSTCARD



6.2 SURVEY

Home (<https://vpa.vic.gov.au/>) > Shepparton & Mooroopna 2050 – Regional City Growth Plan – Have your say submission form

Shepparton & Mooroopna 2050 – Regional City Growth Plan – Have your say submission form



The Victorian Planning Authority (VPA) in partnership with Greater Shepparton City Council is preparing the *Shepparton and Mooroopna 2050: Regional City Growth Plan* to guide the sustainable development of the Shepparton-Mooroopna urban area to the year 2050.

The Growth Plan will be a high-level document that identifies the region's strengths, addresses key challenges and sets a vision to guide growth and development to 2050. The Growth Plan will be used to coordinate, guide and inform the preparation and consideration of future, more detailed local plans and planning processes.

In February 2019, the Shepparton & Mooroopna 2050: Regional City Growth Plan Key Issues and Opportunities Report was released for public comment. Six clear themes emerged from this engagement process. The actions from the Growth Plan that address these themes are identified in the table below.

The draft *Growth Plan, September 2019* document for your review is available here:

- [Draft Shepparton & Mooroopna 2050: Regional City Growth Plan](#)



Community engagement themes and response in Growth Plan

Theme	Growth Plan response
Continue to celebrate the open space offerings in the area	<ul style="list-style-type: none"> Action 2.3.1 to develop an open space strategy Action 5.2.1 to implement the urban forest strategy Action 5.4.1 to better align open space with drainage infrastructure
Renew sites to revitalise Shepparton and Mooroopna	<ul style="list-style-type: none"> Action 1.3.2 to develop a data base of available development and rental sites Action 1.4.1 to develop a business case for the health and education hub Action 3.4.1 to promote opportunities provided by the Activity Centre Zone Action 3.5.1 to prepare a structure plan for Mooroopna
Resolve uncertainty around future residential and industrial land supply	<ul style="list-style-type: none"> Action 1.1.1 to plan for industrial land and advocate for funding for regionally significant infrastructure Actions 3.1.1 to 3.1.7 to facilitate new housing in identified growth areas
Support and prioritise the delivery of infrastructure to support growth	<ul style="list-style-type: none"> Action 1.1.2 to advocate for investment in road and rail infrastructure Action 1.1.3 to advocate for funding for the GV Link site Actions 2.1.1 to 2.1.3 to improve pedestrian accessibility Actions 2.2.1 & 2.2.2 to invest in cycling infrastructure Actions 4.1.1. to 4.1.4 to support investment in transport infrastructure Actions 4.2.1 to 4.2.4 to support investment in public transport infrastructure Actions 4.3.1 & 4.3.2 to support investment in community infrastructure Actions 6.4.1 to 6.4.4 to invest in sustainable waste management infrastructure
Improve access to and use of the river and its surrounding environment	<ul style="list-style-type: none"> Actions 5.3.1 to 5.3.3 to increase recreation opportunities along the Goulburn and Broken River corridors
Ensure agricultural land continues to be productive	<ul style="list-style-type: none"> Actions 1.2.1 to 1.2.3 to reinforce the importance of the Goulburn Murray Irrigation District (GMID)



Have your say!

The information above identifies how the key themes heard as part of the Key Issues and Opportunities community engagement have been addressed in the Growth Plan. We want to hear if you think we have missed any opportunities associated with these themes, that should be considered for inclusion in the Growth Plan.

Please provide your comments on anything you think we've missed in the comment boxes below. Information on where to look in the Growth Plan for a response to each theme is also provided.

Privacy

The Victorian Planning Authority values your privacy. Further details regarding privacy can be [found here](https://vpa.vic.gov.au/privacy/).

Stakeholder contact details

Prefix

First Name *

Second Name *

Phone Number *

Email Address *

Relationship to the Project *

- Landowner within the precinct
- Resident within the area
- General interest
- Agency/Organisation
- Other (please specify)

Postal Address and Landowner address

Address *

Postcode *

Suburb *

State *

Ensure agricultural land continues to be productive

To review the Growth Plan's response to this theme, see page 19 Outcome 1 – A City for the Goulburn Region

Please provide your feedback below:

Continue to celebrate the open space offerings in the area

To review the Growth Plan's response to this theme, see page 26 Outcome 2 – A City for Liveable Neighbourhoods

Please provide your feedback below:

Renew sites to revitalise Shepparton and Mooroopna

To review the Growth Plan's response to this theme, see page 34 Outcome 3 – A City of Growth and Renewal

Please provide your feedback below:

Resolve uncertainty around future residential and industrial land supply

To review the Growth Plan's response to this theme, see page 19 Outcome 1 – A City for the Goulburn Region and page 34 Outcome 3 – A City of Growth and Renewal

Please provide your feedback below:

Improve access to and use of the river and its surrounding environment

To review the Growth Plan's response to this theme, see page 52 of the Growth Plan Outcome 5 – A City that is Greener & Embraces Water

Please provide your feedback below:

6.3 FACEBOOK POSTS



Greater Shepparton City Council

October 24 at 8:30 AM · 🌐

⋮

Do you want to have a one-on-one discussion with the Victorian Planning Authority and Council officers about the Draft Shepparton and Mooroopna 2050: Regional City Growth Plan 2019?

Today they will be around Mooroopna and Shepparton so you can have that chance. Head to the link below to find out location and times.



GREATERSHEPPARTON.COM.AU

Draft Shepparton and Mooroopna 2050: Regional City Growth Plan Sessions

👍 Daniel Lim, Michael MacDonagh and 1 other
1 Share

👍 Like
💬 Comment
➦ Share



😊 GIF 🗨️





**SHEPPARTON AND MOOROOPNA 2050: REGIONAL CITY GROWTH PLAN -
Community Engagement Summary Report January 2020**



GREATER SHEPPARTON CITY COUNCIL CONVERSATION REPORT

Shepparton and Mooroopna 2050:
Regional City Growth Plan - Additional Community Consultation

MARCH 2021





2 CONVERSATION REPORT SHEPPARTON AND MOOROPNA 2050: REGIONAL CITY GROWTH PLAN - ADDITIONAL COMMUNITY CONSULTATION - MARCH 2021

Foreword

Greater Shepparton City Council recently undertook additional community consultation relating to the *Shepparton and Mooroopna 2050: Regional City Growth Plan*. This report summarises the approach taken during this consultation, the submissions received and the next steps in the process.

Background

In association with Council, the Victorian Planning Authority (VPA) prepared the *Shepparton and Mooroopna 2050: Regional City Growth Plan* (2050 Growth Plan).

The 2050 Growth Plan is a high-level document that identifies Shepparton and Mooroopna's strengths, addresses key challenges, and sets a vision to guide growth and development up to 2050.

The 2050 Growth Plan:

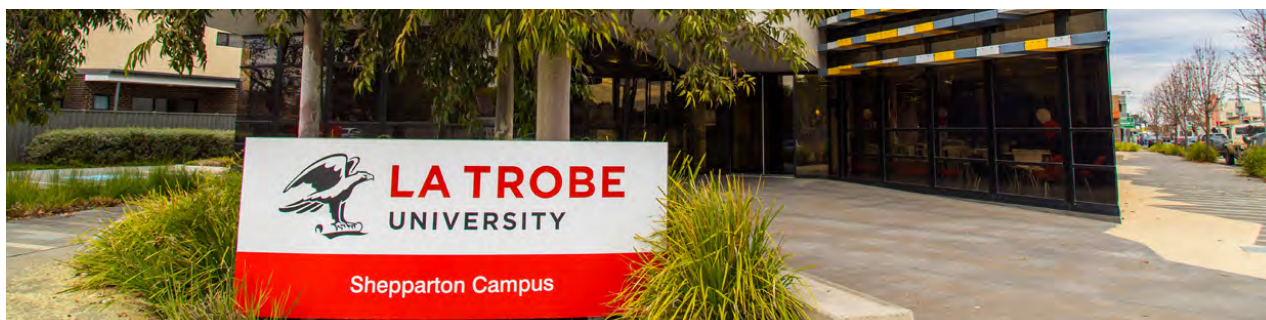
- sets out the future vision for Shepparton and Mooroopna;
- guides sustainable future growth and development over the next 30 years;
- identifies the steps needed to manage growth;
- defines key projects and infrastructure required to support growth; and
- provides certainty for public and private investment decision-making.

The VPA and Council previously conducted the following consultations to inform the final 2050 Growth Plan:

- Preliminary consultation throughout 2018 with key stakeholders, community organisations, school students, referral agencies and authorities;
- Community consultation in February and March 2019 regarding the *Shepparton and Mooroopna 2050: Regional City Growth Plan – Key Issues and Opportunities Report*; and
- Community consultation in September and October 2019 regarding the *Draft Shepparton and Mooroopna Regional City Growth Plan*.

Substantial feedback was received by the VPA and Council during all previous consultations. To address some concerns raised by land owners within Grahamvale, Orrvale and Shepparton East, Council engaged RMCG Pty Ltd in early 2020 to prepare the *Shepparton East Agricultural Land Use Options Study*. This Study provided advice on the viability of agriculture in the area, commented on possible alternative farm management practices that may be better suited for the land and commented on appropriate planning responses to the existing land use conflicts.

Council considered the *Shepparton and Mooroopna: 2050 Regional City Growth Plan* at the Ordinary Council Meeting held on 18 August 2020 and resolved to defer the adoption of the Growth Plan for six months to allow time for extended consultation with the Greater Shepparton community.



Additional information

RMCG Pty Ltd was re-engaged to prepare an addendum to the *Shepparton East Agricultural Land Use Options Study*. The addendum was prepared in August 2020 and provided additional details on:

- the targeted stakeholder consultation undertaken in early 2020 to inform the Study;
- alignment with the recently finalised [Goulburn Murray Resilience Strategy](#); and
- the regional characteristics of Shepparton East relating to agriculture.

Spatial Economics Pty Ltd was also engaged to assess the adequacy of the areas identified for future residential and industrial development in the 2050 Growth Plan to meet likely future demand. The *Land Supply Review - Shepparton and Mooroopna 2050: Regional City Growth Plan* concluded that:

- regarding residential land, even under a higher growth scenario Shepparton and Mooroopna have sufficient residential land (zoned and unzoned) to satisfy demand until 2050; and
- regarding industrial land, there is between 13 to 20 years of zoned supply. In addition, there is a 20 to 31 year supply of industrial land identified, but not yet zoned, for future industrial use.

Additional community consultation

The purpose of the additional community consultation was to better ensure that any interested stakeholders across Greater Shepparton have had the opportunity to provide informed feedback on the proposed planning outcomes for Shepparton, Mooroopna and Kialla.

Consultation took place from 16 November to 24 December 2020. Council used multiple methods to engage with key stakeholders and the broader Greater Shepparton community during the additional community consultation phase, including:

- Direct emails to all stakeholders consulted with so far;
- The inclusion of a 'subscribe for updates' feature on the 2050 Growth Plan Council website;
- Council's e-newsletter which was sent to approximately 5,500 subscribers;
- Information on Council's website;
- Social media promotion with a link back to Council's website;
- Attendance / presentation to the Mooroopna and Shepparton Community Planning Group meetings, electronic communication with other community planning groups;
- Advertisements in the Shepparton News / Adviser; and
- Direct letters to every registered household address on the Australian Postal System in Greater Shepparton.



The webpage for the Growth Plan was updated with further information for the additional community consultation phase, including uploading of all relevant background reports and documentation, a Frequently Asked Questions sections answering the common recurring questions received regarding the 2050 Growth Plan, and information about how to make a submission or how to contact Council officers. In addition to this, a dedicated webpage was created for the duration of this community consultation phase on the community consultation section of Council's website with a direct hyperlink from the main home page.

Council officers also conducted 20 minute one-on-one engagement sessions with interested individuals or small groups to the 2050 Growth Plan. The following dates were made available:

- Wednesday, 18 November 2020
- Friday, 20 November 2020
- Tuesday, 24 November 2020
- Thursday, 26 November 2020
- Monday, 30 November 2020
- Wednesday, 2 December 2020

Two additional dates were added on Monday, 14 December and Wednesday, 16 December 2020.

A total of 24 one-on-one engagement sessions were held with individuals and groups.

An email was sent to key stakeholder groups, local community planning groups, government agencies and referral authorities, and subscribers and submitters to the Growth Plan informing them of the additional community consultation phase and inviting them to provide additional comments or submissions.

The additional community consultation phase was promoted across Greater Shepparton through advertisements and notifications in the Shepparton News and the Shepparton Adviser newspapers. Online promotion was conducted using promotional links on Council's Facebook page, through Council's e-newsletter and the uploading of media releases on Council's website, which resulted in additional media attention.

An A4 flyer was also sent to every household in Greater Shepparton inviting them to engage with Council and provide comment on the 2050 Growth Plan.

A total of **79** submissions were received at the time of preparing this report.

Verbal Briefing to Council

Council officers provided all submitters with an opportunity to address Council regarding the contents of their submissions. This took place on 9.00am to 12.00pm and 2.00pm to 3.30pm on Tuesday, 19 January 2021 at the Eastbank Centre at 70 Welsford Street, Shepparton.

Briefings were limited to a speaking time of six minutes per submitter (ten minutes in total) or a longer time was allocated if a small group (maximum of three persons) wished to make a joint presentation.

22 submitters chose to present to Council.

What did we hear?

Through these forums, Council heard a wide range of comments, queries and concerns. Below is a list of the main themes that emerged:

1. Supply and demand;
2. Land east of Doyles Road and the north-south expansion of Shepparton;
3. Former Radio Australia site;
4. Mooroopna – Rezoning land to the Rural Living Zone;
5. Kialla Central Growth Corridor;
6. Kialla Raceway Development;
7. Kialla West Growth Corridor;
8. Rezoning requests;
9. Former Mooroopna Hospital site;
10. Funding / staging for arterial road upgrades;
11. Greater Shepparton Secondary College (GSSC);
12. Shepparton North Activity Centre (SNAC); and
13. Flood controls.



The following table summarises Council officers' response to these themes:

Submission number/s	Feedback received	Council officers' response
33, 37, 38, 42, 46, 49, 50, 53, 68 and 69	The supply of residential land in Shepparton, Mooroopna and Kialla is underestimated and more residential land is required in the short term.	<p>Council engaged Spatial Economics Pty Ltd to prepare the <i>Land Supply Review, Shepparton-Mooroopna 2050: Regional City Growth Plan, November 2020</i> to assess the adequacy to meet likely future demand of the areas identified for future residential and industrial development in the 2050 Growth Plan. This analysis concluded that even under a "higher growth" scenario, Shepparton and Mooroopna have sufficient identified residential land (zoned and unzoned) to satisfy demand until 2050.</p> <p>Supply and demand assessments are a snapshot used to analyse land availability against projected growth at a certain moment in time. Council officers acknowledge that these assessments can only be as accurate as the inputs used. Given the constantly changing nature of supply and demand, particularly in regional cities and rural areas due to COVID-19, Council officers are consistently monitoring land supply and demand to ensure Greater Shepparton's residential and industrial land supply needs can be met.</p> <p>Recommendation: No changes required.</p>
4, 6, 10, 12, 14, 16, 18, 19, 20, 21, 22, 23, 27, 28, 29, 30, 31, 32, 38, 47, 48, 49, 50, 51, 54, 55, 56, 57, 64, 69, 70, 71, 73, 74, 77 and 78	The north-south expansion of Shepparton should not be continued and land east of Doyles Road should be rezoned for residential purposes.	<p>Council officers acknowledge the concerns raised regarding the north-south expansion of the urban areas. It is noted that the distance from the western-most extent of urban Mooroopna (Excelsior Avenue) to the eastern-most extent of urban Shepparton (Doyles Road) is approximately 9km. Comparatively, the distance from the northern-most extent of Shepparton (Verney Road/ Goulburn Valley Highway intersection) to the southern-most extent of urban Kialla (River Road) is approximately 13km. Regardless, the "shape" of an urban area is guided by various inputs into appropriate and orderly development.</p> <p>Shepparton's residential development largely aligns with the Goulburn River, which runs in a north-south alignment. The availability of infrastructure and services, physical and environmental constraints, community, recreation, health and education facilities, land use conflicts, productive agricultural land, flooding and market availability are just some of the many other inputs that influence residential growth locations.</p> <p>The 2050 Growth Plan and accompanying reports indicate that the land east of Doyles Road should remain in the Farming Zone at this stage (aside from areas identified for industrial expansion at Lemnos), rather than being rezoned for residential purposes.</p> <p>Land to the north and south has been identified as more suitable for residential growth in the short-medium term.</p> <p>Recommendation: No changes required.</p>
2, 41, 44, 45 and 52	Generally supports the ongoing use of the land east of Doyles Road for agricultural purposes or alternate uses other than future residential.	<p>Council officers broadly agree with the ongoing use of the land east of Doyles Road for agricultural purposes. This view is supported by the Department of Transport (DoT), Goulburn-Murray Water (G-MW) and the VPA.</p> <p>Some land east of Doyles Road is identified for future industrial uses at Lemnos.</p> <p>Recommendation: No changes required.</p>

Submission number/s	Feedback received	Council officers' response
23, 25, 39, 42 and 79	Concerns regarding the prioritisation of the former Radio Australia site over other development fronts.	<p>The former Radio Australia site presents a large greenfield area in Shepparton's north with good access to services and no agricultural productivity due to the presence of the decommissioned broadcasting infrastructure. It is prudent to consider the future of this land in the consideration of Shepparton's growth to 2050.</p> <p>The site is unique due to the land being in a single ownership without the fragmentation seen in other growth areas. This means that the site represents a significant development opportunity without the large cost and time delays inherent in the preparation of a Precinct Structure Plan and Development Contributions Plan for fragmented land.</p> <p>The land between the former Radio Australia site and the Shepparton North East Growth Corridor is currently in the Farming Zone. This area is not required to meet projected residential land supply needs until beyond the 2050 growth horizon. However, the land will likely realise some residential development in the longer term. A Precinct Structure Plan and Development Contributions Plan would be required to support residential development. This land should not be progressed ahead of other identified growth areas. It will remain in the Farming Zone until land supply needs indicate a requirement for the provision of additional residential land, and agricultural investment and expansion should be supported in the medium to long term. However this cannot be included in the 2050 Growth Plan as it is outside of the scope of the 2050 Growth Plan. In addition, it is not supported by G-MW and the VPA.</p> <p>The timeframes for development across Greater Shepparton will be reviewed as land is developed as part of Council's regular monitoring and review to ensure sufficient supply of residential land. If other growth locations are required to satisfy short to medium term demand, consideration will be given to other areas as required.</p> <p>Recommendation: No changes required.</p>
37, 42 and 60	The identification of Kialla Central in the 2050 Growth Plan is welcomed, but the block of land bounded by Archer, Central Kialla, Mitchell and River Roads should be given the same designation as the former Radio Australia site in the north of Shepparton. The timeframe for development of the Kialla Central area should be brought forward to medium term, rather than long term.	<p>Council officers broadly agree with the identification of the Kialla Central area as a future growth area. The 2050 Growth Plan acknowledges the future role of this land and recommends that a Structure Plan be completed to guide development in the Kialla Central area in the future. Kialla Central is identified in the <i>Greater Shepparton Housing Strategy 2011</i> and is already included within the settlement boundary of the Greater Shepparton Planning Scheme (Planning Scheme).</p> <p>The former Radio Australia site is unique due to the land being in a single ownership without the fragmentation seen in other growth areas. The different designation provided to the Kialla Central area recognises and responds to the fragmentation of this land, and reflects the most appropriate management of this area to assist in its transition over time to residential land.</p> <p>The timeframes for development across Greater Shepparton will be reviewed as land is developed as part of Council's regular monitoring and review to ensure sufficient supply of residential land.</p> <p>Recommendation: No changes required.</p>

Submission number/s	Feedback received	Council officers' response
63 and 68	<p>The name of the Kialla Raceway Development is inappropriate and should be changed to Archer Road Development to better reflect the area.</p> <p>The presence of the high pressure gas pipeline in the Kialla Raceway Development and future development requirements related to this infrastructure should be noted.</p>	<p>Council officers acknowledge the concerns raised regarding the name of the Kialla Raceway Development area (former Investigation Area 1). Renaming this area is supported, particularly to a title that moves away from the former investigation area naming.</p> <p>Council officers agree that the location of the high pressure gas pipeline and any related requirements should be noted in the 2050 Growth Plan.</p> <p>Recommendation: Change the name of the Kialla Raceway Development area to the Kialla South Growth Corridor.</p> <p>Recommendation: Acknowledge the concerns raised by the APA regarding the high pressure gas pipeline in the Kialla South Growth Corridor (Kialla Raceway Development).</p>
24, 36, 43, 61, 63, 72, 75 and 76	<p>The boundaries of the Kialla West Growth Corridor should be adjusted to include land between the existing Arcadia Downs development and the current extent of Kialla West Growth Corridor.</p> <p>The Country Fire Authority has concerns regarding the bushfire risk for land within the Kialla West Growth Corridor.</p> <p>The presence of the high pressure gas pipeline in the Kialla West Growth Corridor and future development requirements related to this infrastructure should be noted.</p>	<p>Council officers generally agree with the comments regarding development of land within the Kialla West Growth Corridor (Investigation Area 2) and surrounds. The 2050 Growth Plan recognises the future role of this land and earmarks it for future development, following the preparation of a Precinct Structure Plan and Development Contributions Plan.</p> <p>The actual boundary of this growth corridor will be resolved through detailed design, however, Council officers generally support the inclusion of the land between the existing Arcadia Downs development and the current extent of the Kialla West Growth Corridor. The actual boundary of this growth corridor will require resolution of any bushfire hazard concerns and agreement from the Country Fire Authority.</p> <p>Recommendation: Note that land between Raftery Road and the existing Arcadia Downs development may provide some rural residential opportunities, subject to detailed design, and this land may not be included in the Precinct Structure Plan area.</p> <p>Recommendation: Acknowledge the concerns raised by the Country Fire Authority regarding bushfire risk.</p> <p>Recommendation: Acknowledge the concerns raised by the APA regarding the high pressure gas pipeline in the Kialla West Growth Corridor.</p>
34 and 62	<p>Land not being utilised for tourism purposes at the Emerald Bank site in Kialla should be rezoned for residential purposes.</p> <p>Land to the west of the Shepparton East township should be included in the Township Framework Plan for future development.</p>	<p>Council officers consider individual rezoning requests to be outside of the scope of the 2050 Growth Plan. These requests can be considered by Council through the normal planning scheme amendment process.</p> <p>The 2050 Growth Plan includes a strategy to immediately review the Shepparton East Framework Plan.</p> <p>Recommendation: No changes required.</p> <p>Note: The Shepparton East Framework Plan review is being drafted and should be implemented immediately following community and agency consultation.</p>

Submission number/s	Feedback received	Council officers' response
33 and 40	Mooroopna has a shortage of land designated for rural residential development. Land to the west of the Goulburn Valley Highway Shepparton Bypass alignment (Excelsior Avenue) in Mooroopna should be identified for future rural residential purposes.	<p><i>The Urban Development Program 2019 - Residential and Industrial Land Supply Assessments</i> provided an analysis of the supply and demand for residential and industrial land across Greater Shepparton. This review noted that are significant stocks of land identified for future rural residential use.</p> <p>Excelsior Avenue forms part of the Goulburn Valley Highway Shepparton Bypass and is a logical boundary between urban and agricultural areas.</p> <p>The land to the west of the Goulburn Valley Highway Shepparton Bypass at Mooroopna is outside of the settlement boundary. This boundary is not proposed to change through the 2050 Growth Plan.</p> <p>In addition, designating the land for rural residential development is not supported by the DoT and does not meet the objectives of the Minister for Planning's <i>Planning Practice Note: Rural Residential Development (PPN37)</i>.</p> <p>The supply of rural residential land across Greater Shepparton will be reviewed as land is developed as part of Council's regular monitoring and review to ensure sufficient supply.</p>
1, 5, 17 and 26	The former Mooroopna Hospital site should be redeveloped.	<p>Council officers broadly agree that the former Mooroopna Hospital site represents a redevelopment opportunity. The <i>City of Greater Shepparton Commercial Activity Centres Strategy, November 2015</i> and the 2050 Growth Plan recognise the significant opportunity presented by future renewal of the former Mooroopna Hospital site.</p> <p>Some submissions mention an opportunity for affordable housing on this site. Development applications can be considered on a case-by-case basis.</p>
3, 9, 25, 27, 50 and 73	<p>Raises safety concerns regarding arterial roads in Mooroopna.</p> <p>Highlights the need for improved north-south traffic connections.</p> <p>Queried the funding arrangements / staging for arterial road upgrades.</p> <p>Queried the funding arrangements / staging for road upgrades to facilitate the Greater Shepparton Secondary College (GSSC).</p>	<p>The 2050 Growth Plan addresses the future investment in transport infrastructure and improving traffic outcomes, including the realisation of the Goulburn Valley Highway Shepparton Bypass, the realisation of an east-west link along Ford and Wanganui Roads, and the upgrade of Shepparton Alternative Route (Strategy 4.1). The identification, design, standards (including safety standards), timing and funding of major transport infrastructure is outside of the scope of the 2050 Growth Plan, particularly for items managed by Regional Roads Victoria.</p> <p>The 2050 Growth Plan notes the transport network challenges that the GSSC may present, (Strategy 4.1). The cost of upgrading all transport infrastructure is not yet known, nor is the apportionment of these costs; this exercise is outside of the scope of the 2050 Growth Plan.</p>

Submission number/s	Feedback received	Council officers' response
16, 25, 27, 31, 50 and 73	Raises concerns about the lack of consultation regarding the GSSC, the impact of the amalgamation of four secondary schools into one, the impact on the transport network of amalgamating all four schools onto one site, the inability of the site to expand in the future, whether Council will need to fund the transport upgrades in the immediate area to facilitate the GSSC, the need to provide effective bus routes and infrastructure to cater for students and recommends that a second secondary school site be identified in Shepparton.	<p>The 2050 Growth Plan includes the GSSC as an input and notes the transport network challenges that this may present, see Strategy 4.1. The costs of upgrading transport infrastructure is not yet known, nor is the apportionment of these costs – this exercise is outside of the scope of the 2050 Growth Plan.</p> <p>The Shepparton Education Plan is the responsibility of Department of Education and Training (DET), and not Council. This includes the identification of future school sites.</p> <p>Providing direction on the future uses of the redundant school sites is outside of the scope of the 2050 Growth Plan. This will be subject to a separate process once DET's interest in the sites has ceased.</p> <p>Recommendation: Add the GSSC to Plan 2.</p>
59 and 66	Requests the immediate preparation of a structure plan for Shepparton North and expresses concerns about the location of a future additional full line supermarket in the area.	<p>The 2050 Growth Plan includes Strategy 1.4.3 to prepare a structure plan for the Shepparton North Sub-regional Centre with a short term timeframe. This seems to align with the comments in submissions regarding the need for a structure plan and Council officers believe that this short term timeframe is reasonable. Changing the timeframe to immediate would create unrealistic expectations and should be avoided.</p> <p>Council officers expect that structure planning for the Shepparton North Sub-regional Activity Centre will include consideration of surrounded land uses and connections.</p> <p>Comments regarding the location and extent of the Shepparton North Sub-regional Centre, as well as concerns regarding the creation of any new retail centres, are outside of the scope of the 2050 Growth Plan. The implementation of the <i>City of Greater Shepparton, Commercial Activity Centres Strategy, 2015</i> has updated the retail hierarchy across Greater Shepparton.</p> <p>Recommendation: No changes required.</p>
14, 30, 47, 66 and 68	Expressed concerns about the accuracy of existing and proposed flood controls.	<p>Concerns regarding flooding are noted but are outside of the scope of the 2050 Growth Plan and should be addressed through the implementation of the <i>Shepparton Mooroopna Flood Mapping and Flood Intelligence Project 2019</i> and the <i>Shepparton East Overland Flow Urban Flood Study 2017</i> via amendment/s to the Planning Scheme.</p> <p>Recommendation: No changes required.</p>
7, 8, 13, 44, 46, 52, 58, 63 and 65	Generally supports or does not object to the general content of the 2050 Growth Plan.	Recommendation: No changes required.



12 | CONVERSATION REPORT SHEPPARTON AND MOOROPNA 2050: REGIONAL CITY GROWTH PLAN - ADDITIONAL COMMUNITY CONSULTATION - MARCH 2021

Three submissions were received that could not be grouped into the above themes, the content of these submissions are summarised below:

Submission 11 – noted a number of comments regarding Greater Shepparton’s outlying townships. The importance of the townships is acknowledged, however, all of the townships (except Shepparton East) are assessed in the *Greater Shepparton Townships Framework Plan Review 2019*, which has already been implemented. Monitoring and review will continue to occur.

Submission 12 – raises concerns regarding increasing land use conflicts in the area east of Doyles Road. This submission did not request a land use change, but highlighted various pressures impacting the ongoing use of land for agriculture due to the location of dwellings and other uses.

Submission 15 – raised concerns regarding sustainable development and environmental impacts, including greening urban areas, promoting active transport, waste management and environmentally sustainable design. The 2050 Growth Plan is a land-use plan and not a whole of Council document like the *Greater Shepparton 2030 Strategy 2006*. Objective 6 on page 56 outlines a variety of strategies to address these concerns through the planning process.

These concerns are acknowledged and will play a key role in the sustainable development of Shepparton, Mooroopna and Kialla. Council officers believe that these ideas already underpin Council’s current strategic land use planning documents (*Shepparton CBD Strategy 2008 and Activity Centre Zone, Greater Shepparton Cycling Strategy, ESD/SDAPP Project, Urban Forest Strategy*, etc.), as well as the 2050 Growth Plan.

In addition, some submissions raised general concerns regarding the timing of this additional community consultation and queried the reason for Council “rushing” the consideration of the 2050 Growth Plan, particularly given that the Land Supply Review - *Shepparton and Mooroopna 2050: Regional City Growth Plan* concluded that there is sufficient identified residential land.

What happens next?

A final Growth Plan seeks to set a vision that will guide growth and development of Shepparton and Mooroopna up to 2050. To achieve this, a planning scheme amendment will be required to implement the findings and recommendations of the Growth Plan into the Planning Scheme.

Council will consider all submissions received during the additional community consultation phase and the final Growth Plan at the Ordinary Council Meeting to be held in March 2021.

Page	Change	Revised wording
Cover	Date	March 2021
All	Date in footers	March 2021
2	Update acknowledgement	"We, Greater Shepparton City Council, acknowledge the Yorta Yorta Peoples of the land which now comprises Greater Shepparton, we pay our respect to their tribal elders, we celebrate their continuing culture and we acknowledge the memory of their ancestors."
8	Update Plan 2	<ul style="list-style-type: none"> - Add GSSC location - Add Mooroopna Integrated Early Learning Centre location - Extend Kialla West Growth Corridor ("residential future") further south to align with extent shown on page 34 (Plan 6) - Change designation of Kialla North Growth Corridor to "planning underway"
9	Add additional consultation before "Strategic context"	"Additional Consultation Additional consultation on the Growth Plan following the August 2020 Ordinary Council Meeting occurred from 16 November to 24 December 2020. The purpose of the additional community consultation was to better ensure that any interested stakeholders across Greater Shepparton have had the opportunity to provide informed feedback on the proposed planning outcomes for Shepparton, Mooroopna and Kialla. 79 submissions were received by Council, which are summarised in the Conversation Report – <i>Shepparton and Mooroopna 2050: Regional City Growth Plan – Additional Community Consultation</i> (March 2020)."
10	Update list of documents under "How has the Growth Plan been prepared?"	<ul style="list-style-type: none"> - Shepparton East Agricultural Land Use Options Report March 2020 - <i>Conversation Report – Shepparton and Mooroopna 2050: Regional City Growth Plan – Additional Community Consultation</i> (March 2020)
10	Update flowchart under "Key tasks in the development of the Growth Plan"	<ul style="list-style-type: none"> - Add Growth Plan after Community Engagement - Add additional consultation after Growth Plan (before Final Growth Plan)
17	Amend Objective 6	<ul style="list-style-type: none"> - To ensure adaptation to climate change and a robust economy for continued prosperity in times of change.
22	Update timeframes	<ul style="list-style-type: none"> - Change timeframe to "immediate" for 1.1.1 - Change timeframe to "ongoing" for 1.1.2 - Change timeframe to "medium" for 1.1.3
26	Update Plan 4	Replace Cycling Corridors plan with updated plan from the Department of Transport
27	Update timeframes	<ul style="list-style-type: none"> - Change timeframe to "short" for 2.2.1 - Change timeframe to "ongoing" for 2.2.2
29	Update timeframe	Change timeframe to "immediate" for 2.5.2

Page	Change	Revised wording
32	Add additional wording regarding Investigation Area 4 future use	Before the final sentence above Table 4, add the following text: Land immediately to the east of the Shepparton Alternative Route (Doyles Road) between the Midland Highway and the Shepparton-Dookie Railway Line will remain in the Farming Zone. The Farming Zone provisions facilitate the use of land for rural industrial uses, including transport-related uses, that do not adversely affect the use of land for agriculture and where land use conflicts can be mitigated. Where appropriate, Council will support the use of this land for rural industry, which must be considered through the planning permit process on a case-by-case basis, particularly where such uses rely on proximity to the Principal Freight Network, uses that require a large site or uses related to agriculture that cannot generally be accommodated in the existing industrial zones. It should be noted that direct access to the Shepparton Alternative Route will not generally be supported, and access should be directed to Old Dookie Road and New Dookie Road.
32	Update growth areas in Table 4	<ul style="list-style-type: none"> - Change "Kialla Raceway Development" to "Kialla South Growth Corridor" - Change "Radio Australia Site" to "Former Radio Australia site" - Change timing for Shepparton Airport to "unknown"
33	Fix wording in Kialla North Growth Corridor	Change "It's" to "It is"
33	Additional wording for the Kialla West Growth Corridor description	<ul style="list-style-type: none"> - Change the second last sentence to read: "The density of this growth corridor must be respectful of the existing context of the area, and development must recognise and be integrated with the existing Kialla West Township." - Add the following at the end of the existing description: "Development must recognise and mitigate risks associated with bushfire due to the vegetation in the area, as well as the location of the blast zone of the APA High Pressure Gas Pipeline. Land west of Raftery Road, between Raftery Road and the Arcadia Downs Estate, within the Rural Living Zone and Farming Zone may realise some rural residential potential in the short-medium term. The rural residential development of this land will not require a Precinct Structure Plan."
33	Amend name of Kialla Raceway Development and add wording to the description	<ul style="list-style-type: none"> - Change name to "Kialla South Growth Corridor" - Add the following at the end of the existing description: "Development must recognise and mitigate risks associated with the location of the blast zone of the APA High Pressure Gas Pipeline."

Page	Change	Revised wording
33	Amend Kialla Central description	<ul style="list-style-type: none"> - Change second bullet point to read: “Determine the need for additional community infrastructure. New development must ensure connectivity to existing road networks and walkability to existing community facilities, particularly the primary school. Any expansion must have regard to the role and function of the Shepparton Alternative Route and must provide sufficient buffers to this key network. - Change final bullet point to read: “Review the most appropriate zones for the land around the Kialla Central Township, having regard to the development constraints applying at the time. The development of this growth corridor must recognise and be integrated with the existing Kialla Central Township.”
33	Amend name of Radio Australia Site	Change name to “Former Radio Australia site”
33	Amend Shepparton Airport description	Add the following at the end of the existing description: Until the relocation of the Shepparton Airport is confirmed, ongoing investment at the current site should continue to be supported and encouraged in the medium to long term, particularly where that investment ensures that safety standards can be maintained.
34	Update Plan 6	<ul style="list-style-type: none"> - Change name of Radio Australia site to “Former Radio Australia site” - Update designation of Shepparton South East to “short term future residential (standard density)” (same designation as shown for the southern portion of Kialla North Growth Corridor) - Change Shepparton Airport location to be shown as an asterisk in dark/navy rather than a blob - Change designation of dark/navy asterisk in legend to “unknown” - Change Kialla Central asterisk to a small circle (in existing location and the same size as the existing asterisk) with four arrows pointing outwards from the circle and colour to match former Radio Australia site
35	Update wording in strategies	<ul style="list-style-type: none"> - Change Kialla North growth corridor to “Kialla North Growth Corridor” for the Action in section in 3.1.2 - Change name of “Kialla Raceway Development” to “Kialla South Growth Corridor” for the Action in section 3.1.3 - Change the wording of the Action in section 3.1.4 to read “Maintain the current 8-hectare minimum lot size requirement, until a Precinct Structure Plan and Development Contributions Plan for the Kialla West Growth Corridor have been prepared. The land between Raftery Road and the Arcadia Downs estate may realise some rural residential function in the short-medium term and can be considered without the preparation of a Precinct Structure Plan and Development Contributions Plan.” - Change the name of “Radio Australia site” to “former Radio Australia Site” for the Action in section 3.1.7

Page	Change	Revised wording
36	Correct wording under "Heritage"	- Change the year of Greater Shepparton Heritage Study II from 2019 to 2020 - Change "20th Century Heritage" to "20th century heritage"
44 and 45	Update funding tables	Update funding tables to align with current known funding.
46	Update Plan 7	Add connection arrows to Shepparton CBD inner eastern link road
51	Fix typo	Remove apostrophe from CBDs in Strategy 5.2.2
56	Update Responsibility in Strategy 6.1.1	Add DELWP to Responsibility

If the Growth Plan is adopted by Council, a planning scheme amendment will be prepared to implement the findings of the Growth Plan into the Planning Scheme. Any planning scheme amendment is expected take 12-18 months to complete and further consultation will occur as part of this process.



CONTACT US

Business hours: 8.15am to 5pm weekdays

In person: 90 Welsford Street, Shepparton

Mail: Locked Bag 1000, Shepparton, VIC, 3632

Phone: (03) 5832 9700

SMS: 0427 767 846

Fax: (03) 5831 1987

Email: council@shepparton.vic.gov.au

Web: www.greatershepparton.com.au

Join the conversation:    

RMCG

MARCH 2020

Shepparton East Agricultural Land Use Options

Final report

Greater Shepparton City Council and Victorian Planning Authority

Level 1 East, 1100-1102 Toorak Road, Camberwell Victoria 3124

(03) 9882 2670 – rmcg.com.au



Table of Contents

Executive summary	1
INTRODUCTION	1
KEY FINDINGS	1
RECOMMENDATIONS	2
1 Introduction	5
BACKGROUND	5
PURPOSE	5
STUDY AREA	5
APPROACH	8
2 Policy and strategic context	9
STRATEGIC CONTEXT	9
POLICY CONTEXT	10
KEY FINDINGS AND IMPLICATIONS	15
3 Amenity issues and regulations	18
AMENITY ISSUES	18
STATE GOVERNMENT REGULATIONS	18
GREATER SHEPPARTON LOCAL LAWS	19
KEY FINDINGS AND IMPLICATIONS	20
4 Current land use and land suitability	21
REGIONAL INFRASTRUCTURE AND VALUE CHAIN	21
LOT SIZES AND LAND OWNERSHIP	21
LAND USE	25
LAND SUITABILITY	29
KEY FINDINGS AND IMPLICATIONS	33
5 Agricultural viability	36
FARM SIZE	36
LAND VALUES	38
LAND USE CONFLICT	40
PLANNING POLICY	40
KEY FINDINGS AND IMPLICATIONS	41
6 Land use conflict	42
RISK ASSESSMENT	42
MITIGATION STRATEGIES	45
KEY FINDINGS AND IMPLICATIONS	48
7 Consultation	49
8 Conclusions and recommendations	50
KEY FINDINGS	50
RECOMMENDATIONS	51
Appendix 1: Risk evaluation	53
Appendix 2: Viability assessment of horticulture enterprises for the GMID	57

Executive summary

INTRODUCTION

The Victorian Planning Authority (VPA) in partnership with Greater Shepparton City Council (Council) has prepared the draft Shepparton and Mooroopna 2050: Regional City Growth Plan (Growth Plan) to guide the sustainable development of the Shepparton-Mooroopna urban area to the year 2050. The draft Growth Plan identifies:

- future residential growth corridors to provide approximately 30 years land supply for the City
- agriculture as the primary use of land within Shepparton East.

A number of Shepparton East landowners indicated during community engagement on the draft Growth Plan, that the agricultural viability of the district was compromised by its proximity to residential and industrial development leading to land use conflict.

RMCG was engaged to investigate and provide advice to the VPA and Council on:

- The viability of agriculture in Shepparton East
- Alternative farm management practices or alternative farming practices that are suited to the land's context
- A planning response to the existing land use conflict between farming and rural residential practices.

The review focussed on two areas located on the eastern boundary of the township of Shepparton:

- Shepparton East which is currently experiencing land use issues and was therefore the main focus of the study, and
- Shepparton South East Interface area, which was included in the study, given the potential for conflicts to arise in this area in the future.

The project was undertaken in four stages:

- Stage 1 - Site inspection
- Stage 2 - Background research and analysis
- Stage 3 - Land suitability and risk assessment
- Stage 4 - Stakeholder consultation.

KEY FINDINGS

Shepparton East is located within the Goulburn Murray Irrigation District (GMID). The GMID is the country's largest irrigation district and produces more fruit and dairy produce than any other region, as well as supporting significant general horticulture and mixed farming. The region has extensive and well established value chain businesses including food processors and manufacturers as well as industries providing support services.

The current policy direction for Shepparton East is for the land to be retained for agriculture, and the Zone schedules and local policy provide clear direction to support this outcome. The overarching strategic direction is also for the land to be retained for agriculture. However, framework plans in the Municipal Strategic Statement (MSS) that identify Shepparton East as an investigation area for residential and industrial growth, introduce uncertainty as to the long-term future of the area for agriculture. Adoption and implementation of the

draft Growth Plan will resolve this uncertainty as it clearly states that land within Shepparton East is to be retained for agriculture.

Shepparton East has an ideal combination of natural attributes for high-value agriculture, including excellent soil types, Mediterranean climate and access to a secure supply of high quality water. Land use within Shepparton East is predominantly perennial horticulture (apples, pears and stone-fruit) with some annual horticulture. Farm businesses are establishing new orchards affirming the productive potential of the area. The irrigation network servicing Shepparton East has largely been modernised. Modernisation facilitates farm amalgamation, adaptation to climate change, and adoption of new technology and practices.

Soil based horticulture is likely to continue for the foreseeable future, being the most suited to the conditions in Shepparton East. Alternative horticulture, such as products for niche markets, may be introduced to the area, driven by consumer and market demands, and the scale of the farm businesses in Shepparton East. Additionally, protected cropping may become a viable option for Shepparton East given the area's access to services and labour supply. Protected cropping enables production of very high value horticultural products under stringently managed and controlled growing conditions.

Uses of land adjacent to Shepparton East include an industrial estate and residential estates including Dobsons Estate, Davies Drive, Mason Court and Orrvale Road. While not ideal from a land use conflict risk point of view, the residential estates are contained and well defined. House lot excisions within the study area are generally clustered and as a result the balance land is relatively unfragmented. Complaints regarding noise from the use of scare guns and gas guns in Shepparton East are received by Council from residential neighbours from time to time. There have been no ongoing disputes. EPA guidelines provide clear standards and thresholds for operation of farm machinery, frost fans and scare guns, and from the low number of complaints it would appear that farmers are operating within the guidelines. The risk assessment did not identify any high priority risks that reduce the viability of agriculture in Shepparton East.

Based on the current land ownership and a comparison with industry statistics, farm businesses in Shepparton East are considered to be at the *smaller* end of the spectrum of farm business sizes. Operating and maintaining a viable farm business at this scale requires a high degree of management expertise as there is less capacity for small business to absorb risk, compared to larger farm businesses.

An assessment of farm size, land values, land use conflict and planning policy on the viability of farming in Shepparton East found farm size to be the most significant factor currently impacting farm viability. The biggest barrier to increasing farm size is the uncertainty created by ambiguous planning policy, in particular the identification of Shepparton East as an investigation area for residential and industrial development. If agriculture is to be sustained in Shepparton East, it is *critical* that businesses are able to increase scale, by increasing the area of production, switching to higher value horticultural commodities or more intensive production systems such as protected horticulture.

RECOMMENDATIONS

The purpose of this study was to identify:

- The viability of agriculture in Shepparton East
- Alternative farm management practices or alternative farming practices that are suited to the land's context
- Planning response to the existing land use conflict between farming, industrial and rural residential practices.

Soil based horticulture is likely to continue as the primary agricultural use for the foreseeable future, being the most suited to the conditions in Shepparton East. Alternative horticulture, such as products for niche markets, may be introduced to the area, driven by consumer and market demands, and the scale of the farm businesses in Shepparton East. Additionally, protected cropping may become a viable option for Shepparton East given

the area's access to the required services and labour supply. Protected cropping enables production of very high value horticultural products under stringently managed and controlled growing conditions.

The following measures are recommended to maintain and promote agriculture in Shepparton East. These measures seek to:

- Facilitate farm amalgamation
- Support horticultural businesses to adapt to changing conditions and adopt new technology
- Discourage uses that are incompatible with an agricultural area and may introduce land use conflict
- Better manage land use conflicts.

PLANNING POLICY

The recommendations for planning policy include:

- Removing reference to Investigation Area 4 at Clause 21.04-1 and Investigation Area 10 at Clause 21.06-4 Industry
- Retain the Farming Zone and Farming Zone 1 Schedules
- Retain the current policy guidelines at Clause 21.06-2 Subdivision and Clause 21.06-3 Dwellings
- Consider introducing policy guidelines for other Section 2 uses that are not compatible with agriculture
- Consider introducing additional policy guidelines for Section 2 uses that are *not* compatible with agriculture and ancillary to agriculture to reinforce the overarching objective of the Regional Rural Land Use Strategy and Clause 21.06-1 Objectives and Strategies. Policy guidance should seek to retain land for horticultural production. Uses not ancillary to horticultural production should be strongly discouraged. Uses ancillary to horticulture such as cool stores and packing sheds should be of a scale commensurate with the size of the lot and directly related to horticultural production on the lot. Light industrial uses e.g. transport depots and warehousing will be strongly discouraged. Repurposing of horticultural cool stores and packing sheds for a use not ancillary to horticultural production on the lot should be strongly discouraged and avoided.
- Consider introducing policy guidelines for assessment of horticultural structure (See Planning Practice Note 18: Planning prepared by DELWP considerations for horticultural structures and Planning Guideline for Intensive Horticulture and Production Nurseries prepared by the Queensland Farming Federation¹)

ADVOCACY

Advocate for modernisation of the remaining irrigation infrastructure in Shepparton East that has not been part of the Connections Program to date.

EDUCATION AND COMMUNICATION

Implement a communication and media program to increase awareness and understanding of:

- EPA guidelines regarding appropriate use of scare guns and frost fans
- The use and importance of frost fans and scare guns and other farm management practices
- Appropriate methods for raising concerns regarding farm management practices.

¹ <https://www.qff.org.au/wp-content/uploads/2016/11/QFF-Guide-to-Planning-Intensive-Hort-Prod.pdf>

TRAFFIC MANAGEMENT

Council to consider:

- Using road design and signage to encourage commuter traffic onto the Midland Highway and New Dookie Road and to minimise traffic within the study area.
- Exploring parking options for farm workers accessing properties along Doyles Road.
- Options for minimising transfer of dust to properties neighbouring Doyles Road during works to widen the road.

1 Introduction

BACKGROUND

The Victorian Planning Authority (VPA) in partnership with Greater Shepparton City Council (Council) has prepared the draft Shepparton and Mooroopna 2050: Regional City Growth Plan (Growth Plan) to guide the sustainable development of the Shepparton-Mooroopna urban area to the year 2050. The draft Growth Plan identifies future residential growth corridors to provide approximately 30 years land supply for the city.

In 2011, Council completed a Housing Strategy that identified an investigation area for residential or industrial development in Shepparton East. This land was not identified in the draft Growth Plan as an area for future industrial or residential development. The draft Growth Plan reaffirmed the existing eastern growth boundary for Shepparton with land identified for urban development east of Doyles and Grahamvale Roads in Shepparton East. The draft Growth Plan identifies agriculture as the primary land use within Shepparton East.

A number of Shepparton East landowners indicated during community engagement on the draft Growth Plan, that the agricultural viability of the district was compromised by its proximity to residential and industrial development leading to land use conflict. For example, restrictions have been placed on the use of bird scare guns, pesticides and frost fans. The landholders reported that most land use conflict occurs at the interface between agriculture and Dobsons Estate, a residential development.

PURPOSE

RMCG was engaged to investigate and provide advice to VPA and Council on:

- The viability of agriculture within the Study Area and Shepparton East more broadly
- Alternative farm management practices or alternative farming practices that are suited to the land's context
- A planning response to the existing land use conflict between farming and rural residential practices.

The investigation was to consider:

- Uses permitted under the current zoning (Farming Zone)
- Protection of amenity guidance provided by Local Law Number 1 – Community Living
- EPA regulations on noise and odour, particularly in relation to bird scare guns, frost fans and pesticide spray drift, and any other relevant regulations; and
- The extent of investment in irrigation infrastructure as part of the Goulburn-Murray Water (G-MW) Connections Program.

STUDY AREA

RMCG was asked to review and study two areas located on the eastern boundary of the City of Shepparton. Shepparton East is located within the Goulburn Murray Irrigation District (GMID). The GMID is the country's largest irrigation district and produces more fruit and dairy produce than any other region, as well as supporting significant general horticulture and mixed farming.

The GMID makes up about 43% of the irrigated area, uses 31% of the water and generates 27% of the Gross Value of Irrigated Agricultural Production (GVIAP) in the southern Murray Darling Basin. However, this will vary from year to year depending on water allocation.

The food processing industry in the GMID is a major Victorian employer and its main exporter. There are 16 dairy factories in the region with dairying producing 53% of the GVIAP and using most of the region's land and water. Horticulture produces around 36% of the GVIAP. Total agricultural production including dryland is 18% of Victoria's Gross Value of Agricultural Production (GVAP) of \$11.6 billion².

The two areas reviewed are shown in Figure 1. The study focused mainly on the area called Shepparton East (highlighted in Figure 1 with a purple boundary) which is currently experiencing land use issues. This area is bound approximately by the Midland Highway (South), Doyles Road (West), Central Avenue (East) and the Dookie Branch line (North).

The Shepparton South East Interface area (highlighted in Figure 1 with a red boundary) was also included in the study, given the potential for conflicts to arise in this area in the future. This area is bound approximately by the Midland Highway (North), Doyles Road (West) the Broken River (South) and Orrvale Road/irrigation channel (East)

² ABARES 2015

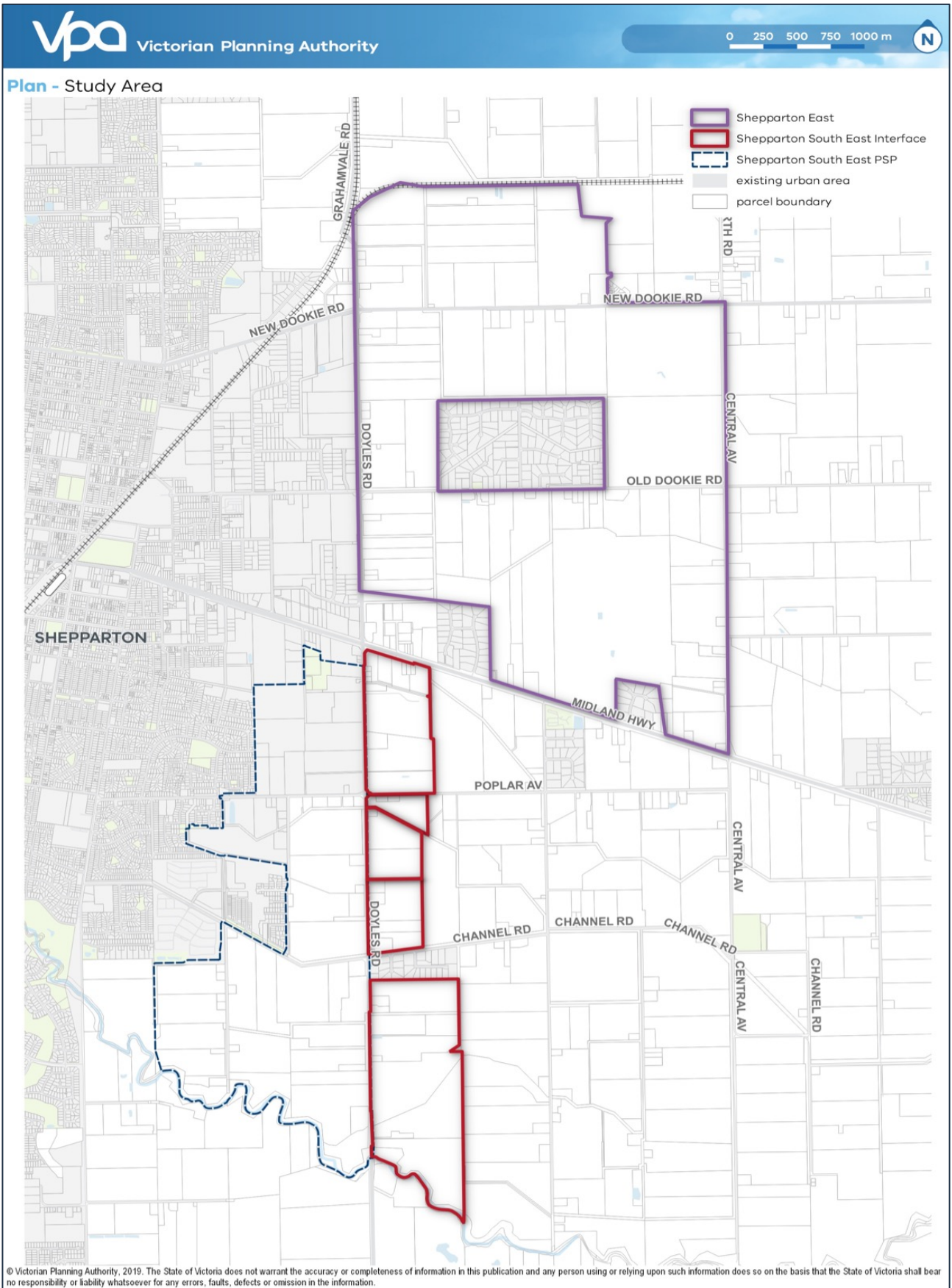


Figure 1: Study area

APPROACH

The project was undertaken in four stages:

Stage 1 - Site inspection

The site was inspected with Council staff to identify hotspots and other important site considerations.

Stage 2 - Background research and analysis

Background research and analysis was undertaken to:

- Prepare mapping of the study areas to identify areas with agricultural opportunity and areas that are constrained
- Identify alternative farm management practices and agricultural uses suited to the land's context
- Provide a rural land use risk assessment between rural residential and industrial development and current land use and identified alternative agricultural options.

Mapping of the study areas included:

- Current lot arrangement and landownership
- Current land use (agriculture, dwellings, lifestyle) and infrastructure (roads, extent of irrigation)
- Land hazards (flooding)
- Land valuations
- Land capability.

Data and information were sourced from Council, Department of Jobs, Precincts and Resources and Goulburn Murray Water.

Stage 3 - Land suitability and risk assessment

A land use risk assessment, based on the NSW DPI LUCRA Guide, between rural residential and current farming practices, was undertaken to identify priority risks, high risk locations and whether there are strategies, particularly changes to management practices to effectively mitigate the risks. This included consideration of compliance with amenity local laws and EPA regulations.

The suitability of land (soils, water and climate) within the study area for a range of agriculture was assessed to identify viable alternative traditional farming practices and types. We also considered the viability of production, to test whether the agricultural options are economically feasible, given the property sizes, focusing on commercial agriculture as opposed to hobby farming.

Stage 4 - Stakeholder consultation

Landholders were consulted to discuss their current circumstances, what options they are considering for the future and how land use conflict impacts agriculture within the study area.

Other stakeholders consulted during the study included:

- Goulburn-Murray Water and the Connections program
- EPA and the OPLE within Council
- DELWP and GBCMA.

2 Policy and strategic context

This section of the report summarises the strategic and local policy context set out in State and local plans and strategies relevant to Shepparton East.

STRATEGIC CONTEXT

Draft Shepparton and Mooroopna 2050: Regional City Growth Plan

To guide the sustainable development of Shepparton-Mooroopna, the VPA and Council have developed a draft Regional City Growth Plan. The Growth Plan makes recommendations for urban growth and other initiatives to 2050. The areas identified for growth were determined through a review of the Greater Shepparton Housing Strategy (2011) and the Industrial Land Review (2011). The review considered land supply needs and development constraints to identify the most appropriate areas for residential and industrial development.

The Growth Plan does not identify Shepparton East as a growth area for residential or industrial development due to the following constraints:

- The Shepparton East Overland Flow Urban Flood Study (2017) found that a large portion of the site is subject to overland flooding
- There has been considerable investment in irrigation infrastructure upgrades and modernisation to support agriculture as part of the G-MW Connections Program
- The majority of land holdings are still utilising irrigation infrastructure and actively farming their land
- The Shepparton Alternative Route (SAR) is a major freight route and forms the western boundary of Shepparton East. This road is identified for potential duplication and is considered a logical eastern growth boundary for the city
- Future growth can be accommodated within the current settlement boundary³.

Campaspe, Greater Shepparton and Moira Rural Land Use Strategy (RRLUS)

The key objective of the RRLUS (2008) is to secure and promote the future of agriculture across the region recognising the economic importance of the industry to Greater Shepparton and broader region. The RRLUS recommended a number of changes to local policy and Farming Zone schedules to:

- Enable farms to continue to expand and grow over time
- Ensure land remains unencumbered by unnecessary infrastructure, especially dwellings
- Ensure that development does not lead to land use conflict
- Maintain land in lots sufficiently large to enable landowners to own and use such equipment and skills as are necessary to maintain the land using best practice.

For Shepparton East, the RRLUS recommended that the land be zoned as Farming Zone Schedule 2 (Consolidation) to support existing farm businesses to operate and grow⁴.

³ Shepparton & Mooroopna 2050 – Regional City Growth Plan 2019

⁴ Campaspe, Greater Shepparton and Moira - Rural Land Use Strategy Final October 2008

Demand and Supply – Industrial Land Greater Shepparton

Consumption of industrial land is rapidly increasing in Greater Shepparton due to strong growth in the industrial sector. Demand for industrial land, particularly for agricultural processing, transport logistics, warehousing and smaller support industries such as refrigeration repairs/maintenance, and mechanical servicing is predicted to increase.

The recent (September 2019) industrial land supply and demand assessment for Greater Shepparton identifies that there is between 13 to 21 years supply of industrial zoned land across Greater Shepparton and an additional 20 to 32 years supply of land identified for future industrial zoning/development⁵. However, there is concern that the current supply of zoned land for large-scale industrial development will be inadequate to meet demand in the medium to long term. Investigation Area 10 (east of Doyles Road, Grahamvale) was not included in the Demand and Supply analysis due to uncertainty regarding its suitability for industrial development.

The East Shepparton industrial precinct (adjacent to the study area), covers around 313 hectares and comprises 49% of the total zoned industrial land stocks in the City.

Greater Shepparton Housing Strategy

The Greater Shepparton Housing Strategy sets objectives, strategies and actions to improve housing outcomes to the year 2031. The Strategy determined that there was sufficient supply of housing land within the settlement boundary to meet housing needs to 2031. The Strategy identified a number of investigation areas where further work was required on land conditions, servicing needs and development potential to assess suitability for housing development. One of these areas - Investigation Area 4 – east of Doyles Road, Grahamvale, which is part of the Study Area was not assessed at the time as the preparation of the Industrial Strategy may have impacted the ultimate land use, zoning and development form for the land.

POLICY CONTEXT

PLANNING POLICY FRAMEWORK

Key clauses of the Planning Policy Framework relevant to the Shepparton East study area are summarised here.

- 11.02-1S Supply of urban land - Ensure a sufficient supply of land is available for residential, commercial, retail, industrial, recreational, institutional and other community uses
- 11.02-2S Structure planning - Facilitate the orderly development of urban areas
- 11.03-2S Growth areas - Locate urban growth close to transport corridors and services and provide efficient and effective infrastructure to create sustainability benefits while protecting primary production, major sources of raw materials and valued environmental areas
- 13.02-1 Floodplain management - Assist the protection of: life, property and community infrastructure from flood hazard; the natural flood carrying capacity of rivers, streams and floodways; the flood storage function of floodplains and waterways; floodplain areas of environmental significance or of importance to river health
- 13.05-1S Noise abatement - Assist the control of noise effects on sensitive land uses
- 13.07-1S Land use compatibility - Safeguard community amenity while facilitating appropriate commercial, industrial or other uses with potential off-site effects

⁵ Demand and Supply – Industrial Land Greater Shepparton (2019) Spatial Economics

- Clause 14.01-1S Protection of agricultural land - protect productive farmland which is of strategic significance in the local or regional context
- 14.01-2S Sustainable agricultural land use - Encourage sustainable agricultural land use
- 14.01-2R Agricultural productivity - Hume:
 - Support clustering of intensive rural industries and agricultural production
 - Take advantage of locational opportunities, including separation from sensitive land uses and access to transport, power, water and communications infrastructure
- 17.01-1R Diversified economy - Hume Strategy
 - Encourage appropriate new and developing forms of industry, agriculture, tourism and alternative energy production.

MUNICIPAL STRATEGIC STATEMENT

Clause 21.04-1 Urban Consolidation and Growth draws on the findings of the Greater Shepparton Housing Strategy (2011) to provide future directions for growth and to prepare framework plans for key centres. Investigation Areas have been identified within the Framework Plans. These areas represent land which has potential to be rezoned to a higher density residential use however presently have significant issues or development constraints. The relevant issues will need to be resolved on a site-by-site basis through a more detailed analysis to determine the potential for higher density development and any subsequent changes to the Framework Plans.

The Clause includes Investigation Area 4 – (Investigation Area 10 in Clause 21.06-4 Industry) east of Doyles Road, Grahamvale and states “*there are a number of land use interface issues to be addressed in this area. There is a mix of agriculture, residential estates such as Dobsons Estate and the Shepparton East and Lemnos industrial areas. Further investigation is required in this area following finalisation of the Industrial Strategy. Investigations will include issues associated with present industry, potential for expansion of industrial and / or residential uses and developments, future servicing requirements and agricultural impacts*”.

Objectives and strategies to be met in providing for urban development including relevant to this Study include:

- Contain urban growth to identified growth areas in order to protect higher quality and intact agricultural areas and achieve a more compact built up area
- Release land efficiently in terms of location, supply of services and infrastructure and in accordance with land capability
- Coordinate the assessment, planning, development and servicing of identified investigation areas in an integrated manner
- Provide a settlement boundary beyond which additional urban growth and rezoning should not be supported
- Avoid incremental approvals and development in identified investigation areas until an integrated investigation has been completed to assess and resolve future land opportunities and constraints, land use, development opportunities, subdivisional layout and servicing for the area.

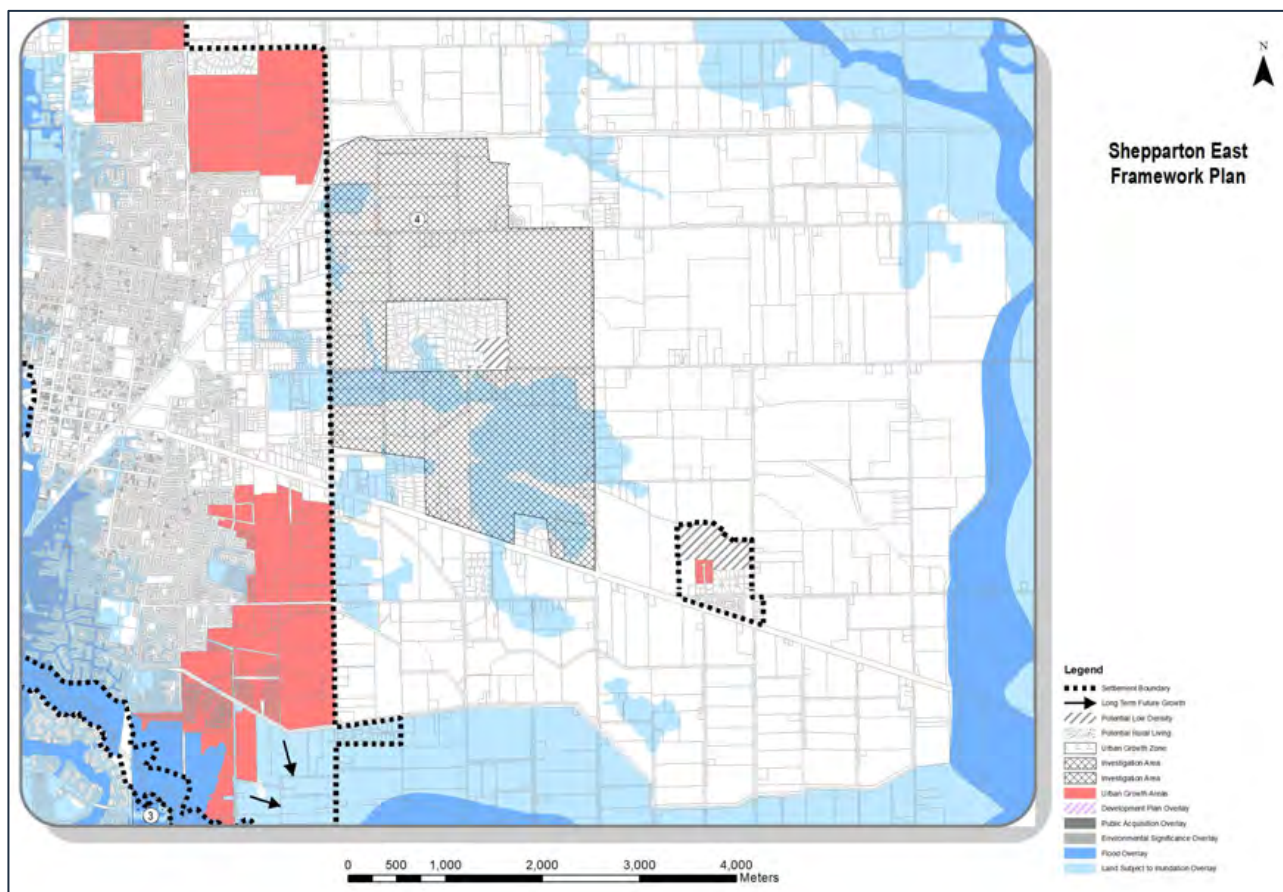


Figure 2: Shepparton East framework plan

Clause 21.06 – Economic Development acknowledges that irrigated primary production underpins the region’s economy. The level of production is nationally important, and the region’s workforce is heavily dependent on the agricultural sector. The objectives of this clause are to:

- ensure that agriculture is and remains the major economic driver in the region
- facilitate growth of existing farm businesses
- facilitate growth of new agricultural investment
- provide for small scale, specialized agriculture
- The strategies listed to achieve these objectives are:
 - Identify ‘growth’, ‘consolidation’ and ‘niche’ areas in the Farming Zone
 - Encourage growth and expansion of existing farm businesses and new investment in ‘growth’ and ‘consolidation’ areas
 - Encourage opportunities for smaller scale, specialized agriculture in ‘niche’ areas
 - Discourage land uses and development in the Farming Zone, Schedule 1 that would compromise the future agricultural use of the land, including farm related tourism
 - Encourage tourism in the Farming Zone, Schedule 2 that is carefully managed to prevent conflict and impact on agricultural operations
 - Encourage value adding and new enterprises for agricultural production. Encourage the preparation of Whole Farm Plans for on farm earthworks. Discourage non-agricultural uses on rural land other than rural based industry

- Discourage non-agricultural development in rural areas except where development is dependent on a rural location and cannot be accommodated within existing industrial or business zoned land
- Discourage non-agricultural development along major roads in rural areas especially at the fringe of existing urban areas when it may contribute to ribbon development
- Buildings for non-agricultural purposes in rural areas should be set back a minimum of 100 metres from any road, be constructed in muted coloured ‘colorbond’ materials or similar and screened from any road by dense tree and shrub planting
- Signs for industrial and commercial development in rural areas will be strictly limited in size and number.

Guidance for assessment of planning permit applications, additional to that provided in the Zone, is set out at **Clause 21.06-2 – Subdivision in Rural Areas** and **Clause 21.06-3 – Dwellings in Rural Areas**. The clauses seek to prevent fragmentation of agricultural land by subdivision and ensure that new dwellings support rural activities and production and are not to meet lifestyle objectives, which may conflict with the rural use of the land.

Clause 21.06-4 – Industry notes that with regard to industrial land, the 2011 Industrial Land Review, found that demand for industrial land is greatest in Shepparton East and that this area will continue to be the preferred location for industry. Several industrial investigation areas were identified with potential to be rezoned for industrial use, however, significant issues or constraints such as environmental, flooding, infrastructure and/or land use conflicts would need to be resolved through a more detailed analysis to determine the potential of these sites to be developed for industrial purposes.

The clause notes with regard land within the study area:

Investigation Area 10 (Investigation Area 4 in Clause 21.04-1 Urban Consolidation and Growth) – East of Doyles Road, Grahamvale. There are a number of land use interface issues to be addressed in this area. There is a mix of agriculture, residential estates such as Dobson’s Estate, and the Shepparton East and Lemnos industrial areas. Further investigation is required in this area following the finalisation of the GBCMA’s Shepparton East Flood Study. Investigations will include issues associated with present industry, potential for expansion of industrial and / or residential uses and developments, future servicing requirements and agricultural impacts.



Orchards Shepparton East (RMCG)

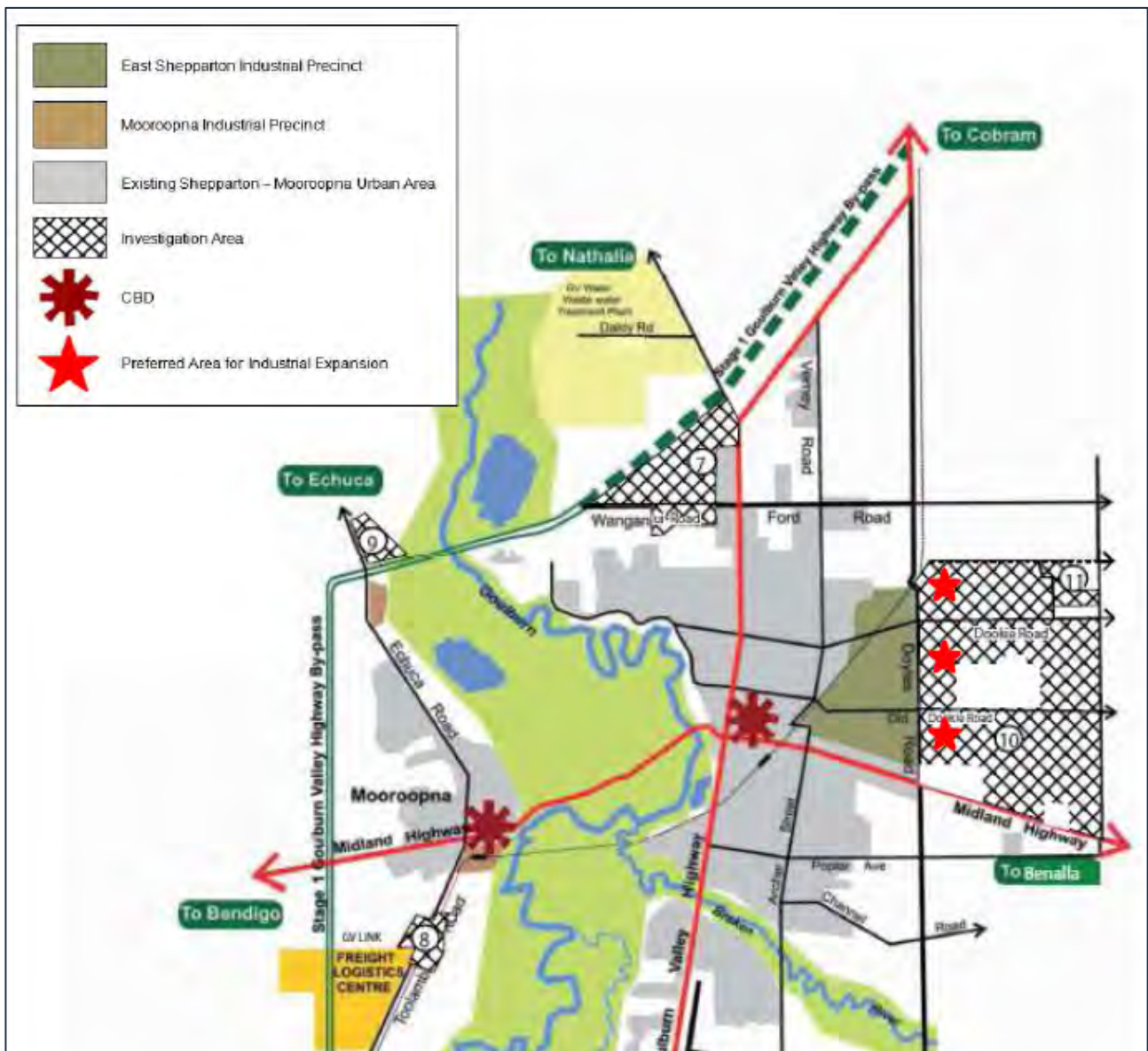


Figure 3: Shepparton industrial framework plan

ZONES

Land within the Study Area is zoned Farming Schedule 1 which specifies:

- Minimum subdivision area of 40ha
- Minimum area for which no permit is required for a dwelling of 60ha
- Minimum setback from a road
 - A Road Zone Category 1 or land in a Public Acquisition Overlay to be acquired for a road, Category 1 - 100 metres
 - A Road Zone Category 2 or land in a Public Acquisition Overlay to be acquired for a road, Category 2 - 40 metres
 - Any other road - 20 metres
- Minimum setback from a boundary - 5 metres
- Minimum setback from a dwelling not in the same ownership - 100 metres.

OVERLAYS

A number of overlays apply to land within the Shepparton East area:

- Land Subject to Inundation Overlay: Identifies land in a flood storage or fringe area affected by a 1 in 100 year flood and limits the location and form of development to minimise impacts from flooding on property and the natural environment
- Floodway Overlay: Identifies waterways, major flood paths, drainage depressions and high hazard areas which have the greatest risk and frequency of being affected by flooding and limits the location and form of development to minimise impacts from flooding on property and the natural environment
- Heritage Overlay 263 (east of Doyles Road): This is an interim overlay due to expire in May 2020.

KEY FINDINGS AND IMPLICATIONS

The current policy direction for Shepparton East and Shepparton South East is for the land to be retained for agriculture and the Zone schedules and local policy provide clear direction to support this outcome. The overarching strategic direction is also for the land to be retained for agriculture. However, the identification of the Shepparton East study area as an investigation area for residential and industrial growth introduces uncertainty as to the long term future of the area for agriculture. Adoption and implementation of the draft Growth Plan will resolve this uncertainty as it clearly states that land within Shepparton East and Shepparton South East is to be retained for agriculture.



Coolstore and packing sheds (RMCG)

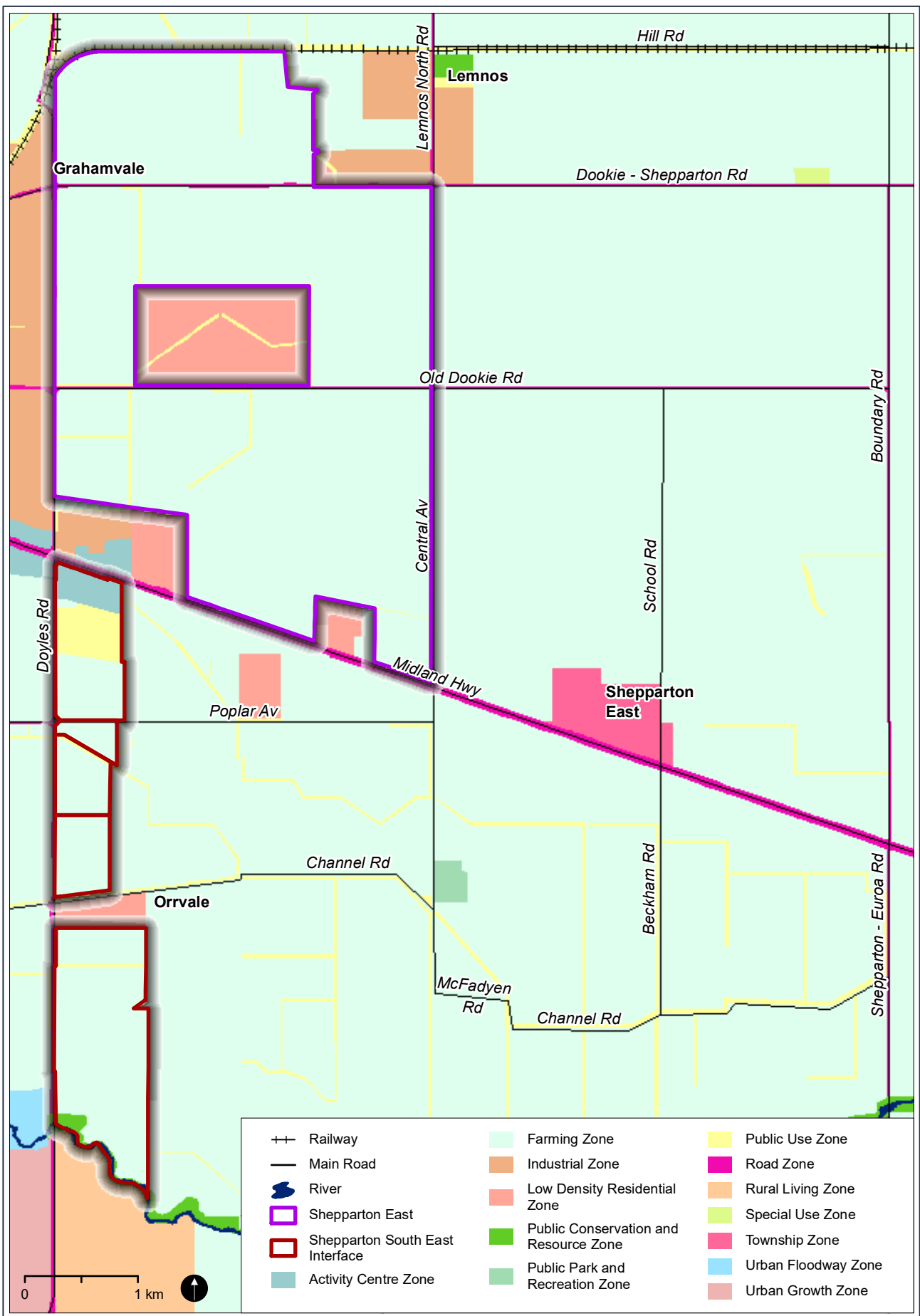


Figure 4: Planning zones

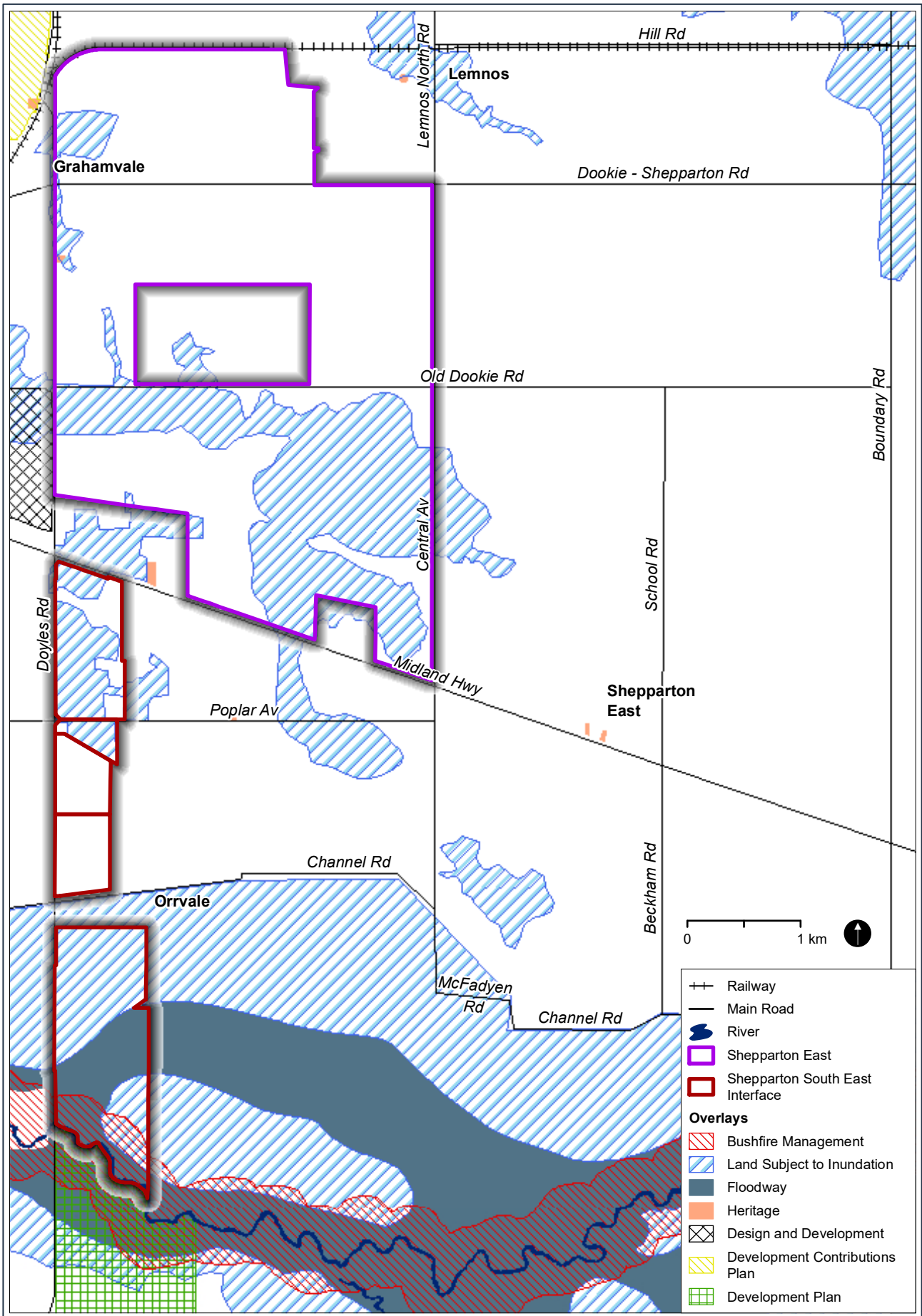


Figure 5: Planning overlays

3 Amenity issues and regulations

This section of the report provides an overview of the complaints from residential neighbours regarding farming activities in Shepparton East and Shepparton South East, and the relevant regulations and local laws that seek to avoid amenity impacts.

AMENITY ISSUES

Between January 2018 and February 2019, the Local Laws Department within Council received 8 scare gun reports and 4 gas gun reports from Shepparton East. After February 2019, all complaints regarding noise from an agricultural property were reported to the Officer for Protection of Local Environment (OPLE) within Council. The OPLE stated that reports (complaints) regarding noise from scare/gas guns were not considered excessive (generally 20 to 30 complaints are received during a season) from across Greater Shepparton. It was noted however that Shepparton East generally received a higher proportion of complaints relative to other parts of Greater Shepparton. The OPLE also identified that:

- When complaints are received, they are usually due to a malfunctioning gun (gas leaks, broken timers) and that the owner (primary producer) is frequently aware of the issue and seeking to correct it
- The majority of complaints are a 'one-off' and it is very rare that the issue escalates or requires further action by the OPLE or EPA
- Complaints are confined to the period of time that guns are used during fruit ripening season⁶.

STATE GOVERNMENT REGULATIONS

EPA GUIDELINES

EPA Victoria provides information and advice to help producers and others in the agricultural sector manage the impacts from their agricultural operations. These relate to the off-site impacts of production that may impact on waste, air quality, water quality, livestock management and noise. Guidelines are provided by the EPA or set by industry to assist producers. The guidelines provide clear standards and thresholds for operation of farm machinery, frost fans and scare guns. As noted above, recent complaints relate mainly to malfunctioning equipment and there have been no ongoing disputes which suggest that farmers are operating within the guidelines.

A summary of the guidelines for noise, frost fans and scare guns is provided here.

Noise⁷

EPA Victoria have developed guidelines for the management of noise generated on farms. The guidelines set out recommended maximum noise levels ('recommended levels'), which can be applied to manage the impacts of noise on the community. Guidelines do not apply to noise from mobile farm machinery or from livestock on a farm or in a saleyard.

⁶ Verbal report from OPLE within Greater Shepparton Council

⁷ Noise from industry in regional Victoria guidelines (2011) EPA Victoria

The guidelines for noise occurring in a Farming Zone are to be no higher than 46dB during the day, 41dB during the evening and 36dB at night. In the Farming Zone, where the noise-emitting subject agricultural activity is 'intensive', then an adjustment of +3 dB should be applied to the determined Zone Levels to reflect amenity expectations of locally intense farming activities. Intensive farming activities are agricultural activities under the planning scheme (Clause 74), including horticulture and timber production, but not:

- 'extensive animal husbandry'
- 'apiculture'
- other 'crop raising'.

Frost fans

The EPA Guidelines for Noise from Frost Fans⁸ provides guidance on avoiding land use conflict arising from the use of frost fans. There are no legislated noise standards for frost fans in Victoria. The following guidelines⁹ are recommended to minimise the potential for conflict:

- Only use frost fans when the temperature around plants is below 0 °C and when the trees are at a critical growth stage
- Site fans so that recommended noise levels are met. Within the Farming Zone an outdoor noise level of 50 dB9A is permitted if less than 12 frost events is likely or 45 dB9A if greater than 12 frost events is likely. An indoor noise level of up to 30dB9A is permitted
- Talk to neighbours (within 1,000m) of the fans to help them understand the likely noise levels, how often and when the fans will operate. This will help to set expectations.

Scare guns

The Environment Protection Authority (EPA) regulates the use of scare guns in Victoria under the *Environment Protection Act 1970*. The Guidelines for the control of noise from scare guns include:

- A scare gun must not be used if the distance between the scare gun and any complainant's house is less than 300m
- The scare gun must not emit more than 70 blasts/day
- The scare gun must not be used earlier than 7am or later than sunset. Earlier starting times will be allowed if this is agreed to by the neighbours/local residents
- The total time of operation of a scare gun must not exceed 12 hours in any one day. However, the time of operation may be divided into two separate periods, provided the interval between blasts is not less than six minutes
- The scare gun must be located as far away as possible from any neighbouring houses
- Wherever possible, the shielding effects of natural features, buildings and so on shall be used to reduce the level of the blasts at complainants' houses
- Wherever possible, the use of the scare gun shall be minimised.

GREATER SHEPPARTON LOCAL LAWS

Local laws are designed to protect public health, safety, or amenity in a municipality. They aim to ensure that the actions of an individual or group do not have a negative or undesirable impact on the rest of the community. Local Laws cannot duplicate, overlap, conflict with or be inconsistent with existing legislation, or any planning scheme.

⁸ <https://www.epa.vic.gov.au/about-epa/publications/1043-1>

⁹ Noise from frost fans (2012) EPA Victoria publication number 1043.1

LOCAL LAW NUMBER 1 – COMMUNITY LIVING 2018

The purpose of Local Law Number 1 is to provide for the peace, order and good government of Greater Shepparton and covers issuing of permits and infringement notices and the prohibiting, regulating and controlling of various activities. With regard to rural land use conflicts, the local law states:

- Noise - A person must not, on any land which they own or occupy, permit any noise or nuisance which:
 - Interferes with the reasonable comfort of any person; or
 - In the case of noise is annoying, objectionable, or unreasonable.

There is some subjectivity in the interpretation of the local law as to what constitutes 'reasonable comfort' or 'annoying, objectionable or unreasonable' which could make this law difficult to enforce and lead to unfair or unbalanced outcomes.

KEY FINDINGS AND IMPLICATIONS

Complaints are received by Council from time to time with noise from scare gun and gas guns the primary cause of complaints from Shepparton East. There have been no ongoing disputes regarding the use of scare guns and gas guns. EPA guidelines provide clear standards and thresholds for operation of farm machinery, frost fans and scare guns, and it would appear that farmers are operating within the guidelines. Ongoing education of residential neighbours regarding the importance to farm productivity and profitability of mitigating the effects of frost and birds by using scare guns and frost fans is important.

4 Current land use and land suitability

This section of the report provides an assessment of the current land use and land suitability within the study area including a review of lot sizes, land ownership, land uses.

REGIONAL INFRASTRUCTURE AND VALUE CHAIN

Many of Australia's best-known food processors including Unilever, Freedom Foods, Campbells, Snow Brand and SPC, have established operations in the GMID. These companies are supported by well-developed transport networks; up-to-date infrastructure; extensive handling and packing; and warehousing and distribution facilities.

The region is ideally located for distribution of produce to any markets in South-Eastern Australia. Domestic markets served include Sydney, Melbourne and Adelaide, as well as Brisbane and Newcastle via an excellent road and transport system with local transport companies operating this national network on a daily basis.

GMID's primary producers and processors are well-serviced and supported by advanced research, natural resource management, engineering, technology, organisational and support services in the region, including:

- Agriculture Victoria Institutes at Tatura and service centres at Cobram, Swan Hill and Echuca
- Goulburn Ovens Institute of TAFE and LaTrobe University
- Dookie Agricultural College/University of Melbourne
- Melbourne University School of Health
- BRIT in Echuca
- Goulburn-Broken Catchment Management Authority
- North Central Catchment Management Authority
- Goulburn-Murray Rural Water Authority
- Specialist engineering, metal and electrical firms, packaging, warehousing, cool store and value-adding enterprises.

Agriculture within Shepparton East is supported by a range of services including:

- Energy - including electricity, hydro-electricity and natural gas
- Business networks within the Greater Shepparton area include the:
 - Exporter's Network (which provides opportunities for businesses to learn about export activities and requirements and to network with other businesses interested in exporting)
 - Goulburn Valley Business and Rural Industry Network
- Extensive cool chain and storage infrastructure. While the majority of the infrastructure is designed to meet the needs of the main horticultural crops in the region (stone and pome fruit, tomato and kiwifruit etc) it is likely that this infrastructure could be modified to suit other crop types
- Agronomic services and materials required for horticultural production such as fertilisers, pesticides, machinery and irrigation equipment¹⁰.

LOT SIZES AND LAND OWNERSHIP

An analysis of lot sizes and ownership of land (Table 1, Table 2) in the study area and surrounding land found:

¹⁰ Capability of the GMID to support increased production of horticultural crops (2010) RMCG report for Regional Development Victoria

- There are 167 lots within the study area held in 99 separate ownerships
- The 85 lots less than 2ha in size are held in just five separate ownerships
- The breakdown of lots by size range in the study area and surrounding land is similar
- Most land ownerships are between 20 ha and 50 ha, indicating that there has been lot amalgamation over time
- There are slightly more land ownerships in the 50 ha – 100 ha size range outside the study area
- Land owners within the study area also own land outside the study area.

Figure 6 shows the distribution of lots within the study area and surrounding Farming Zone land and Figure 7 shows the land in single ownership.

SPC noted that the number of small family owned and managed farms in Shepparton East has reduced with enterprises such as GV Independent Packers purchasing land and increasing the size of their operation. A number of producers have diversified their markets, selling some fruit to SPC for canning whilst also supplying fresh product into the markets. Those growing for the fresh market have invested in netting to ensure that they meet quality specifications and have also invested in new plantings¹¹.

Table 1: Lot analysis: all lots and lots in study area*

Size range (ha)	ALL LOTS			STUDY AREA		
	Number of lots	Total area in lots size range	% of total area	Number of lots	Total area in lots size range	% of total area
< 2	735	384	8%	85	50	5%
2 – 20	334	3,052	64%	73	617	59%
20 – 50	37	949	20%	6	142	14%
50 – 100	5	286	6%	2	120	12%
> 100	1	112	2%	1	112	11%
Total	1,112	4,784	100%	167	1,041	100%

All lots includes lots within the boundaries of Hill Rd to the north, Doyles Rd to the west, Boundary Rd to the east and the river to the south.

Table 2: Ownership analysis: all ownership and ownership in study area

Size range (ha)	ALL OWNERSHIP			STUDY AREA		
	Number of lots	Total area in lots size range	% of total area	Number of lots	Total area in lots size range	% of total area
< 2	528	280	5%	5	26	2%
2 – 20	165	1588	31%	36	328	20%
20 – 50	55	1633	32%	17	499	30%
50 – 100	10	630	12%	1	84	5%
> 100	7	973	19%	5	713	43%
Total	765	5,104	100%	99	1,649	100%

Note that ownerships may include land owned outside the map and study area.

¹¹ Pers comms. SPC Ardmona 2020

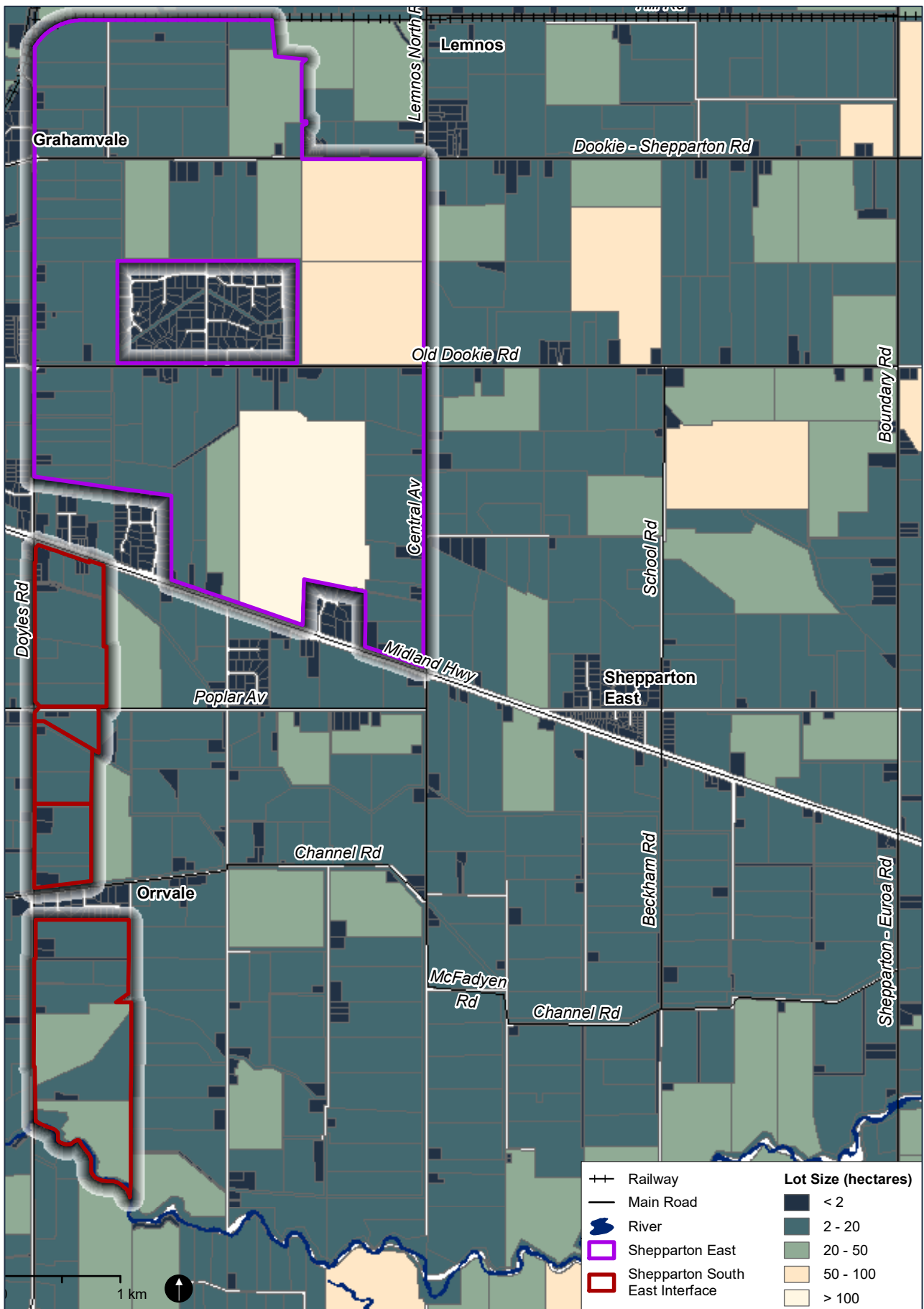


Figure 6: Lot sizes in Shepparton East¹²

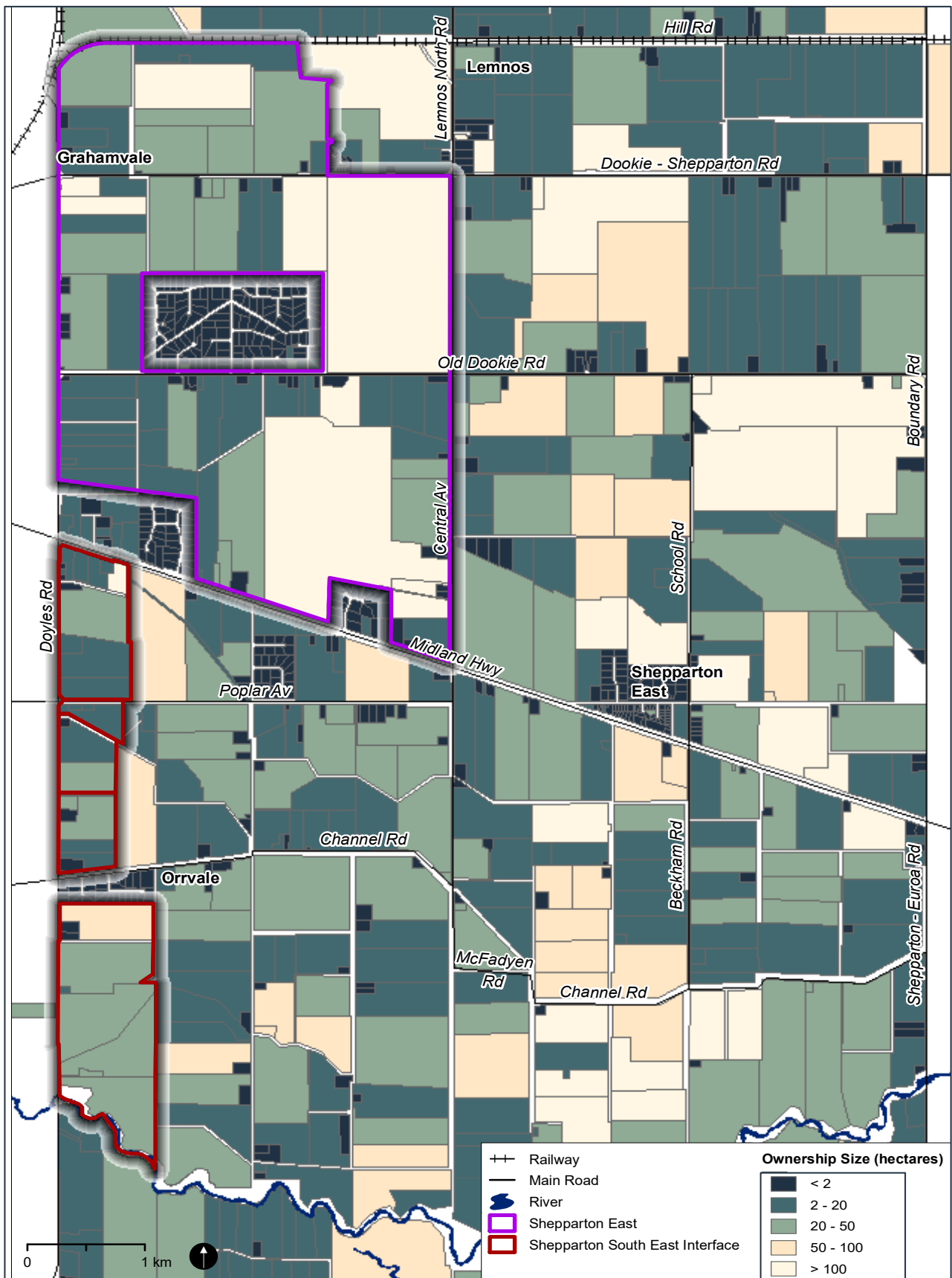


Figure 7: Land ownership in Shepparton East¹³

¹² Data provided by Greater Shepparton

¹³ Data provided by Greater Shepparton

LAND USE

Land use within Shepparton East is dominated by perennial horticulture (apples, pears and stone-fruit) with some annual horticulture (vegetables) (Figure 8). SPC Ardmona source pears, peaches and apples from a number of producers within Shepparton East for canning, juices and purees. Uncertainty regarding the future of SPC over the last 6 – 7 years has resulted in producers holding onto mature plantings and holding off on the establishment of new orchards. An inspection of the study area in January 2020, revealed recently established orchards as well as mature orchards. New orchards would indicate confidence in the productive potential of the area. There is also a dairy and a small amount of cropping and mixed grazing.

A number of properties have been classified as lifestyle/rural residential which may have been due to no apparent agricultural activity occurring at the time of the survey.

Uses of land adjacent to Shepparton East include:

- Industrial estate west of Doyles Road
- Residential estates: Dobsons Estate, Davies Drive, Mason Court, Orrvale Road.

Land use is similar within Shepparton South East though west of Doyles Road the land is still used for farming and there is a residential estate on Channel Road.

While not ideal from a land use conflict risk point of view, the residential estates are contained and well defined. House lot excisions have been generally clustered and as a result the balance land is relatively unfragmented.

LAND USE DATA

Land use data for the study area map was sourced from the 2019 'Regional Irrigated Land and Water Use Mapping in the Goulburn Murray Irrigation District Technical Report' compiled by DJPR. During consultation with landholders there were some queries regarding the accuracy of the land use classifications. Land use mapping data and the field inspection program were completed by visual inspection and, in some cases, by direct interaction with landholders or property managers. Some of the qualification and limitations associated with the data used to develop the map include:

- Properties that were inspected after significant rain events (of which there were a number in the later parts of the survey period) which had the potential to increase the uncertainty of the irrigation classification, land cover classification and therefore the land use category
- The determination of whether a dairy is in production or not is not transparent, as some dairies may have been temporarily not operating but still fully functional and capable of returning to a functioning dairy
- Integrating datasets such as the council property view of land use with information from GMW, DEDJTR and the Victorian Water Register, to the Land Victoria VicMap parcel dataset, can result in data mismatches. All attempts to correct data inconsistencies occurred during the linking of datasets.



Housing within the study area (RMCG)



Upgrade of Doyles Road (RMCG)



Coolstore (RMCG)



Freedom Foods on Doyles Road

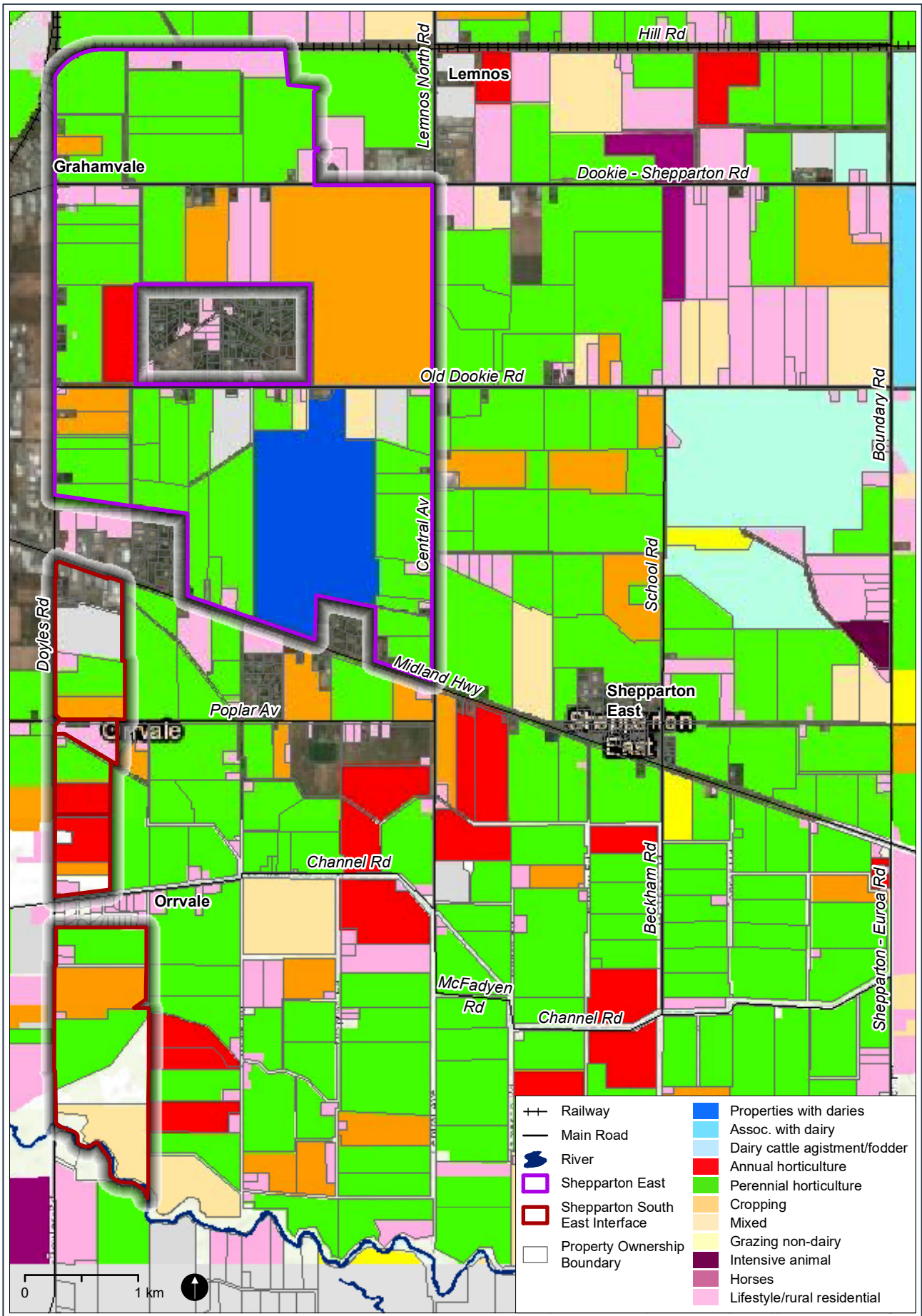


Figure 8: Land use within Shepparton East¹⁴

SHEPPARTON EAST AGRICULTURAL LAND USE OPTIONS

LAND SUITABILITY

The study area has an ideal combination of natural attributes for high-value agriculture, including:

- Excellent soil types
- Mediterranean climate
- Access to a secure supply of high quality water.

SOIL TYPES

Soils within the GMID have been extensively mapped and classified according to their suitability for irrigation and horticulture. The study area contains a mix of Group 1 through to Group 6 (Figure 9). Group 1 and 2 soils (shown in yellow) are generally well suited to irrigation and most types of horticulture production (including perennial horticulture (apples, pears and stone fruit) and annual horticulture such as vegetable production. Group 3 and 4 soils shown as light and dark green can also be irrigated and are suitable for the production of apples, pears and some stone fruit. Group 5 and 6 soils shown in blue are better suited to production of fodder crops.

An assessment of alternative types of agriculture (Appendix 2) for this area found that perennial horticulture (provided noise issues can be managed) continues to be the most suitable option for this area given its:

- Ability to 'outcompete' other industries (such as dairy) for water due to the income generated per ML used
- Suitability to the soil types, geography and climate
- Ability to generate a relatively high income per effective hectare resulting in an ability to be viable on smaller farms
- Aesthetic value.

A range of vegetable crops are suited to this area (as shown by current production in Shepparton South East), however the types of vegetables and areas where they can be grown will be quite specific due to the required climatic conditions and soil types. In particular, heavier soils prone to water-logging can be problematic due to the need to frequently cultivate the soil. Tree crops such as almonds are not suitable due to the lower income per hectare, which require larger farm sizes to be viable.



Recently established orchard. Shepparton East (RMCG)

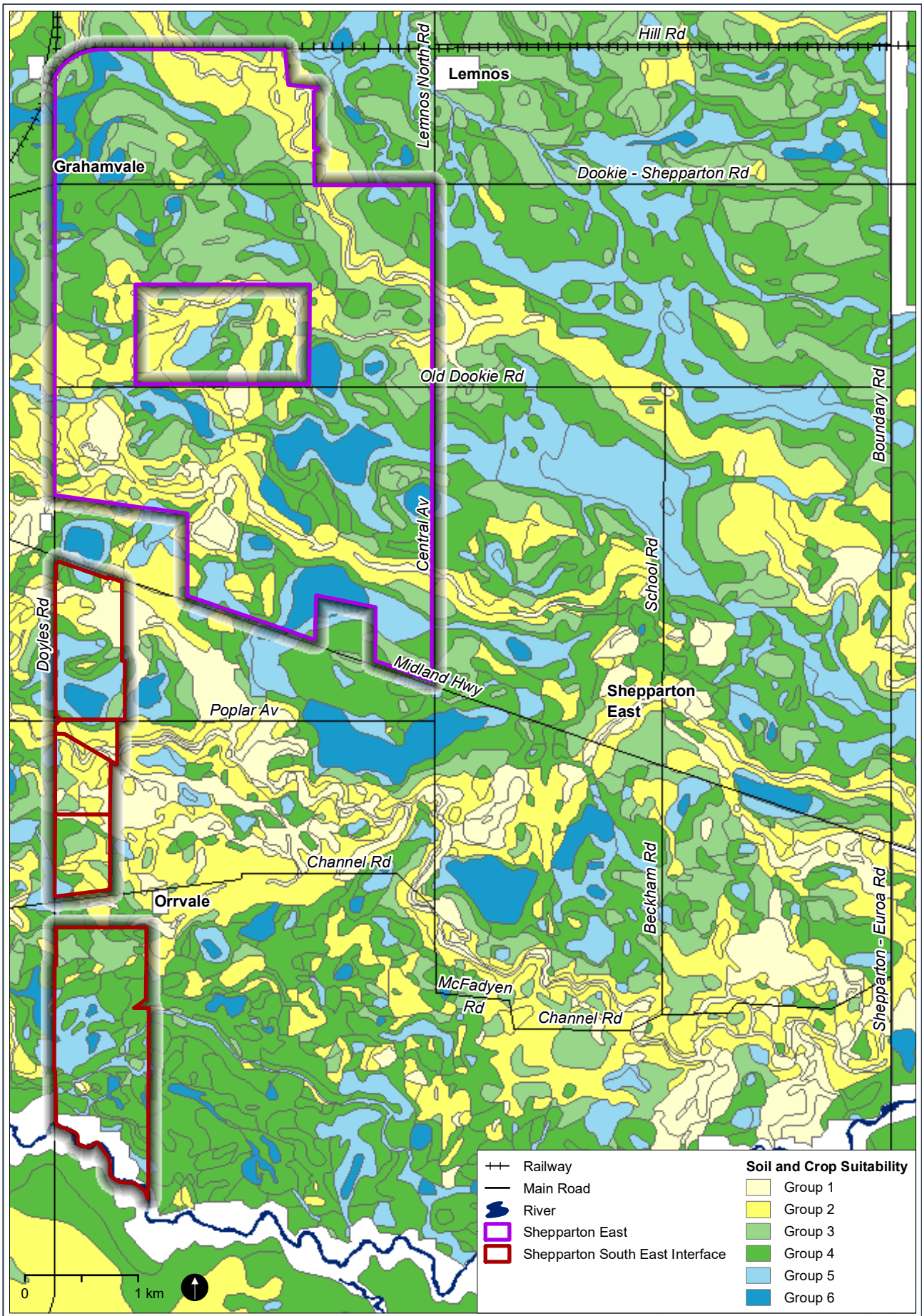


Figure 9: Soil capability and crop suitability of land within study area and Shepparton East¹⁵

CLIMATE AND CLIMATE CHANGE

The GMID has a Mediterranean climate with generally hot dry summers with an average temperature of 30°C between December and February (Bureau of Meteorology, <http://www.bom.gov.au>). In winter, June to August, the average temperature is 14°C with sufficient cold days to achieve the necessary chilling requirement for bud initiation in fruit crops. The average rainfall is around 450mm just over half of which falls between May and October.

The latest CSIRO projections for climate change indicate that the Murray cluster region¹⁶, which includes the GMID, may experience:

- Higher temperatures
- Hotter and more frequent hot days
- Less rainfall in the cool season
- No rainfall changes in the warm season
- Increased intensity of heavy rainfall events, more time in drought
- Increased evaporation rates, and reduced soil moisture.

For horticultural crops this may mean:

- Reduced winter chilling which is important for some fruit trees for setting fruit
- Greater risk of crop damage during hot spells
- A possible increase in area suitable for growing tropical and subtropical crops
- A possible decline in suitability for growing temperate crops
- Increased energy costs as temperatures increase energy requirements for activities such as post-harvest chilling
- Increased evapotranspiration infers more irrigation demand per ha and the area irrigated for a given volume will decrease
- Increased costs of irrigation water in dry years.

There are a range of climate change mitigation and adaptation strategies that farm businesses can adopt, including:

- Crop varieties, species or rootstocks with increased physiological tolerance of hot conditions
- Varieties with reduced chill requirements
- Varieties or species which are better able to exploit the fertilisation effect of increased atmospheric carbon dioxide to improve water use efficiency
- Crop varieties or species bred to resist current pest and disease risks and new risks presented by changing climate.

Strategic and tactical irrigation water management (water trading, carry over and other mechanisms) to secure water at affordable prices is increasingly adopted by farm businesses. The ability to buy water is strongly related to how much each mega litre (ML) generates at the farm gate, but this is not the whole story because the water buyer also considers the impacts of not irrigating on future years profits. This accounts for the cost of replanting and lost production for several years that applies to fruit/nut trees and vines. In extreme droughts this can result in horticulturists paying higher prices than the value of their current crop. More intensive production such as annual and perennial horticulture generates returns that are significantly higher than other agricultural enterprises and will be most likely able to afford water when supply is limited.

¹⁵ Data sourced from the 'Soils and Land Use in Part of the Goulburn Valley, Victoria' report (1962) Department of Agriculture (J.K.M. Skene and T.J. Poutsma)

¹⁶ The challenges and opportunities of changes to water availability on the food and fibre sector in the GMID phase 1 – summary for the community (2016) GBCMA

The outlook in the short to medium term is that:

- Water prices will remain high
- Horticulture will continue to 'out compete' other industries such as dairy for water
- Restructuring and declining farm numbers will continue¹⁷.

The scale of farming businesses in Shepparton East means that they have less flexibility to adapt to changing climate and manage irrigation water compared to larger scale horticultural businesses.



Protective shade cloth structure Shepparton East (RMCG)

IRRIGATION INFRASTRUCTURE

Irrigation water in the study area and Shepparton East is delivered by gravity from a G-MW supply channel. There are 298 customers (Water Use Licences) and 547 outlets in Shepparton East. It is understood that, apart from Channels 10 and 11 (Figure 3-6) irrigation infrastructure has been modernised.

There is currently a proposal, with the Commonwealth Government, seeking funding to modernise the remaining un-modernised sections of the G-MW water delivery system in Shepparton East (see Figure 3-7). The works proposed include channel automation, and the upgrade and rationalisation of 223 meter outlets. In addition to water savings, the benefits generated by the Shepparton East Project include improvements in the service standards to G-MW customers in Shepparton East and a reduction in G-MW whole-of-life and operating costs¹⁸. The area proposed for modernisation does not include the irrigation supply to the Shepparton East study area but does include irrigation supply to the Shepparton South East study area.

Modernisation of irrigation infrastructure enables growers to introduce more sophisticated irrigation systems which could support heightened density of plantings which translates to increased return per hectare¹⁹. Without modernisation, growers will have less flexibility to adopt new technology and will also be a disincentive to farm expansion through amalgamating properties. One of the benefits of modernisation is that farmers are able to control water distribution across the farm from a single outlet.

¹⁷ Northern Victoria Dairy – Water Availability and Production Projections – Draft Report (2019) RMCG

¹⁸ Victoria's Northern Water Infrastructure Prospectus – Continuing to deliver the Basin Plan (2018) DELWP

¹⁹ RMCG GMID Irrigation Sector Analysis (2016) consultant report prepared for GMW

KEY FINDINGS AND IMPLICATIONS

Shepparton East is located within the GMID. The GMID is the country's largest irrigation district and produces more fruit and dairy produce than any other region, as well as supporting significant general horticulture and mixed farming. The region has extensive and well established value chain businesses including food processors and manufacturers as well as industries providing support services.

The lot size pattern within the study area is typical of the surrounding lot arrangements with most lots between 2 ha and 20 ha in size. Land in the study area is generally owned as multi lots tenements of between 2 ha and 20 ha, while surrounding land is generally owned in multi lot tenements of 20 and 50 ha.

Land use within Shepparton East is predominantly perennial horticulture (apples, pears and stone-fruit) with some annual horticulture. Farm businesses are establishing new orchards affirming the high productive potential of the area founded on the areas soil types, climate and service infrastructure.

Uses of land adjacent to Shepparton East includes an industrial estate, separated by Doyles Road and residential estates on Dobsons Estate, Davies Drive, Mason Court, Orrvale Road. While not ideal from a land use conflict risk point of view, the residential estates are contained and well defined. House lot excisions have been generally clustered and as a result the balance land is relatively unfragmented.

Shepparton East has an ideal combination of natural attributes for high-value agriculture, including excellent soil type, Mediterranean climate and access to a secure supply of high quality water. The irrigation network servicing Shepparton East has been largely modernised. Modernisation facilitates farm amalgamation, adaptation to climate change, and adoption new technology and practices.

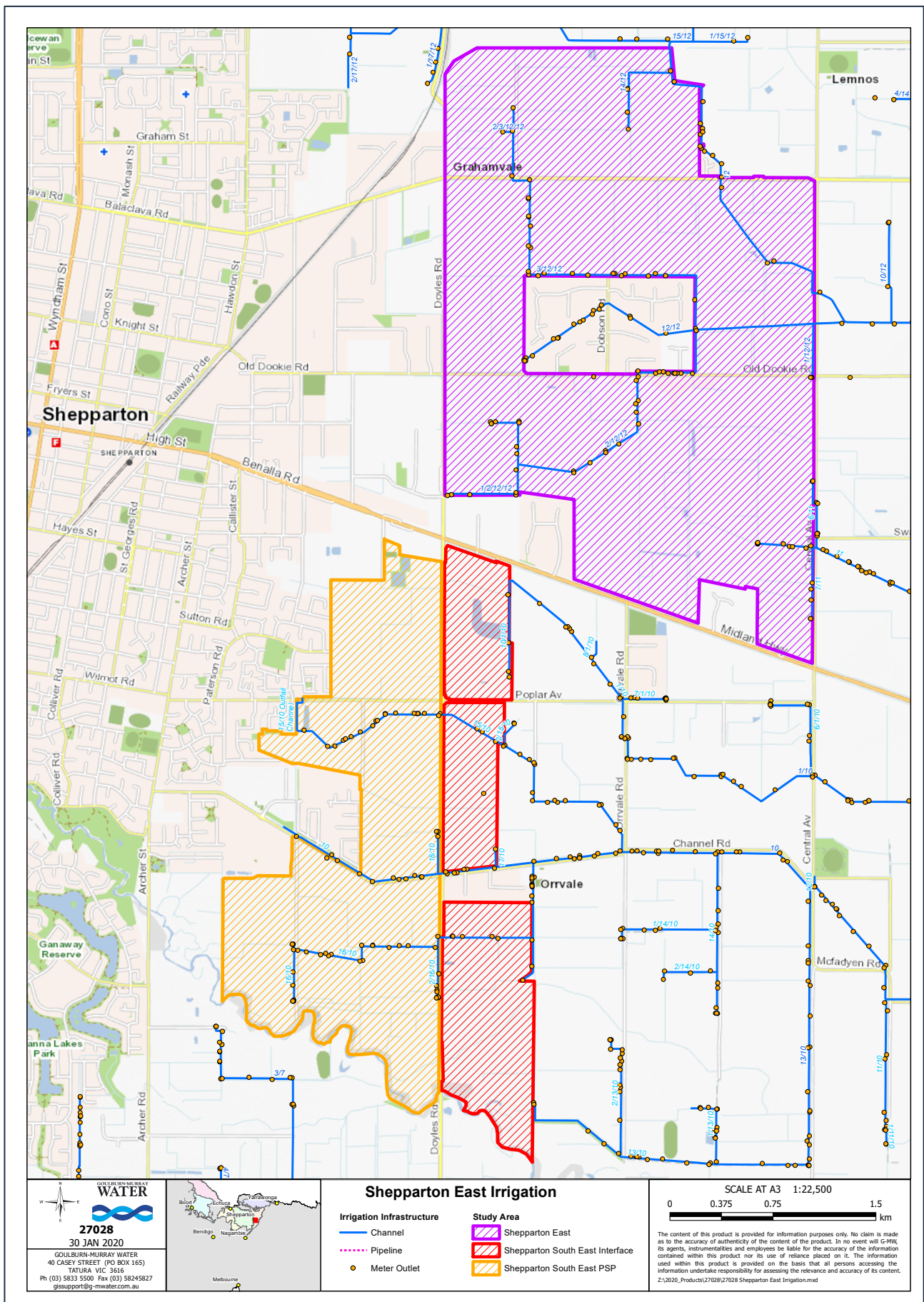


Figure 10: Shepparton East irrigation infrastructure

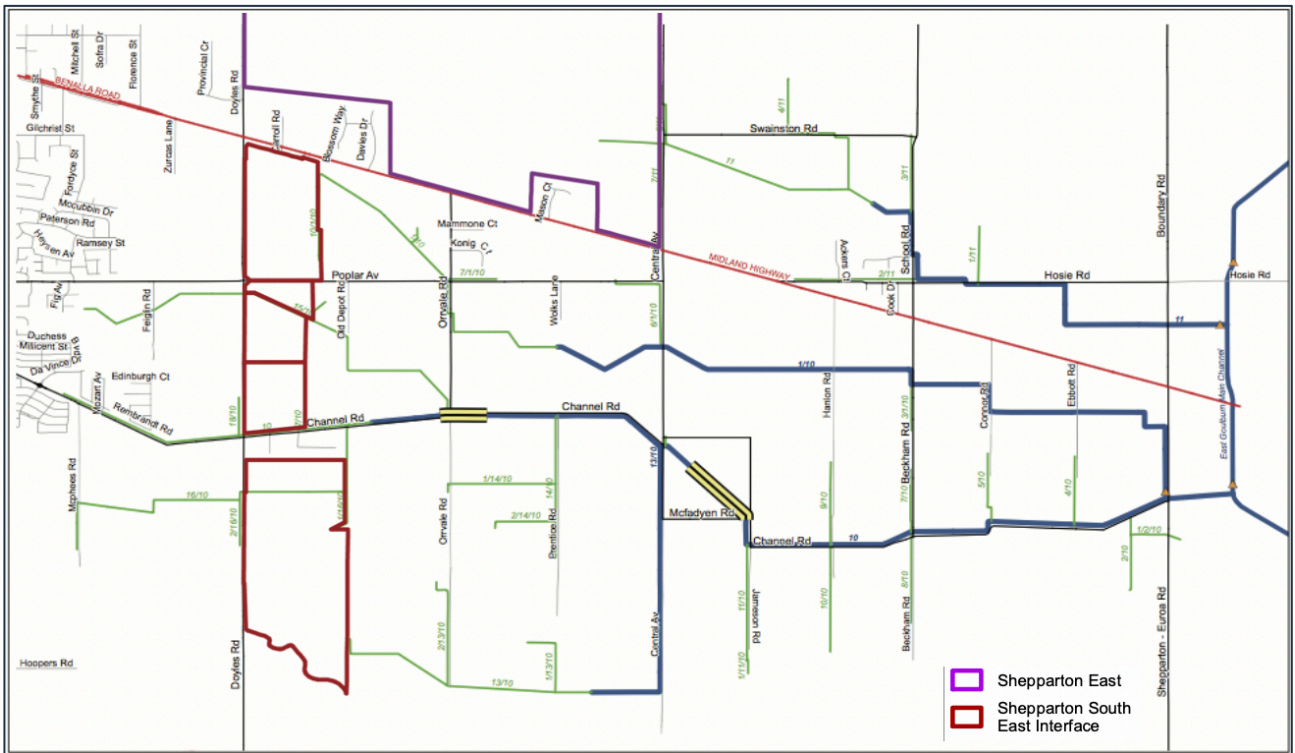


Figure 11: Proposed Shepparton East modernisation (existing automated channels in blue)

5 Agricultural viability

Shepparton East has a long history of successfully producing perennial horticultural crops such as pome and stone fruit. As discussed in Chapter 4, this and other types of agriculture are well supported by the soil types, the climate and local infrastructure. However, Shepparton East landholders have reported that agriculture is no longer viable. This section of the report assesses factors impacting the viability of agriculture in the district.

These factors include:

- Farm size
- Land values
- Land use conflict
- Planning policy.

FARM SIZE

Shepparton East landholders reported during consultation that one of the factors impacting farm viability was the size of properties in the district. Like other agricultural areas, the original subdivision of land was often based on what was considered an area large enough to support a family or “a living area”. For example, in 1887, during the establishment of the Mildura irrigation district, a ‘living area’ was considered to be 4 ha, but by 1919 during the establishment of Red Cliffs and expansion of Merbein, it was considered to be 6.5 ha. In the 1940’s when Robinvale was established it was 10 ha. In 1912, when Shepparton East was developed for irrigation, subdivision in the GMID ranged between 4 ha and 12 ha²⁰. Today, most land in the study area is held in ownerships of between 2 and 20 ha.

The increase in farm scale since 1912, is consistent with established trends in agriculture of increasing scale over time. Increase in farm scale is driven by declining terms of trade for agriculture (i.e. price of agricultural inputs rise while at the same time, prices received for agricultural products reduce). In addition to increasing farm scale, i.e. buying more land, farm businesses also invest in new technology, more efficient farm practices and productive crop varieties to maximise the productive potential of land.

To estimate what is a living area today, the *minimum* area required to generate \$500,000 gross sales was estimated for a range of horticultural crops based on average income data (Table 3)²¹. The estimates show that a living area for a stone-fruit business generating \$50,000/effective ha will require a minimum of 10 ha to be viable. A vegetable farm will require between 7 ha to 20 ha, depending on crop types. The average income per hectare for each enterprise has been calculated per effective hectare therefore most farms will also require additional land for access, storage of machinery and sheds. By comparison, the average area planted to vegetables in Victoria was 63 ha in 2017-18 (Table 4) and the average area planted to pome and stone fruit in the Murray Darling Basin was around 20 ha in 2015-16 (Figure 12).

Based on current land ownership and comparison with industry statistics, farm businesses in Shepparton East are considered to be at the *smaller* end of the spectrum for farm business size. Operating and maintaining a viable farm business at this scale requires a high degree of management expertise as there is less capacity for small business to absorb risk, compared to larger farm businesses.

Looking to the future, to remain viable, it will be *critical* that businesses in Shepparton East increase scale. This can be achieved by increasing the size of the farm or switching to higher value horticultural commodities or a combination of both. Higher value horticultural commodities include niche market products such as

²⁰ Parliamentary Standing Committee on Railways on the Stanhope Closer Settlement Area Connecting Railway (1914)

²¹ While individual cases and financial circumstances vary, on average a viable farm needs at least \$500,000 gross sales per annum to enable farming businesses to continue to grow and undertake necessary succession planning. The benchmark is based on RMCG’s ongoing Multi Industry Farm Business Analysis.

organics and specialty foods for restaurants. Protected horticulture (use of greenhouses and glasshouses) can also achieve higher income per hectare due to the ability to tightly control production factors. However, this type of enterprise is also highly capital intensive, requiring initial investment of approximately \$1 - 2 million per hectare. Protected horticulture may reduce some land use conflicts such as odour, noise from bird guns and frost fans, and spray impacts but there can be noise from ventilation and temperature moderation fans.

Table 3: Estimate of viable farm size

ENTERPRISE	*AVERAGE INCOME/HA	FARM SIZE (HA) TO GENERATE \$500,000
Vegetables - lettuce	68,189	7
Vegetables - zucchini	27,640	18
Apples	40,500	12
Stone fruit	50,000	10
Canning pears	17,600	28
Dairy	7,000	71

*Note: These statistics represent a snapshot in time and are average figures only. There will be individual cases where income per hectare differs from these figures and where a viable farm generates more or less than \$500,000 gross sales. Note also that income/ha is dependent on a range of factors, which may vary significantly between any season and any farm. It does not necessarily equate to profit. On average most primary producers will have a profit margin of approximately 10% of gross sales. Therefore, if a farm is generating gross sales of \$500,000 per annum this equates to \$50,000 profit. Some producers who have more efficient management practices may be able to increase this to 20%. This has been collected from a range of industry sources including ABARES, ABS, Dairy Monitor, Livestock Monitor, NSW DPI, AUSVEG, RMCG pers comms.

Table 4: Proportion of farms and production, vegetable-growing farms, by size, in Victoria 2017–18²²

	UNITS	<5HA	5 TO 20HA	20 TO 70 HA	>70HA	AVERAGE / TOTAL
Area planted to vegetables	ha	1	13	46	235	63
Proportion of farms	%	6	48	27	19	100
Proportion of production	%	1	6	25	68	100
Proportion of value of production	%	3	6	17	74	100

²² <https://www.agriculture.gov.au/abares/research-topics/surveys/vegetables#detailed-physical-characteristics>

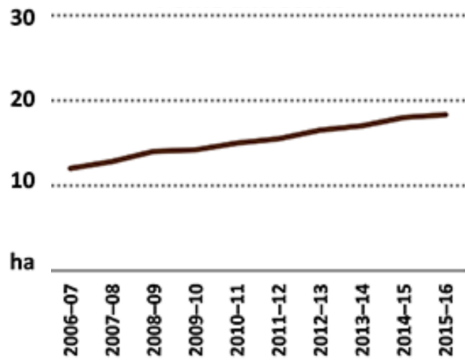


Figure 12: Trend in size of Australian pome and stone fruit farms²³

LAND VALUES

To test whether the proximity of Shepparton East to the Shepparton urban centre and the current policy settings are impacting the value of agricultural land in Shepparton East the capital improved value of properties in Shepparton East was mapped. The Capital Improved Value (CIV) is the total market value of the property, which includes the Site Value, and the value of buildings and any other improvements. The CIV was divided by the property area to provide a value/ha and comparison across all lots. The mapping shows that larger farming lots are valued at less than \$50,000/ha while small rural residential blocks are valued at over \$500,000/ha. Some large lots have a high CIV/ha because they have significant infrastructure e.g. dairy, shedding. The mapping also shows that the pattern of CIV/ha is consistent across the Shepparton East district. An online scan of the results of recent land sales found that no land sales have occurred recently in the area. Properties currently on the market in Shepparton East range between \$29,000/ha and \$34,000/ha. Both properties have established orchards and irrigation infrastructure. The data would suggest that the value of agricultural land is not overly inflated due to its proximity to Shepparton or demand for rural residential lifestyle development.

²³ <https://www.agriculture.gov.au/abares/research-topics/surveys/irrigation/horticulture#horticulture--production-in-the-murraydarling-basin>

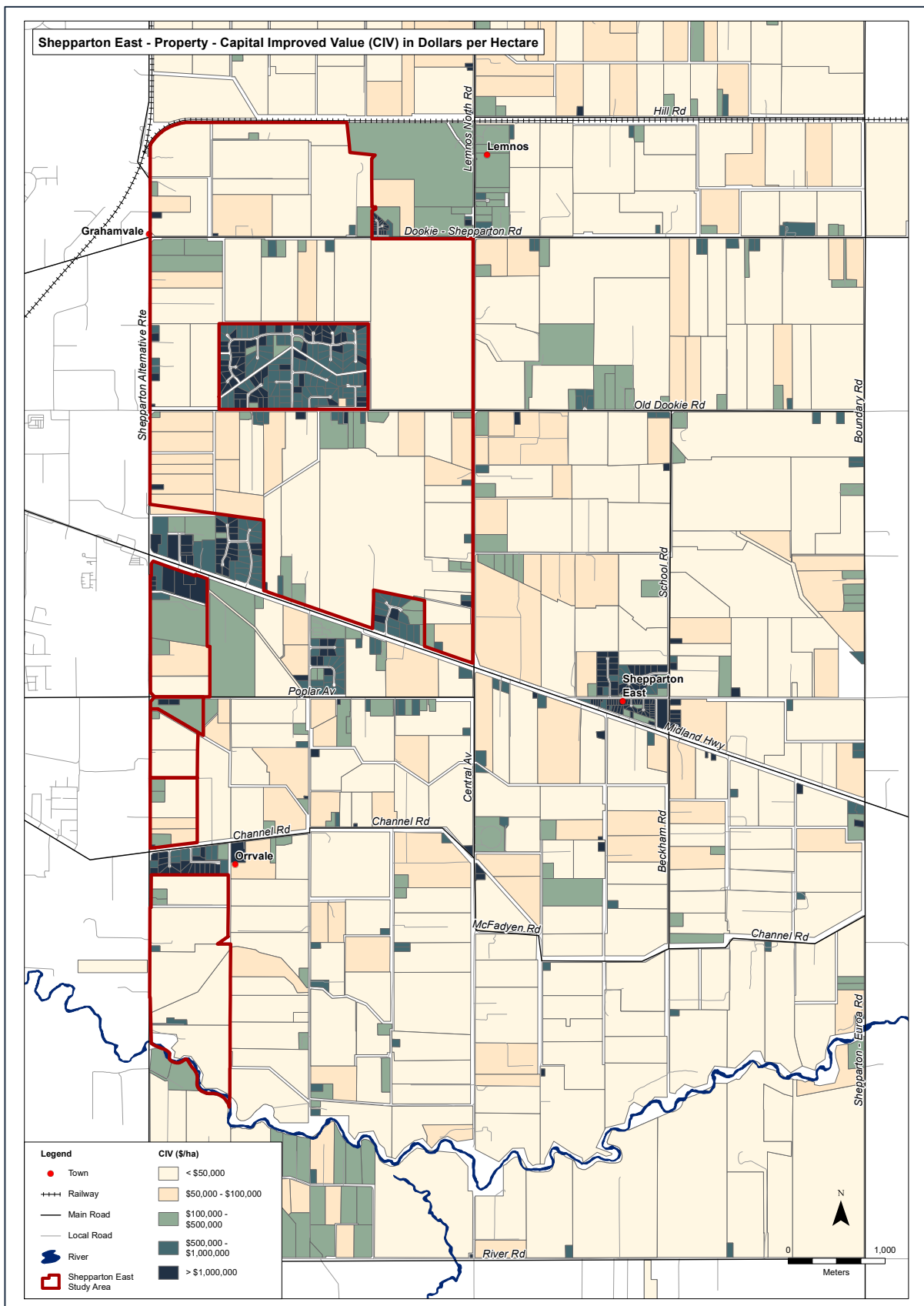


Figure 13: Capital improved value per hectare, Shepparton East

LAND USE CONFLICT

A review of recent complaints regarding agricultural practices in Shepparton (Section 3), found that complaints are received by Council from time to time with noise from scare gun and gas guns the primary cause of complaints from Shepparton East. There have been no ongoing disputes regarding the use of scare guns and gas guns.

A land use conflict risk assessment was undertaken to determine whether land use conflict is, or could, impact the viability of agriculture in Shepparton East. The assessment considered:

- The risks posed by non-agricultural neighbours on agriculture in Shepparton East
- The risk of posed by agriculture on non-agricultural neighbours.

The assessment identified a number of high priority risks but found that implementation of mitigation measures could significantly reduce the risk ranking such that were no residual high priority risks.

The assessment found that adoption of risk reduction measures could reduce high priority risks. From the perspective of agricultural businesses in Shepparton East, the cost of risk mitigation is not higher than for businesses elsewhere as the measures only require them to comply with best practice management guidelines and they are not required to adopt additional risk mitigation measures. While complaints are occurring, the risk assessment did not identify any high priority risks (once mitigation measures are applied) that reduce the viability of agriculture in Shepparton East.

PLANNING POLICY

For horticultural businesses, the preferred approach to increasing the farm footprint is to amalgamate adjoining lots which facilitates more efficient irrigation layouts and long row lengths. As discussed above, farm amalgamations have been occurring within Shepparton East since 1912. However, some current landholders have reported that they are reluctant to sell as they anticipate the conversion of their land to a residential or industrial use.

Currently, land within Shepparton East is identified in two studies and the MSS as being investigation areas for either residential or industrial development. The feedback from landholders was that this has reinforced uncertainty regarding the future land use of the area. The uncertainty has two effects: it is discouraging farming businesses that wish to continue farming from investing in farm amalgamation; it is discouraging farm businesses wishing to exit the industry from placing the farm on the market and making it available for purchase for amalgamation. As a result, most farms have not increased scale in recent years, and this would be impacting the viability of some businesses.

Leasing of land to increase farm size is a common and viable proposition for annual horticulture (vegetables) as the capital investment to make land ready to farm is lower. However, for perennial horticulture where significant upfront capital investment is required to establish orchards, leasing is not a viable option for increasing farm scale.

Operation of a perennial horticultural (such as apple, pear, stone-fruit) business, more than other types of agriculture, is based on long-term plans due to long lead times before full production is reached, significant upfront capital investment, and fluctuations in water availability.

If the vision is for agriculture to remain the primary land use in Shepparton for the long term, then the planning scheme must be unambiguous in this regard. While the zone and MSS at Clause 21.06 provide clear policy direction to this end, it is undermined by the inclusion of Shepparton East in residential and industrial investigation areas.

KEY FINDINGS AND IMPLICATIONS

Most farm businesses in Shepparton East are considered to be at the smaller end of the spectrum of farm business size. Operating and maintaining a viable farm business at this scale requires a high degree of management expertise as there is less capacity for small business to absorb risk, compared to larger farm businesses. It will be *critical* that businesses in Shepparton East are able to increase scale, by increasing the size of the farm, switching to higher value horticultural commodities or more intensive production systems such as protected horticulture.

The analysis of land values in Shepparton East indicates that the value of agricultural land is not overly inflated due to its proximity to Shepparton or demand for rural residential lifestyle development.

While the proximity of farm businesses to non-agricultural uses does increase the risk of land use conflict, the land use conflict assessment found that:

- there are no additional costs to farm businesses of mitigating high priority risks
- risks do not significantly reduce the viability of agriculture in this area
- there are guidelines and processes in place to assist in managing these risks.

The current policy direction for Shepparton East and Shepparton South East is for the land to be retained for agriculture, and the Zone schedules and local policy provide clear direction to support this outcome. The overarching strategic direction is also for the land to be retained for agriculture. However, Shepparton East is identified in two studies and the MSS as an investigation area for either residential or industrial development. This ambiguity in the direction for Shepparton East is creating uncertainty regarding the future land use of the area. As a result, most farms have not increased scale in recent years, and this would be impacting the viability of some businesses. If the vision is for agriculture to remain the primary land use in Shepparton for the long term, then the planning scheme must be unambiguous in this regard.

The size of farms in Shepparton East is considered to be the most significant factor impacting farm viability.

6 Land use conflict

The assessment of Rural Land Use Conflict follows the approach detailed in the Land Use Conflict Risk Assessment Guide²⁴ prepared by the NSW Department of Primary Industry. Land Use Conflict Risk Assessment (LUCRA) is a system to identify and assess the potential for land use conflict to occur between neighbouring land uses. The LUCRA aims to:

- Identify and address potential land use conflict issues and risk of occurrence before a new land use proceeds or a dispute arises
- Objectively assess the effect of a proposed land use on neighbouring land uses
- Increase the understanding of potential land use conflicts to inform and complement development control and buffer requirements
- Highlight or recommend strategies to help minimise the potential for land use conflicts to occur and contribute to the negotiation, proposal, implementation and evaluation of mitigation strategies.

There are four key steps in a LUCRA:

1. Gather information about proposed land use changes and associated activities
2. Evaluate the risk level of each activity
3. Identify risk reduction management strategies
4. Record LUCRA results.

RISK ASSESSMENT

The full assessment of potential land use conflicts is set out in Appendix 1. The high priority risks are summarised here:

- The high priority risks from agricultural management practices impacting non-agricultural neighbours are:
 - Spraying of orchards to control pest and disease
 - Use of scare guns to manage birds
 - Wind machines to manage frost
 - Odour from dairy effluent/manure
 - Odour from spreading of compost
 - Noise from operating farm machinery.
- The high priority risks from non-agricultural neighbours impacting agriculture are:
 - Local traffic
 - Pest plants and animals.

Risk reduction measures were considered for each risk and the risk ranking re-evaluated based on implementation of the mitigation measures. Implementation of the measures substantially reduced the risk ranking such that there are no high priority residual risks.

Mapping of potential land use conflict hotspots are shown in Figure 22. Lots less than 2 ha that may also present a risk of land use conflict are shown in Figure 23.

²⁴ Land Use Conflict Risk Assessment Guide (2011) NSW Department of Primary Industries

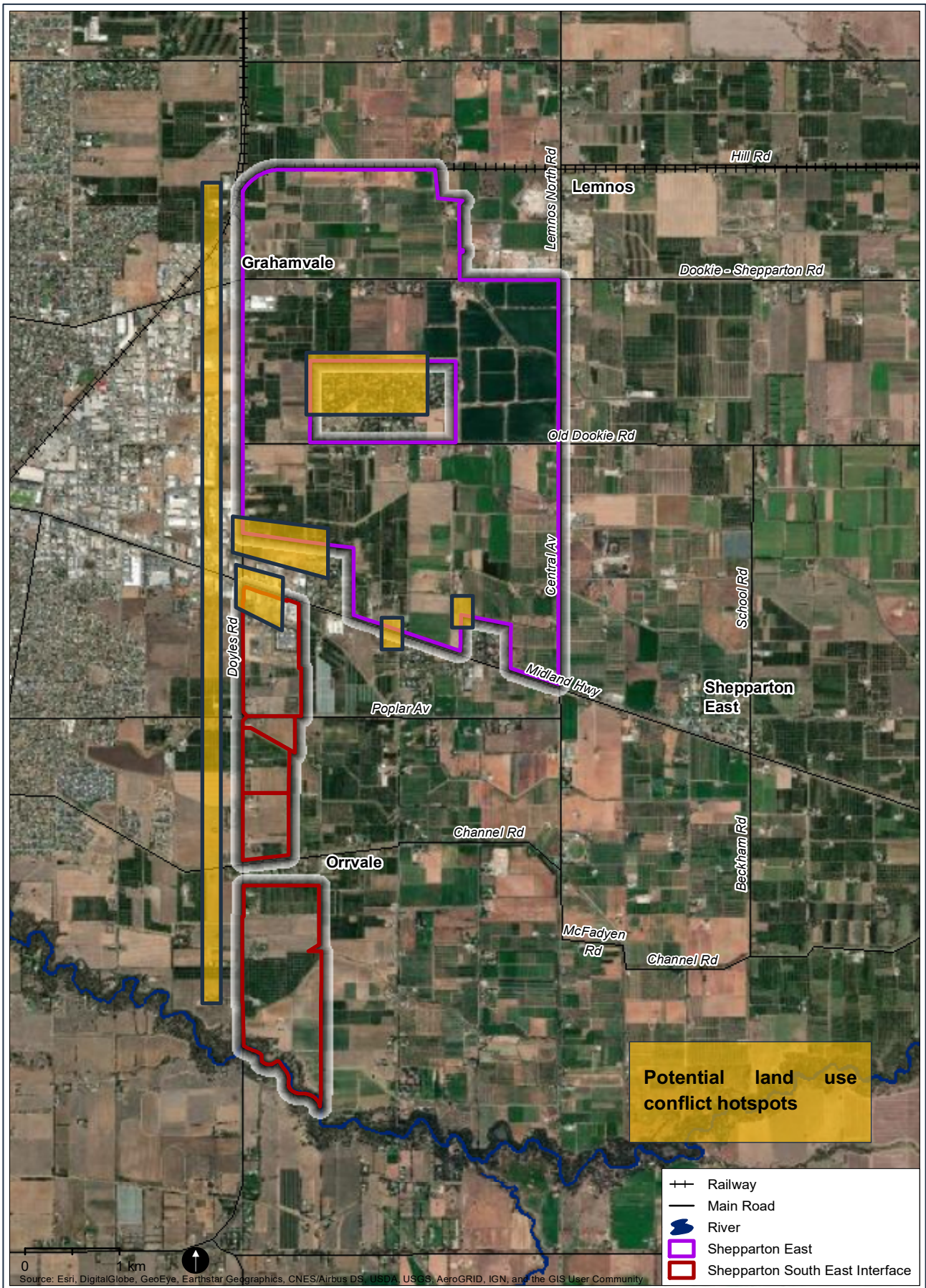


Figure 14: Potential land use conflict hotspots

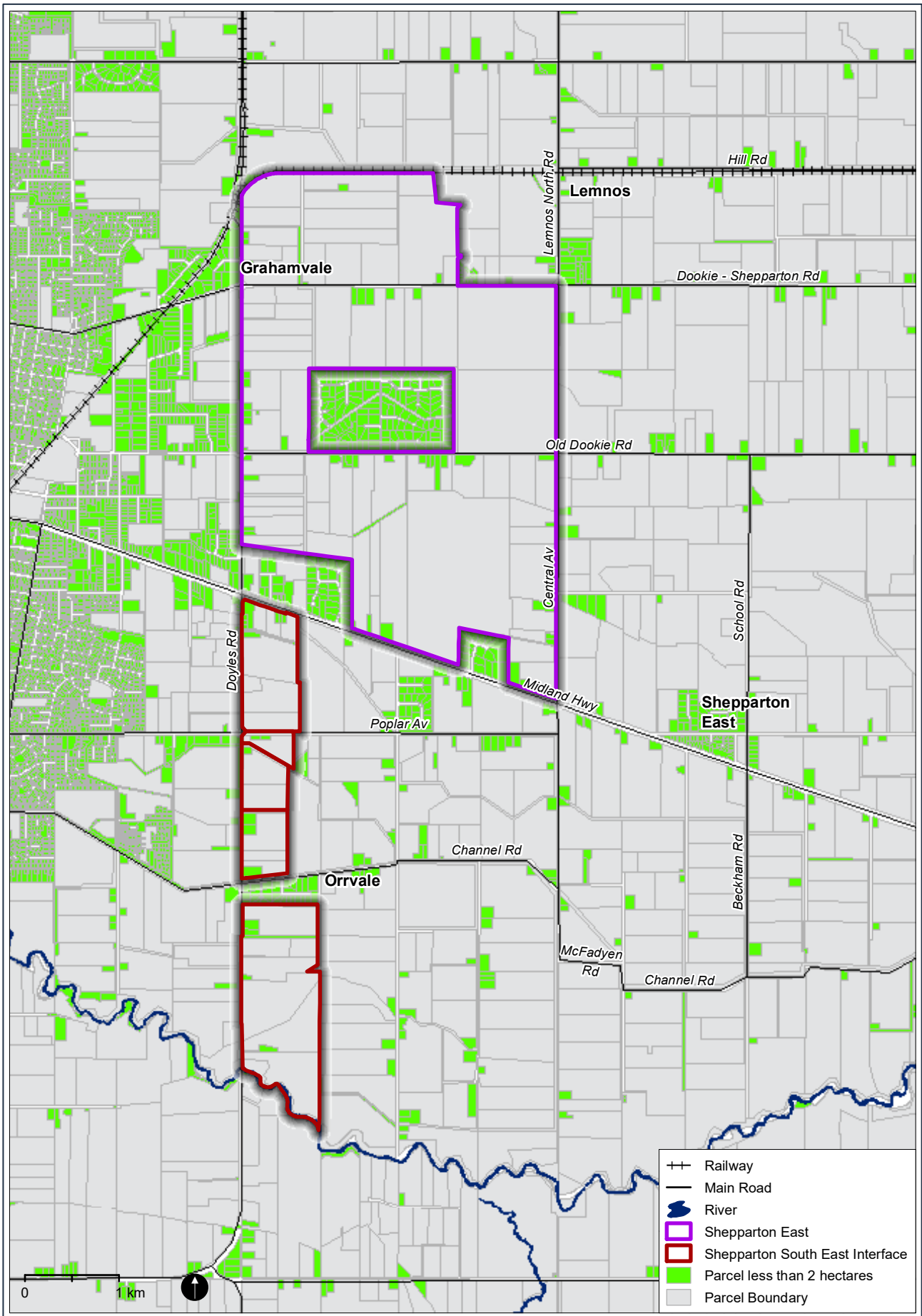


Figure 15: Lots less than 2ha

MITIGATION STRATEGIES

More detail on the mitigation strategies that were considered in the re-evaluation of the high priority risks are discussed here.

MANAGEMENT OF FRUIT DAMAGE

Production of horticultural crops require management of pest and disease, and climatic conditions in order to preserve tree health and fruit quality. For production of tree crops such as apples and pears this can frequently require the use of:

- frost fans to mitigate potential frost damage to tree crops during sensitive periods of growth
- scare guns to prevent birds from feeding on developing fruit
- insecticides and fungicides which are sprayed into the crop to manage insect pests and diseases.

There are a number of ways to either reduce the impact of these management techniques or to use alternative approaches that will achieve a similar effect without causing conflict.

Frost Fans

Frost fans are large fans used to circulate air over a wide area where crops such as apples and pears are grown. They are used when there is a risk of frost conditions and when crops are at a frost-sensitive stage of growth. Conflict can arise due to the noise the frost fans create which is usually at night and in the early morning when frost risk is highest. To minimise the potential for conflict the following EPA guidelines²⁵ are recommended:

- Only use frost fans when the temperature around plants is below 0°C and when the trees are at a critical growth stage
- Site fans so that recommended noise levels are met. Within the Farming Zone an outdoor noise level of 50 dB9A is permitted if less than 12 frost events is likely or 45 dB9A if greater than 12 frost events is likely. An indoor noise level of up to 30dB9A is permitted
- Talk to neighbours (within 1000m) of the fans to help them understand the likely noise levels, how often and when the fans will operate. This will help to set expectations.

Alternatives to frost fans can also be explored and could include:

- Planting of frost-resistant varieties
- Orchard layouts which avoid planting trees in susceptible areas or the use of dense windbreaks to 'dam' cold air
- Applying copper-based spray that reduces ice-nucleating bacteria on trees
- Irrigation.

Scare guns²⁶

Under the EPA's Noise Control Guidelines, scare guns are defined as devices for producing a loud explosive sound for the purpose of scaring away birds from crops and orchards. Scare guns, also known as gas guns or scatter guns, produce an explosive noise by the ignition of a charge of gas and air. Some scare guns rotate after firing so that the next blast is emitted in a different direction, which is intended to increase the surprise effect on birds.

²⁵ Noise from frost fans (2012) EPA Victoria publication number 1043.1

²⁶ <http://greater-shepparton.com.au/council/local-laws/environment-and-agriculture/scare-guns>

For the guns to be most effective they should be used when the birds are most actively feeding. This will normally be in the early morning and late afternoon; but this could be dependent on the species. Most scare guns can be fitted with a timer that enables them to be automatically turned on and off. Scare guns are not the only method of bird control available. Where scare guns cannot be used, other bird controls should be considered by the producer. These include:

Netting²⁷

Exclusion netting using drape-over or permanent nets has high up-front costs but may be appropriate where high-value crops are grown, and levels of damage are high. A range of netting options is available. Machines can be used to install and remove drape-over nets of varying width (for example, covering one, two or four rows). 'Lock-out' netting provides a continuous cover of netting by joining draped nets without the need for poles and cables. Nets can also be used on infrastructure to prevent birds roosting or nesting. If maintained, netting with ultraviolet stabilisers can provide between five and ten years of protection. Drape-over netting is more easily damaged than permanent netting and often does not provide as much protection. Permanent netting is easier to maintain and allows easier spraying of vines and trees. Netting overcomes many of the legal, environmental, social and animal welfare concerns of other techniques. The decision to net is mainly an economic one. Will the increase in returns from excluding birds be beneficial over the life of the netting? As an example, cost– benefit analyses on vineyard netting suggest that drape-over nets are cost-effective when damage is consistently greater than 10% and permanent nets are cost-effective when damage is over 25%. The value of the crop and the practicalities of netting must be considered.

Roosting deterrents

A variety of spikes, coils and wire products are available to exclude birds from perching on buildings and infrastructure. Electrified wires, which can be attached to the tops of vineyard trellises, are also available. These wires give birds a small electric shock but do not harm them. Monofilament lines have been successful for deterring larger birds from fish farms but are ineffective for deterring smaller birds from fruit or nut crops.

Chemical deterrents

There are several chemical deterrent products commercially available in Australia. Check with the Australian Pesticides and Veterinary Medicines Authority for up-to-date registration information (http://www.apvma.gov.au/pubcris/subpage_pubcris.shtml) and appropriate applications. Some deterrents are based on polybutene, which is a tactile roosting repellent; aluminium ammonium sulfate, which acts on a sense of smell and taste; or methiocarb, which is an insecticide that causes conditioned aversion. Polybutene is a sticky substance that irritates bird's feet and can prevent them from roosting on infrastructure; hence is applicable for buildings and urban areas. Aluminium ammonium sulfate may be applied to vegetables, nuts, fruit, orchard trees and vines, provided that the guidelines on the permit are adhered to (e.g. thorough washing before consumption). However, there is no evidence of its efficacy in deterring birds from feeding. Methiocarb is a secondary repellent that causes birds to become ill, creating a learned aversion to the food. This product may be applied only to ornamental plants, and it is not registered for use on edible fruit or nuts. Garlic and chilli sprays have been used to deter birds from feeding, but again, there is no evidence that they are effective.

²⁷ Managing Bird Damage to Fruit and other Horticultural Crops (2007) Bureau of Rural Sciences

Spray Drift²⁸

Horticultural producers commonly need to apply a range of insecticides and fungicides during crop development to manage pest and disease. The technology to apply chemical sprays is advanced and a trained and experienced applicator will be familiar with the best way to apply these products without causing spray drift. However, at times (due to certain climatic conditions and/or the use of inappropriate application equipment) spray drift can occur. Spray drift is the movement of pesticide dust or droplets through the air at the time of application or soon after, to any site other than the target area. Conflict can arise when this spray drift:

- harms human health
- harms companion animals or livestock
- damages the environment, nearby crops or land on other property.

There are a number of ways to minimise spray drift. These include:

- Reading and following the pesticide label instructions or conditions on the APVMA permit
- Ensuring the spray applicators are fully trained and accredited
- Checking weather conditions to avoid spraying when it's too hot or too windy or there are pesticide label constraints that cannot be complied with
- Checking for neighbouring susceptible crops and sensitive areas
- Avoiding spraying when there is a surface temperature inversion – strongest between midnight and sunrise – or when wind speeds are very low
- Notifying neighbours of your spray plan. Sometimes this is out of common courtesy, while at other times notification is required by law
- Selecting nozzles that produce medium to coarse or larger droplets and use them in accordance with the manufacturer's specifications
- Minimising boom height when spraying and slow down – high speeds significantly increase potential for drift.

Most primary producers want to do the right thing by their neighbours and the environment. The alternatives presented above for management of bird damage are either capital intensive (for netting) or not as effective as the use of current approaches (scare guns and frost fans). Therefore, while some alternatives should and can be considered, appropriate use (as set by the EPA guidelines) of current techniques is likely to be the best option. A communication and education program for residents within the area should also be conducted by Council to raise awareness by residents of farm management practices and the reason why these are done, how often they can expect to experience it and at what times of year.

MANAGEMENT OF TRAFFIC

Traffic and congestion has increased on the roads within the study area and Shepparton East due to an increased number of residents and industry. This is likely to increase with the planned road widening of Doyles Road. This increase in local traffic has led to safety concerns when roads are used by farm machinery and farm workers. Properties close to Doyles Road are most likely to be the most affected by this increase in traffic. Improved road design and signage could encourage commuter traffic on to the Midland Highway and New Dookie Road and to minimise traffic within the study area. Parking options for farm workers accessing properties along Doyles Road need to be explored. Options for minimising the transfer of dust onto properties neighbouring Doyles Road should also be considered.

²⁸ Managing Spray Drift Fact Sheet (2008) Grains Research and Development Corporation

KEY FINDINGS AND IMPLICATIONS

The land use conflict risk assessment considered:

- The risks posed by non-agricultural neighbours on agriculture in Shepparton East
- The risk of posed by agriculture on non-agricultural neighbours.

The assessment identified a number of high priority risks but found that implementation of mitigation measures could significantly reduce the risk ranking such that were no residual high priority risks.

From the perspective of agricultural businesses in Shepparton East, the cost of risk mitigation is not higher than for businesses elsewhere as the measures only require them to comply with best practice management guidelines and they are not required to adopt additional risk mitigation measures. While complaints are occurring, the risk assessment did not identify any high priority risks that reduce the viability of agriculture in Shepparton East.

7 Consultation

A number of agricultural producers within Shepparton East were consulted to identify, and confirm the challenges and opportunities for agriculture. During consultation a number of concerns regarding the viability of agriculture in this area were raised and are discussed in Table 5. Table 1

Table 5: Challenges to commercial agricultural production in Shepparton East

CONCERN	EXPLANATION
Damage to fruit by birds	Landholders identified that managing damage to fruit caused by birds was hampered due to: <ul style="list-style-type: none"> ▪ Complaints from residents regarding the noise made by scare guns/shotguns ▪ Increased numbers of gum trees planted within residential areas which attract more birds to the area.
Water availability and security	Landholders were concerned about the current and future availability and security of water for Shepparton East.
Pest and disease pressure	Poor pest and disease management by residential areas has the potential to increase pest and disease pressure for commercial agriculture. In particular Queensland Fruit Fly (QFF) was identified as a concern.
Increased traffic on roads	Increasing traffic on roads within the Shepparton East area due to residents and industry has restricted access to properties by harvest/picking crews and hampered movement of vehicles.
Dust from industrial estate	Dust from nearby industrial properties (particularly along Doyles Road) has reduced the quality of fodder (Lucerne) crops which have become unpalatable to livestock (horses).
Theft	Landholders indicated that theft was an issue due to the close proximity of town.
Small farm size	The relatively small size of farms in the Shepparton East reduces the financial viability of commercial agriculture due to the economies of scale required.
Lack of direction/certainty regarding future of Shepparton East	A number of landholders expressed frustration around the apparent lack of direction provided by Council and other planning authorities as to the future of Shepparton East.

Some primary producers in the area, although mindful of the concerns raised in Table 5, also felt that farming in Shepparton East is still quite buoyant despite the current climatic conditions. They also felt that certain qualifications such as guaranteed infrastructure, and security of water and farming land, were required for opportunities to be realised in the future.

“My family’s long-term plans are to stay within the fruit growing industry. We have sacrificed a lot to be where we are today as an agribusiness in the fresh fruit industry. We cannot continue to invest in our future without clear direction of where Shepparton is heading as a whole in the next 25 years. Our plans are not to just buy or lease mediocre orchard assets but to redevelop all of our farms into highly productive units using high density plantings and further infrastructure around crop protection. If Shepparton East is to continue to be the backbone of the Shepparton Farming economy it needs clear direction and help from COGS²⁹”.

²⁹ Written response to landholder survey.

8 Conclusions and recommendations

KEY FINDINGS

Shepparton East is located within the GMID, which is the country's largest irrigation district producing more fruit and dairy produce than any other region, as well as supporting significant general horticulture and mixed farming. The region has extensive and well established value chain businesses including food processors and manufacturers as well as industries providing support services.

The current policy direction for Shepparton East is for the land to be retained for agriculture and the Zone schedules and local policy provide clear direction to support this outcome. The overarching strategic direction is also for the land to be retained for agriculture. However, framework plans in the MSS identify Shepparton East as an investigation area for residential and industrial growth. This introduces uncertainty as to the long-term future of the area for agriculture. Adoption and implementation of the draft Growth Plan will resolve this uncertainty as it clearly states that land within Shepparton East is to be retained for agriculture.

Shepparton East has an ideal combination of natural attributes for high-value agriculture, including excellent soil types, Mediterranean climate and access to a secure supply of high quality water. Land use within Shepparton East is predominantly perennial horticulture (apples, pears and stone-fruit) with some annual horticulture. Farm businesses are establishing new orchards affirming the productive potential of the area. The irrigation network servicing Shepparton East has largely been modernised. Modernisation facilitates farm amalgamation, adaptation to climate change, and adoption of new technology and practices.

Soil based horticulture is likely to continue for the foreseeable future, being the most suited to the conditions in Shepparton East. Alternative horticulture, such as products for niche markets, may be introduced to the area, driven by consumer and market demands, and the scale of farm businesses in Shepparton East. Additionally, protected cropping may become a viable option for Shepparton East given the areas access to required services and labour supply. Protected cropping enables production of very high value horticultural products under stringently managed and controlled growing conditions.

Uses of land adjacent to Shepparton East includes an industrial estate, separated by Doyles Road and residential estates including Dobsons Estate, Davies Drive, Mason Court and Orrvale Road. While not ideal from a land use conflict risk point of view, the residential estates are contained and well defined. House lot excisions within the study area are generally clustered and as a result the balance land is relatively unfragmented. Complaints regarding noise from the use of scare gun and gas guns in Shepparton East are received by Council from residential neighbours from time to time. There have been no ongoing disputes. EPA guidelines provide clear standards and thresholds for operation of farm machinery, frost fans and scare guns and from the low number of complaints it would appear that farmers are operating within the guidelines. The risk assessment did not identify any high priority risks that compromise the viability of agriculture in Shepparton East.

Based on the current land ownership and a comparison with industry statistics, farm businesses in Shepparton East are considered to be at the smaller end of the spectrum of farm business size. Operating and maintaining a viable farm business at this scale requires a high degree of management expertise as there is less capacity for small business to absorb risk, compared to larger farm businesses.

An assessment of farm size, land values, land use conflict and planning policy on the viability of farming in Shepparton East found farm size to be the most significant factor currently impacting farm viability. The biggest barrier to increasing farm scale is the uncertainty created by ambiguous planning policy, in particular the identification of Shepparton East as investigation areas for residential and industrial development. If agriculture is to be maintained in Shepparton East, it is critical that businesses are able to increase scale, by increasing the size of the farm, switching to higher value horticultural commodities or more intensive production systems such as protected horticulture.

RECOMMENDATIONS

The purpose of this study was to identify:

- Viability of agriculture in Shepparton East
- Alternative farm management practices or alternative farming practices that are suited to the land's context
- Planning responses to the existing land use conflict between farming and rural residential practices.

Soil based horticulture is likely to continue as the primary agricultural use for the foreseeable future, being the most suited to the conditions in Shepparton East. Alternative horticulture, such as products for niche markets, may be introduced to the area, driven by consumer and market demands, and the scale of farm businesses in Shepparton East. Additionally, protected cropping may become a viable option for Shepparton East given the area's access to required services and labour supply. Protected cropping enables production of very high value horticultural products under stringently managed and controlled growing conditions.

The following measures are recommended to maintain and promote agriculture in Shepparton East. These measures seek to:

- Facilitate farm amalgamation
- Support horticultural businesses to adapt to changing conditions and adopt new technology
- Discourage uses that are incompatible with an agricultural area and may introduce land use conflict
- Better manage land use conflicts.

PLANNING POLICY

The recommendations for planning policy include:

- Removing reference to Investigation Area 4 at Clause 21.04-1 and Investigation Area 10 at Clause 21.06-4 Industry
- Retain the Farming Zone and Farming Zone 1 Schedules
- Retain the current policy guidelines at Clause 21.06-2 Subdivision and Clause 21.06-3 Dwellings
- Consider introducing additional policy guidelines for Section 2 uses that are *not* compatible with agriculture and ancillary to agriculture to reinforce the overarching objective of the Regional Rural Land Use Strategy and Clause 21.06-1 Objectives and Strategies. Policy guidance should seek to retain land for horticultural production. Uses not ancillary to horticultural production should be strongly discouraged. Uses ancillary to horticulture such as cool stores and packing sheds should be of a scale commensurate with the size of the lot and directly related to horticultural production on the lot. Light industrial uses e.g. transport depots and warehousing will be strongly discouraged. Repurposing of horticultural cool stores and packing sheds for a use not ancillary to horticultural production on the lot should be strongly discouraged and avoided.
- Consider introducing policy guidelines for assessment of horticultural structures (See Planning Practice Note 18: Considerations for horticultural structures prepared by DELWP and Planning

Guideline for Intensive Horticulture and Production Nurseries prepared by the Queensland Farming Federation³⁰).

ADVOCACY

Advocate for modernisation of the remaining irrigation infrastructure in Shepparton East that has not been part of the Connections Program.

EDUCATION AND COMMUNICATION

Implement a communication and media program to increase awareness and understanding of:

- EPA guidelines regarding appropriate use of scare guns and frost fans
- The use and importance of frost fans and scare guns and other farm management practices
- Appropriate methods for raising concerns regarding farm management practices.

TRAFFIC MANAGEMENT

Council to consider:

- Using road design and signage to encourage commuter traffic onto the Midland Highway and New Dookie Road and to minimise traffic within the study area.
- Exploring parking options for farm workers accessing properties along Doyles Road.
- Options for minimising transfer of dust to properties neighbouring Doyles Road during works to widen the road.

³⁰ <https://www.qff.org.au/wp-content/uploads/2016/11/QFF-Guide-to-Planning-Intensive-Hort-Prod.pdf>

Appendix 1: Risk evaluation

The risk evaluation and definitions are drawn from the Land Use Conflict Risk Assessment Guide¹.

A Risk Ranking Matrix (Table 4-1) is used to rank the identified potential land use conflicts. The risk ranking matrix assesses the environmental, public health and amenity impacts according to the:

- Probability of occurrence
- Consequence of the impact.

The risk ranking matrix yields a risk ranking from 25 to 1. It covers each combination of five levels of 'probability' (a letter A to E as defined in Table 4-2) and 5 levels of 'consequence', (a number 1 to 5 as defined in Table 4-3) to identify the risk ranking of each impact. For example, an impact with a 'probability' of D and a 'consequence' of 3 yields a risk rank of 9.

A rank of 25 is the highest magnitude of risk: A severe event that is almost certain to occur. A rank of 1 represents the lowest magnitude of risk: A rare event with negligible consequences. A risk ranking greater than 10 is regarded as high and priority is given to those activities listed as high risk.

Table 6: Risk Ranking Matrix

		PROBABILITY				
		A	B	C	D	E
Consequence	1	24	24	22	19	15
	2	23	21	18	14	10
	3	20	17	13	9	6
	4	16	12	8	5	3
	5	11	7	4	2	1

Table 7: Probability definitions

LEVEL	DESCRIPTOR	DESCRIPTION
A	Almost certain	Common or repeating occurrence
B	Likely	Known to occur or 'it has happened'
C	Possible	Could occur or 'I've heard of it happening'
D	Unlikely	Could occur in some circumstances, but not likely to occur
E	Rare	Practically impossible

Table 8: Consequence definitions

LEVEL	DESCRIPTOR
1	<p>Severe</p> <p>Severe and/or permanent damage to the environment</p> <p>Irreversible</p> <p>Severe impact on the community</p> <p>Neighbours are in prolonged dispute and legal action involved.</p>
2	<p>Major</p> <p>Serous and/or long-term impact to the environment</p> <p>Long terms management implications</p> <p>Serious impact on the community</p> <p>Neighbours are in serious dispute.</p>
3	<p>Moderate</p> <p>Moderate and/or medium-term impact to the environment and community</p> <p>Some ongoing management implications</p> <p>Neighbour disputes occur.</p>
4	<p>Minor</p> <p>Minor and/or short-term impact to the environment and community</p> <p>Can be effectively managed as a part of normal operations</p> <p>Infrequent disputes between neighbours.</p>
5	<p>Negligible</p> <p>Very minor impact to the environment and community</p> <p>Can be effectively managed as part of normal operations</p> <p>Neighbour disputes unlikely.</p>

Table 9: Initial risk ranking

ACTIVITY	FREQUENCY	POTENTIAL CONFLICT	CONS.	PROB.	RISK RANKING
Risks from agricultural management practices impacting non-agricultural neighbours					
Spraying of orchards to control pest and disease	Weekly	Spraying of existing orchards and pastures will be constrained by the proximity of neighbours resulting in a reduction in the number of days when spraying can be safely undertaken.	4	A	16
Use of scare guns to manage birds	Daily (during fruit ripening)	Use of scare guns (and management of bird damage) will be constrained due to complaints from neighbours.	4	A	16
Netting to manage damage caused by birds	Ongoing	Use of netting may be constrained due to reduction in visual amenity.	5	B	7
Wind machines to manage frost	Daily (during frost periods)	Use of wind machines (and management of frost damage) may be constrained due to noise impacts on neighbours.	4	A	16
Odour from dairy effluent/manure	Daily	Increase in complaints regarding odour of dairy effluent/manure.	4	B	12
Odour from spreading of compost	Quarterly	Use of compost for fertiliser could be constrained due to odour complaints from neighbours.	4	B	12
Machinery	Daily	Use of machinery (such as tractors and/or cool rooms) may be constrained due to impact of noise on neighbours.	4	A	16
Risks from non-agricultural neighbours impacting agriculture					
Local traffic	Daily	Increase in traffic throughout area impacting movement of farm machinery.	4	A	16
Domestic pets	On-going	Increase in the number of domestic pets and potential for loss and harm to stock.	4	D	5
Pest plants and animals	Quarterly	Increase in pest plant and animal infestations (such as QFF) due to poor land management skills and practices, introduction of weeds, escape of garden plants into native vegetation.	4	B	12
Trespass and theft	Weekly	Increased potential for trespass and theft/damage due to close proximity to community.	4	C	8

Table 10: Revised risk ranking of high priority risks incorporating risk reduction measures

ACTIVITY	RISK REDUCTION MEASURES	CONS.	PROB.	RESIDUAL RISK RANKING
Risks from agricultural management practices impacting non-agricultural neighbours				
Spraying of orchards to control pest and disease	Following guidelines to minimise spray drift.	4	C	8
Use of scare guns to manage birds	Using scare guns appropriately and according to guidelines. Communication program with residents in area to improve awareness of, and need for, farm management practices.	4	C	8
Netting to manage damage caused by birds	Increase awareness of neighbours of the need for netting and other agricultural practices to manage bird damage to fruit	5	B	7
Wind machines to manage frost	Using wind machines according to EPA guidelines. Communication program with residents in area to improve awareness of, and need for, farm management practices.	4	C	8
Odour from dairy effluent/manure	Manage waste according to EPA guidelines.	4	C	8
Odour from spreading of compost	Manage waste according to EPA guidelines.	4	C	8
Machinery	Manage noise according to EPA guidelines. Communication program with residents in area to improve expectations regarding rural residential living.	4	C	8
Risks from non-agricultural neighbours impacting agriculture				
Trespass and theft	Undertake community engagement and consultation activities to confirm access and prevent trespass.	4	C	8
Local traffic	Improved road design and signage to discourage traffic through the district.	4	C	8
Noise	Limit the hours when activities that generate noise can be undertaken.	4	C	8
Pest plants and animals	Undertake group pest control and eradication programs.	4	C	8

Appendix 2: Viability assessment of horticulture enterprises for the GMID³¹

HORTICULTURAL COMMODITY		CAPSICUM	MUSHROOM	LETTUCE	CARROTS	ASIAN VEGETABLES	ALMOND	WINE GRAPES	STONE FRUIT/POME FRUIT
Market attribute									
(i) Market trends	Domestic	Limited domestic demand	Domestic demand currently exceeds supply	Increasing demand for value added products – loose leaf	Stable	Increasing demand for pre-packaged leafy type vegetables	Increasing global demand – domestic production rapidly expanding	Demand declining	Stable
	Export	Stable	Minimal	Minimal	Stable – competition from China	Stable – competition from Asian countries	Stable – currently 50% of production	Stable	Stable – processing sector subject to world price
	Imports	Declining	Minimal – mostly used in processing	Minimal	Minimal	Minimal	Minimal	Increasing	May increase particularly from NZ
(ii) Credence values	Quality, Environment, Health, Welfare	Expectation for high QA and health compliance	Expectation for high QA and health compliance	Expectation for high QA and health compliance	Expectation for high QA and health compliance	Expectation for high QA and health compliance	Expectation for high QA and health compliance	Expectation for high QA and health compliance	Expectation for high QA and health compliance
(iii) Profitability	Costs of production	High value but high labour costs	High value but high labour costs	High value	Medium value	High value but high labour costs	Development of new technology has enhanced profitability	High value but returns declining due to oversupply	Medium value
	Capital costs	High entry costs for undercover production	High entry costs	Low entry costs	Low entry costs	Low entry costs	High costs for establishment	High costs for establishment	High costs for establishment
(iv) Competitiveness		Highly competitive – can be large fluctuations in price and yield		Highly competitive	Highly competitive	Highly competitive	Competitive – large economies of scale required	Highly competitive	Highly competitive
Overall Assessment		Opportunity for value added product and increasing exports	Opportunity for value added product and specialty varieties	Opportunity for value added product	Opportunity for increasing economies of scale	Opportunity for value added product and increasing domestic production	Opportunity for increasing export with predicted increase in global demand	Minimal Opportunity	Moderate opportunity for domestic and some export
Natural Assets									
(i) Soil	Salinity	Minimal risk	N/A	Minimal risk	Minimal risk	Minimal risk	Minimal risk	Minimal risk	Minimal risk
	Acidity	Minimal risk - select soil with neutral pH	N/A	Minimal risk	Minimal risk	Minimal risk	Minimal risk	Minimal risk	Minimal risk
	Structure/drainage	Moderate risk – select well drained soils	N/A	Moderate risk - select well drained soils	Moderate risk - select well drained soils	Moderate risk - select well drained soils	High risk – select well drained soils	Minimal risk	Moderate risk - select well drained soils
	Fertility	Minimal risk – precise application of fertilisers	N/A	Minimal risk – precise application of fertilisers	Minimal risk – precise application of fertilisers	Minimal risk – precise application of fertilisers	Minimal risk – precise application of fertilisers	Minimal risk – precise application of fertilisers	Minimal risk – precise application of fertilisers
(ii) Climate		Low temperatures (<100C) a risk Sensitive to frost and strong winds	N/A	High temperatures may be a risk Sensitive to storm events/hail damage Sensitive to severe frosts	High temperatures may be a risk Sensitive to storm events/hail damage	High temperatures may be a risk Sensitive to storm events/hail damage	Sensitive to severe frosts Prefers dry autumns	Winter chill levels not sufficient for all varieties Sensitive to severe frosts	High temperatures may be a risk Winter chill levels not sufficient for all varieties Sensitive to storm events/hail damage Sensitive to severe frosts
(iii) Water	Quality	Minimal risk	Requires exceptionally high quality	Minimal risk	Minimal risk	Minimal risk	Minimal risk	Minimal risk	Minimal risk
	Security	Require high security – purchase through water trade	Require high security – purchase through water trade	Require high security – purchase through water trade	Require high security – purchase through water trade	Require high security – purchase through water trade	Require high security – purchase through water trade	Require high security – purchase through water trade	Require high security – purchase through water trade
	Service delivery	Water on demand	Water on demand	Water on demand	Water on demand	Water on demand	Water on demand	Water on demand	Water on demand
	Usage (per ha)	Up to 4 ML	N/A	2 – 3 ML	4 – 6 ML	2 – 3 ML	12 ML per annum	3 – 6 ML	4 – 7 ML
(iv) Pest and disease pressure		Moderate risk – powdery mildew can be common in dry production areas	High risk – strict adherence to hygiene practices required	High risk - use best practice management techniques	Moderate risk - use best practice management techniques	High risk - use best practice management techniques	Low risk – generally managed. Birds can be an issue	Low risk – generally managed	Moderate risk - use best practice management techniques
Infrastructure Assets									
(i) Labour	Skilled	General shortage	General shortage	General shortage	General shortage	General shortage	General shortage	General shortage	General shortage
	Unskilled	Medium to high risk – high level of labour input required	Medium to high risk – high level of labour input required	Medium risk	Medium risk	Medium to high risk – high level of labour input required	Low risk if mechanically harvesting	Medium risk	Medium risk
(ii) Transport	Road/Rail	High level of service	High level of service	High level of service	High level of service	High level of service	High level of service	High level of service	High level of service
(iii) Services	Electricity	High level of service	High level of service	High level of service	High level of service	High level of service	High level of service	High level of service	High level of service
	Technical support	Low risk –support available	Medium risk – high reliance on technical skills	Low risk –support available	Low risk –support available	Medium risk – specialty crops	Low risk –support available	Low risk –support available	Low risk –support available
	Business support	High level of support	High level of support	High level of support	High level of support	High level of support	High level of support	High level of support	High level of support
	Cool Chain/Storage	Low risk – may require modification for specific crop type	Low risk – may require modification for specific crop type	Medium risk – may require modification for specific crop type	Low risk	Medium risk – may require modification for specific crop type	Low risk	Low risk	Low risk

³¹ Capability of the GMID to support increased production of horticultural crops (2010) RIMC Report for Regional Development, Victoria

	Other inputs	Medium risk – may need to source material (such as seedlings) from outside of region	Low risk – will require material such as manure for production of mushroom compost	Medium risk – may need to source material (such as seedlings) from outside of region	Low risk	Medium risk – may need to source material (such as seedlings) from outside of region	Low risk	Low risk	Low risk
--	--------------	--	--	--	----------	--	----------	----------	----------

This report has been prepared by:

RM Consulting Group Pty Ltd trading as RMCG

Level 1 East, 1100-1102 Toorak Road, Camberwell Victoria 3124

(03) 9882 2670 — rmcg.com.au — ABN 73 613 135 247

Offices in Bendigo, Melbourne, Torquay and Warragul (Victoria) and
Penguin and Hobart (Tasmania)



Key Project Contact

Dr Kristen Stirling

0488 908 416 — kristens@rmcg.com.au

Document review and authorisation

Job Number: #0712

Doc Version	Final/Draft	Date	Author	Project Director review	BST QA review	Release approved by	Issued to
1.0	Draft	09/03/2020	K. Stirling	S. McGuinness	-	S. McGuinness	Greater Shepparton
2.0	Draft	13/03/2020	K. Stirling	S. McGuinness	J. Belz	S. McGuinness	Greater Shepparton
3.0	Final	24/03/2020	K. Stirling	S. McGuinness		S. McGuinness	Greater Shepparton



Addendum to Shepparton East Agricultural Land Use Options Report

Greater Shepparton City Council
November 2020

Introduction

OVERVIEW

In response to concerns raised by the Greater Shepparton City Council regarding the Shepparton and Mooroopna 2050: Regional City Growth Plan, an addendum to the Shepparton East Agricultural Land Use Options Final Report has been developed. The addendum contains further details on the:

- Consultation undertaken during the Study
- Alignment with the Goulburn Broken Resilience Strategy
- Regional characteristics of East Shepparton relating to agriculture.

Consultation Report

ENGAGEMENT PURPOSE

Identification and analysis of the land use options for Shepparton East involved a range of engagement activities with stakeholders who have an involvement in this area. This engagement was used to advise on:

- The viability of agriculture in Shepparton East
- Possible alternative farm management practices that may be better suited for the area
- Appropriate planning responses to the existing land use conflict.

Consultation occurred during February 2020.

APPROACH

The engagement of stakeholders for this project was primarily targeted and direct, and aimed to **inform**, **consult** and **involve**.

Levels of engagement:

- **Inform** – To provide information to assist stakeholders to better understand the issue, and/or identify alternatives, opportunities and/or solutions to the issue.
- **Consult** – To obtain feedback from key stakeholders on the issue, alternatives and/or outcomes.
- **Involve** – To engage directly with key stakeholders throughout the project to ensure that major concerns and needs are understood and considered.

Key stakeholders included landholders in the area, and organisations who have responsibility and involvement in the area such as the:

- Goulburn Broken Catchment Management Authority
- Goulburn-Murray Water and the Connections program
- Environment Protection Authority and the Officer for Protection of Local Environment within Council
- Department of Environment, Land, Water, and Planning.

RMCG also consulted businesses who rely on commodities produced in Shepparton East (i.e. SPC Ardmona).

Landholders were alerted to the consultation process by a letter from Council providing them with a brief explanation of the purpose of the project. This letter was sent out to people who had provided a submission to the Shepparton Mooroopna 2050 Consultation Process.

FORUM

RMCG sent an email to 19 people who had provided a submission (plus other interested stakeholders) inviting them to attend a forum held at Council offices on the 17th February 2020. The text in the email is provided below.

Dear X,

As advised by Greater Shepparton City Council, we have been engaged to conduct an agricultural land options study for Shepparton East. I have attached the letter Council has previously sent which provides further details on the objectives of the study.

I am inviting submitters to the Draft 2050 Growth Plan and other interested land holders in the area to meet with me at Council offices on Monday 17 February from 4 - 5pm. This is an opportunity to hear about our findings to date and also for you to express your views on the future of agriculture in Shepparton East including current challenges and opportunities.

Please note that the study is focussed on assessing the viability of agriculture in Shepparton East and identifying options for managing land use conflict. As an independent consultant, I cannot speak on behalf of Council or the Victorian Planning Authority on any future planning decisions related to this area.

Please let me know via return email or on (03) 9882 2670 by the 14 February if you can attend the meeting.

Kind regards,

Jacinta Belz (on behalf of Kristen Stirling)

The forum provided attendees with an opportunity to identify:

- The constraints and challenges to farming in Shepparton East and the impact this has had on their business
- Areas experiencing land use conflict
- How they manage land use conflict and what would assist them to manage land use conflict
- What they perceive as the future of agriculture in Shepparton East
- Their long-term plans for their business.

Nineteen people attended the forum.

SURVEY

A survey was also developed using Survey Monkey and sent to those who attended the forum to provide them with an opportunity to submit additional information if they felt they had not had sufficient time during the forum. There were 4 responses to the survey. Questions within the survey included:

1. Please provide your name (this is optional)
2. Where is your property located (this is optional)
3. What is the size of your farm (ha)?
4. Do you lease land, and if so, how much do you lease?
5. What do you produce?
6. What are the challenges/constraints to farming in Shepparton East and what impact has this had on your business?
7. How do you manage these challenges?
8. What would help reduce land use conflict in Shepparton East?
9. What are the opportunities for agriculture in Respondent skipped this question Shepparton East?
10. What are your long-term plans for your business Respondent skipped this question (10+ years)?

Responses to the survey were used to inform the recommendations provided in the Shepparton East Agricultural Land Use Options Report.

PHONE CALLS

Prior to, and subsequent to the forum, RMCG consulted with six landholders over the phone to discuss their concerns and issues in detail.

EMAIL

Prior to, and subsequent to the forum, RMCG consulted with five landholders via email to discuss their concerns and issues in detail.

CONSULTATION OUTCOMES

During consultation a number of concerns regarding the viability of agriculture in this area were raised. These included:

- Land use conflict
- Water availability and security
- Size of properties
- The future direction of Shepparton East.

These concerns, and the response provided to these concerns in the Land Use Options report, are discussed in further detail below.

LAND USE CONFLICT

Land use conflict arises when activities conducted on land in close proximity negatively impacts on other land uses. In Shepparton East landholders raised concerns regarding:

CONCERN	EXPLANATION	RESPONSE
Damage to fruit by birds	Landholders identified that managing damage to fruit caused by birds was hampered due to: <ul style="list-style-type: none"> ▪ Complaints from residents regarding the noise made by scare guns/shotguns ▪ Increased numbers of gum trees planted within residential areas which attract more birds to the area. 	Complaints are received by Council from time to time with noise from scare guns and gas guns the primary cause of complaints from Shepparton East. There have been no ongoing disputes regarding the use of scare guns and gas guns. EPA guidelines provide clear standards and thresholds for operation of farm machinery, frost fans and scare guns, and it would appear that farmers are operating within the guidelines. Ongoing education of residential neighbours regarding the importance to farm productivity and profitability of mitigating the effects of frost and birds by using scare guns and frost fans is important (see page 20 of report). There are a number of options for reducing bird damage (aside from the use of scare guns). These include the use of netting, roosting deterrents and chemical deterrents (see page 46 of report).
Pest and disease pressure	Poor pest and disease management within residential areas has the potential to increase pest and disease pressure for commercial agriculture. In particular Queensland Fruit Fly (QFF) was identified by landholders as a concern.	With the application of group pest control and eradication programs the risk of pest and disease pressure can be reduced to a 'medium' threat (see Land Use Conflict Risk Assessment in Appendix 1 of report).
Increased traffic on roads	Increasing traffic on roads within the Shepparton East area	Improved road design and signage could encourage commuter traffic on to the Midland Highway and New Dookie Road and to minimise traffic within the study area. Parking options for farm

	due to residents and industry has restricted access to properties by harvest/picking crews and hampered movement of vehicles.	workers accessing properties along Doyles Road need to be explored (see page 47 of report).
Dust from roadworks	Dust from roadworks and the development of industrial areas (particularly along Doyles Road) has reduced the quality of fodder (lucerne) crops which have become unpalatable to livestock (horses).	The transfer of dust from roadworks and development of industrial properties will be a temporary issue. Council could request that Regional Roads Victoria (RRV) consider options for minimising transfer of dust to properties neighbouring Doyles Road during works to widen the road (see page 52 of report).
Theft	Landholders indicated that theft was an issue due to the close proximity of town.	A land use conflict risk assessment identified theft as a 'medium' risk. The probability of theft occurring was rated as 'possible' and the consequence 'minor'. The recommended risk reduction measure is to undertake community engagement and consultation activities to confirm access and prevent trespass (see Land Use Conflict Risk Assessment in Appendix 1 of report).

WATER AVAILABILITY AND SECURITY

Landholders expressed concerns about the current and future availability and security of water for Shepparton East.

Response

Producers within Shepparton East have the ability to secure water on the open market if required due to the high value of commodities they produce (largely perennial horticulture crops such as apples and pears). This provides them with an advantage over producers of lower value commodities such as dairy or broadacre crops. The ability to achieve a higher income per mega litre of water used enables producers of high value crops to effectively outcompete other irrigators on the water market (see page 31 and 32 of report).

The irrigation network servicing Shepparton East has been largely modernised. Modernisation facilitates farm amalgamation, adaptation to climate change, and adoption new technology and practices (see page 32 of report). There is currently a proposal to modernise the remaining original channels (Channel 10 and 11). The proposed works within Shepparton East is part of the larger Water Efficiency Program funded by the Commonwealth Government. The proposal submitted by Goulburn Murray Water has been reviewed by the State Government (including public consultation) to assess the compliance of the project with the agreed socio-economic criteria for Water Efficiency projects. The State have submitted the project to the Commonwealth for funding consideration. Further information is available on the website - <https://engage.vic.gov.au/gmw-water-efficiency-project>

FARM SIZE

There were concerns expressed that the relatively small size of farms in Shepparton East reduces the financial viability of commercial agriculture due to the economies of scale required.

Response

The size of farms in Shepparton East is considered to be the most significant factor impacting farm viability. Most farm businesses in Shepparton East are considered to be at the smaller end of the spectrum of farm business size. Operating and maintaining a viable farm business at this scale requires a high degree of management expertise as there is less capacity for small business to absorb risk, compared to larger farm businesses. It will be critical that businesses in Shepparton East are able to increase scale, by increasing the size of the farm, switching to higher value horticultural commodities or more intensive production systems such as protected horticulture (see page 41 of report).

FUTURE DIRECTION OF SHEPPARTON EAST

A number of landholders expressed frustration around the apparent lack of direction provided by Council and other planning authorities as to the future of Shepparton East.

Response

The current policy direction for Shepparton East and Shepparton South East is for the land to be retained for agriculture, and the Zone schedules and local policy provide clear direction to support this outcome. The overarching strategic direction is also for the land to be retained for agriculture. However, Shepparton East is identified in two studies and the MSS as an investigation area for either residential or industrial development. This ambiguity in the direction for Shepparton East is creating uncertainty regarding the future land use of the area. As a result, most farms have not increased scale in recent years, and this would be impacting the viability of some businesses. If the vision is for agriculture to remain the primary land use in Shepparton for the long term, then the planning scheme must be unambiguous in this regard (see page 41 of report).

OPPORTUNITIES

Some primary producers in the area, although mindful of the concerns raised, also felt that farming in Shepparton East is still quite buoyant despite the current climatic conditions. They also felt that certain qualifications such as guaranteed infrastructure, and security of water and farming land, were required for opportunities to be realised in the future.

“My family’s long-term plans are to stay within the fruit growing industry. We have sacrificed a lot to be where we are today as an agribusiness in the fresh fruit industry. We cannot continue to invest in our future without clear direction of where Shepparton is heading as a whole in the next 25 years. Our plans are not to just buy or lease mediocre orchard assets but to redevelop all of our farms into highly productive units using high density plantings and further infrastructure around crop protection. If Shepparton East is to continue to be the backbone of the Shepparton Farming economy it needs clear direction and help from COGS¹”.

ANALYSIS AND REPORTING

Data gathered during stakeholder consultation was used to inform the report findings and were instrumental in the development of recommendations to:

- Facilitate farm amalgamation
- Support horticultural businesses to adapt to changing conditions and adopt new technology
- Discourage uses that are incompatible with an agricultural area and may introduce land use conflict

¹ Written response to landholder survey.

- Better manage land use conflicts.

The recommendations are provided on page 51 and 52 of the report.

Goulburn Murray Resilience Strategy

The Goulburn Murray Resilience Strategy 2020 (Resilience Strategy) is a response to the macro drivers of change impacting on the Goulburn Murray (GM) region. It lays out 8 resilience principles to assist the GM region to better deal with change and details a series of proposed interventions that address each principle.

The Resilience Strategy identifies that, in line with national trends, there are fewer and larger farms in the GM region, and that these farms have increasing production efficiency. Increase in farm scale is driven by declining terms of trade for agriculture (i.e. price of agricultural inputs rise while at the same time, prices received for agricultural products reduce). In addition to increasing farm scale, i.e. buying more land, farm businesses also invest in new technology, more efficient farm practices and productive crop varieties to maximise the productive potential of land and increase resilience. As discussed in the Shepparton East Agricultural Land Use Options Report, increasing farm scale by increasing the size of the farm, switching to higher value horticultural commodities or more intensive production systems will be vital for businesses in Shepparton East to remain profitable and manage risk.

The ability to increase farm scale is threatened by increasing levels of rural residential properties, particularly around larger towns such as Shepparton, which contribute to fragmentation of agricultural land parcels. Increasing fragmentation of land, and the introduction of alternative land uses within farming zones, decreases the ability of agricultural businesses to increase farm scale to build greater capacity and meet future challenges.

One of the five intervention streams identified in the Resilience Strategy focuses on the *futures of agriculture* in the GM region. The goal is to build the ability of the agriculture sector to address change and challenges and thereby increase resilience by focusing on attracting investment, embracing technology, diversifying crop types and improving supporting infrastructure. Two of the initiatives in the intervention stream (A1 and A3) speak to the importance of ensuring that suitable land is protected for future investment in agriculture, thus building capacity and resilience to address future challenges.

A1 Agricultural Redevelopment Coordination

The Agricultural Redevelopment Coordination (ARC) Project will provide a one-stop shop for agricultural investment. Provision of data, guidance on approval processes, case management of development proposals, and inter agency liaison, would be key services provided.

Investment is often hampered by lack of information, unfamiliarity with planning systems, difficulty in navigating red tape and regulatory requirements. This intervention will enhance support to investors who wish to redevelop agricultural properties in the Goulburn Murray region. Investors could include current landholders or outside investors. Proposed projects would need to meet assessment criteria aligned with resilience objectives.

The ARC Pilot Project is currently being implemented by Goulburn Broken CMA.

A3 Smart Farming

In a changing and complex environment, embracing change and complexity is vital. This includes embracing technology change. It increases the resilience of farming enterprises and food manufacturing by enabling them to move up the value chain to higher profitability production. In this intervention, the Strategy proposes to build local capability through connection with leading research and innovation partners.

Shepparton East – regional advantages

Shepparton East has a number of regional characteristics which make it particularly well suited for horticulture production. These include:

- Support services such as extensive cool chain and storage infrastructure, agronomic services and materials required for horticultural production, and access to energy and labour
- Excellent soil types
- A Mediterranean climate
- Significant investment in irrigation infrastructure and drainage providing access to high-quality water and reduced risk of waterlogging and flooding.

These factors have combined to facilitate irrigated horticultural production in Shepparton East as demonstrated in Figure 1 which shows perennial horticulture to be focussed within, and the major land use, in Shepparton East² compared with land use to the north and south of Shepparton.

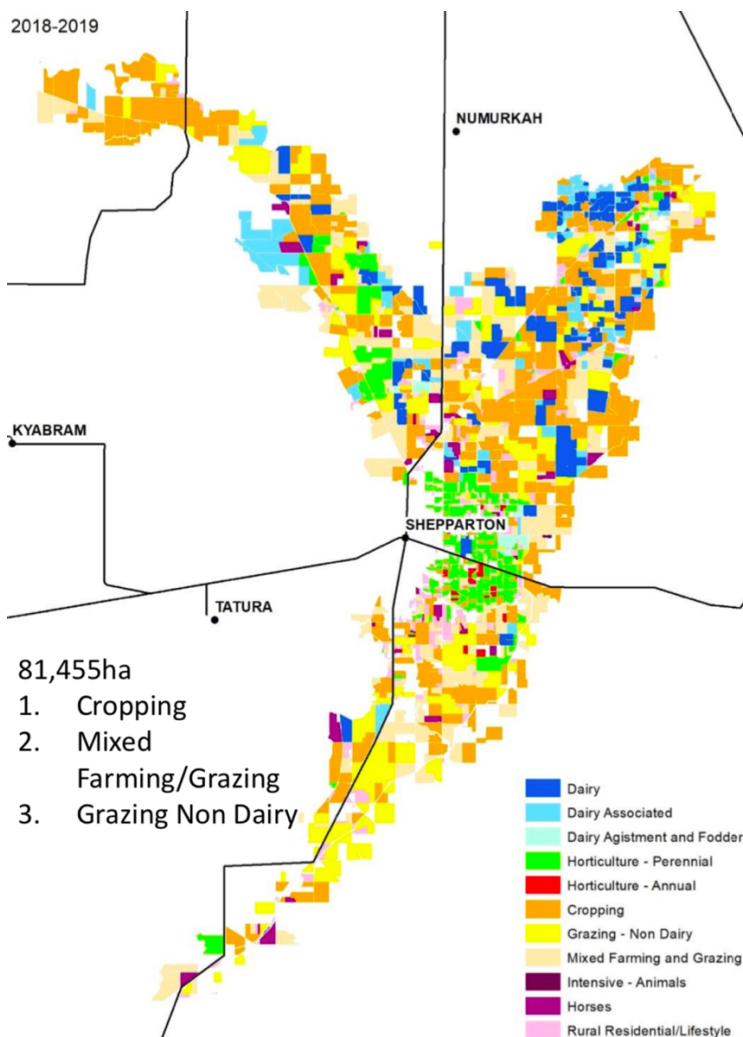


Figure 1: Land use in Greater Shepparton 2018/19 (Draft)

² Regional Irrigated Land and Water Use Mapping in the Goulburn Murray Irrigation District (2018/19) Goulburn Broken Catchment Management Authority

IRRIGATION NETWORK AND SURFACE DRAINAGE

There has been extensive public investment in the irrigation delivery infrastructure and surface drainage systems within Shepparton East (Figure 2). Surface drainage is important to remove surface water and reduce accessions to water tables. The drains are shown in green in Figure 2. The irrigation network servicing Shepparton East has been largely modernised with channels shown in blue in Figure 2. This investment contributes to the suitability of this area for irrigated production of horticultural crops.

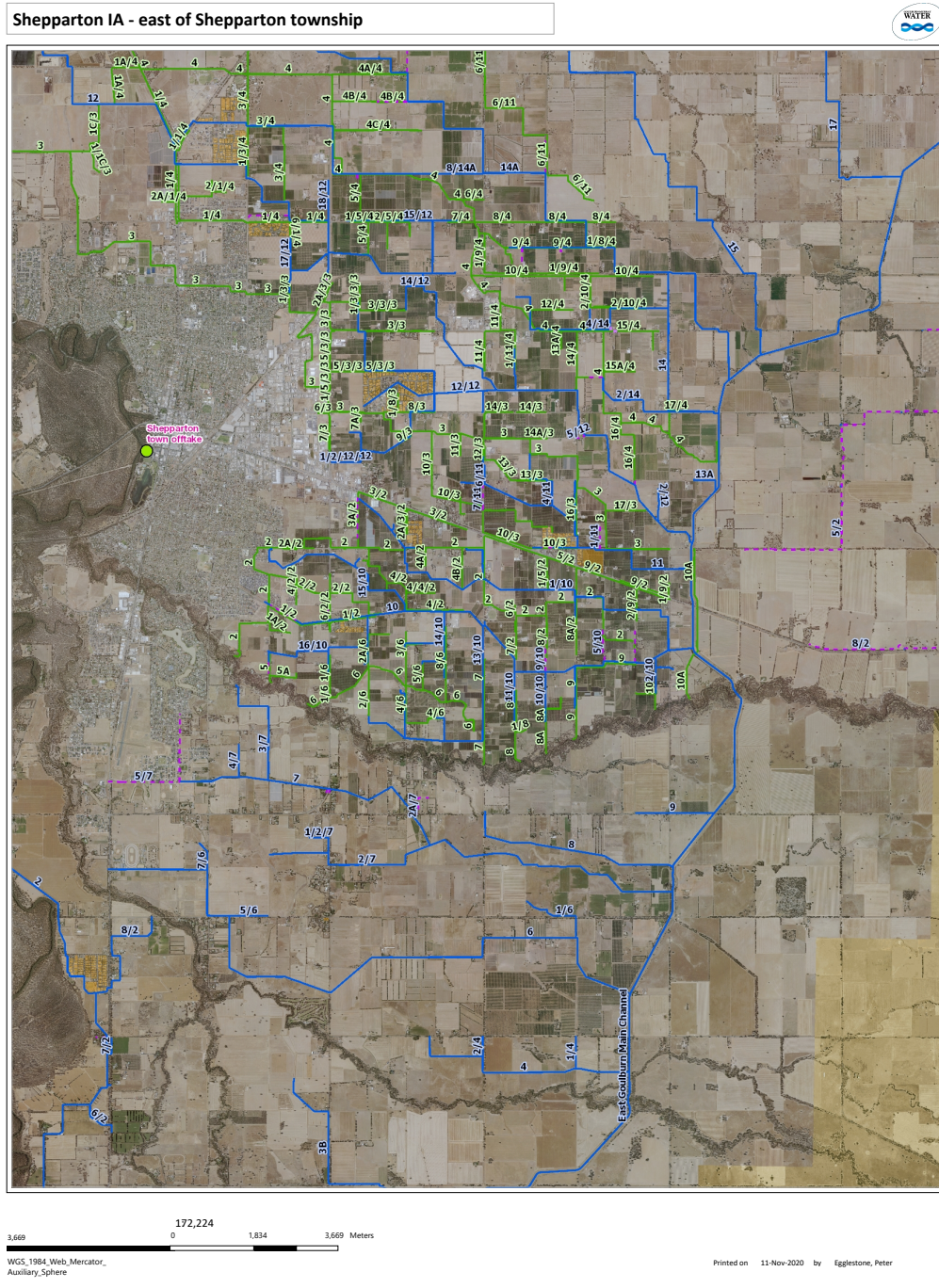


Figure 2: Irrigation delivery network and surface drainage in East Shepparton Region (GMW)

WATERLOGGING RISK

Shepparton East has a low risk of waterlogging as demonstrated in Figure 3, where areas marked in bright green have existing surface drainage, reducing the risk of flooding. This drainage contributes to the suitability of the area for irrigation (as shown in Figure 4).

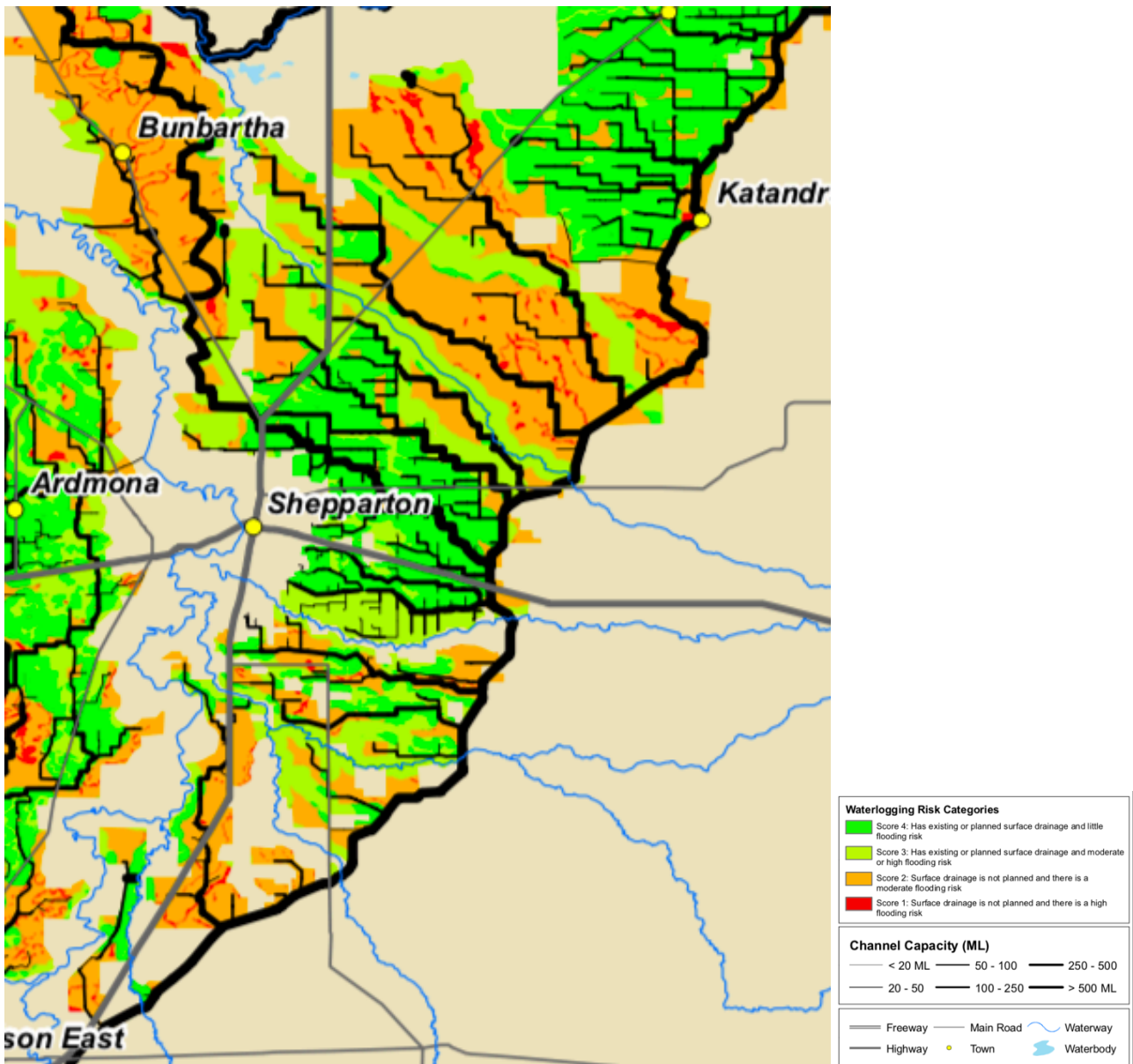


Figure 3: Waterlogging Risk – Compilation Layer³

³ Section of Map 9 of the Shepparton Irrigation Region Atlas 2006 (GMW)

LAND SUITABILITY FOR IRRIGATION

Shepparton East is considered highly suitable for intensive irrigated agriculture or horticulture as demonstrated by the areas marked bright green in Figure 4 (which indicate high suitability). The suitability of land for irrigation in the greater Shepparton region was assessed and mapped in the Shepparton Irrigation Region Atlas⁴. The suitability of land for irrigation was assessed based on the:

- suitability of soils for irrigation
- subsoil salinity
- subsurface drainage and water table depths
- potential for water logging.

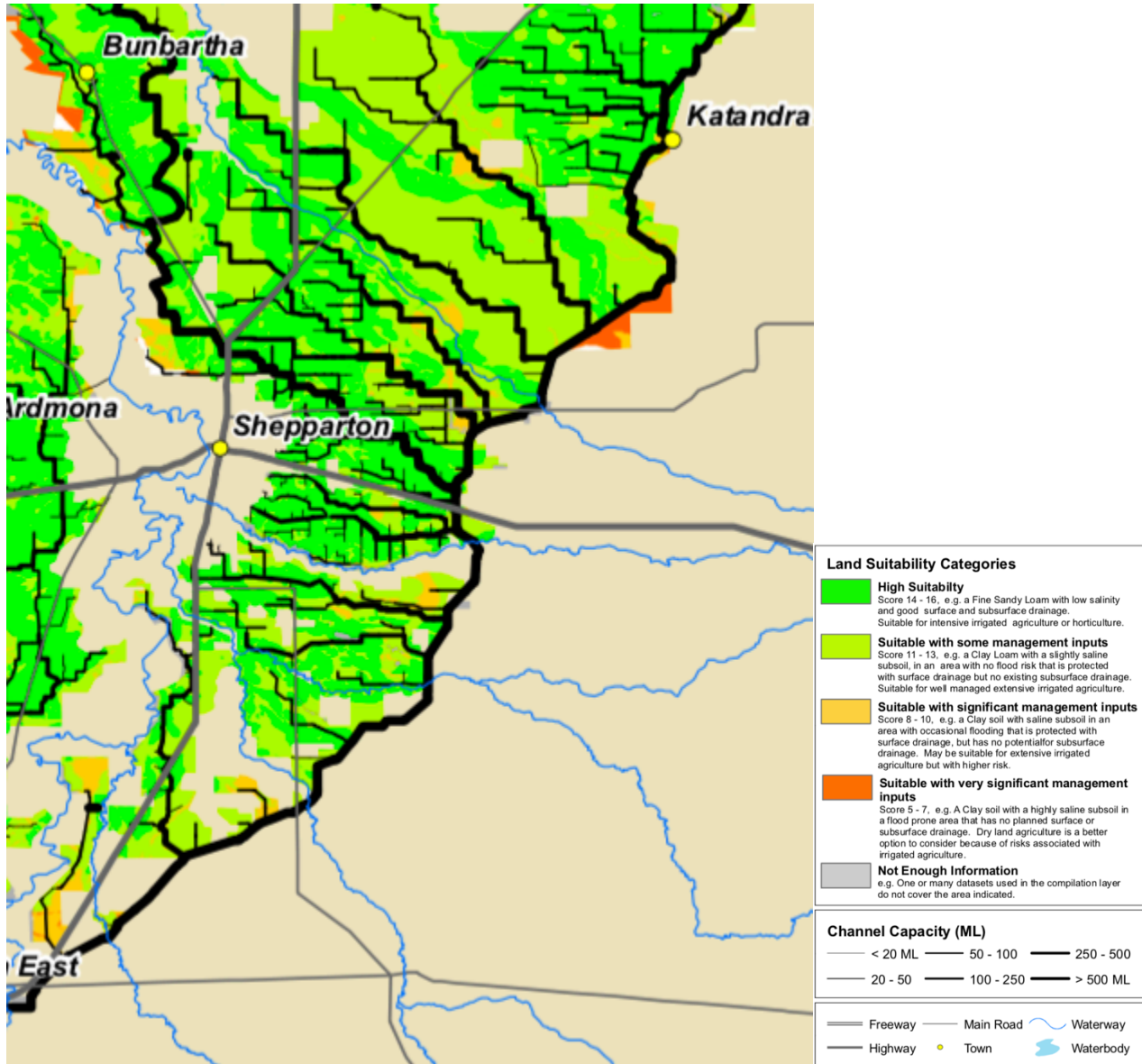


Figure 4: Land suitability for irrigation in Shepparton⁴

⁴ Section of Map 10 of the Shepparton Irrigation Region Atlas 2006 (GMW)

This addendum has been prepared by:

RM Consulting Group Pty Ltd trading as RMCG

Level 1 East, 1100-1102 Toorak Road, Camberwell Victoria 3124

(03) 9882 2670 — rmcg.com.au — ABN 73 613 135 247

Offices in Victoria, Tasmania, ACT and NSW



Key RMCG contact

Dr Kristen Stirling

0488 908 416 — kristens@rmcg.com.au

Document review and authorisation

Project Number:

Doc Version	Final/Draft	Date	Author	Project Director review	BST QA review	Release approved by	Issued to
1.0	Draft	12/11/20	K. Stirling				M. MacDonagh
2.0	Final	13/11/20	K. Stirling				M. MacDonagh

LAND SUPPLY REVIEW

Shepparton-Mooroopna 2050: Regional City Growth Plan

November 2020

Final



16/11/2020

Final Version 1.0

Spatial Economics Pty Ltd

ABN: 56 134 066 783

www.spatial economics.com.au

info@spatialeconomics.com.au



CONTENTS

Main Findings	5
1.0 Report Scope and Structure	6
2.0 Recent growth trends in Shepparton-Mooroopna.....	7
2.2 Recent Residential Land and Housing Development Trends	9
2.3 Recent Industrial Land Development Trends.....	10
3.0 The population growth and housing demand assumptions underlying the 2050 Growth Plan	11
3.1 The population and housing growth assumptions used in preparing the draft 2050 Growth Plan	11
3.2 Should a single growth forecast be relied upon for longer term strategic planning?	11
3.3 Identifying a realistic range of growth scenarios for Shepparton-Mooroopna.....	13
4.0 The Demand for and Supply of Residential Land in Shepparton-Mooroopna.....	16
4.1 Some preliminary comments on uncertainty in planning for residential land supply	16
4.2 Total housing demand and demand for 'greenfield' residential land.....	16
4.3 Assumed dwelling yields from future 'greenfield' housing estates	17
4.4 Future residential land requirements under the three growth scenarios	17
4.5 Adequacy of the residential land supply proposed in the 2050 Growth Plan.....	17
5.0 Provision for future industrial land supply	21
6.0 Ongoing management of land supplies given uncertainty regarding future growth rate ..	23
Attachment 1: The methods used in Spatial Economics population and dwelling projections for Shepparton-Mooroopna.....	25
Attachment 2 Method for Estimating Residential Land Supply	28
Attachment 3 Method for Estimating Industrial Land Supply	31



List of Maps

Map 1: Inter-regional migration, Shepparton region, 2011-2016

Map 2: Undeveloped Residential Greenfield Land Stocks, Shepparton-Mooroopna

Map 3: Industrial Land Stocks, Shepparton-Mooroopna

List of Tables

Table 1: Sources of Shepparton-Mooroopna's population growth (2016/17-2018/19)

Table 2: Greater Shepparton LGA – top population gains and losses to other LGA's, 2011-2016

Table 3: Shelf life of population projections

Table 4: VIF2019 extended - Shepparton-Mooroopna projected population and dwelling change from 2018

Table 5: Higher growth - Shepparton-Mooroopna projected population and dwelling change from 2018

Table 6: Lower growth - Shepparton-Mooroopna projected population and dwelling change from 2018

Table 7: Average annual dwelling change - Shepparton-Mooroopna, by growth scenario

Table 8: Projected Greenfield Dwelling Requirements, Shepparton – Mooroopna

Table 9: Residential Broadhectare Land Supply Stocks – Shepparton/Mooroopna

Table 10: Estimated Years of Broadhectare Residential Land Supply

Table 11: Estimated Years of Industrial Land Supply

List of Graphs

Graph 1: Broadhectare lot construction size characteristics

Graph 2: Projected population, Victoria" range of outcomes

List of Images

Image 1: Residential Land Supply Types



Main Findings

Spatial Economics Pty Ltd was engaged by the Greater Shepparton City Council to assess the adequacy to meet likely future demand of the areas identified for future residential and industrial development in the draft Shepparton-Mooroopna 2050: Regional City Growth Plan. Spatial Economics has many years of experience in assessing residential and industrial land supplies for both the State and Local Governments across Victoria.

Spatial Economics assessment of likely future demand for residential and industrial land was focussed on the official (*Victoria in Future 2019*) Victorian Government growth projection for Shepparton-Mooroopna. These growth forecasts were used in preparation of the Shepparton-Mooroopna 2050: Regional City Growth Plan. Given the unavoidable uncertainty regarding growth rates to 2050, Spatial Economics also developed two realistic alternative growth scenarios (one higher and one lower than VIF 2019) to test the robustness of Shepparton-Mooroopna's planned land supply.

The VIF2019 growth forecast for Shepparton-Mooroopna assumes average annual population growth of 1.16% to 2036 and 1% from 2036 to 2050. The higher growth scenario prepared by Spatial Economics assumes average annual population growth of 1.3%. This is the estimated growth rate achieved by Shepparton-Mooroopna from 2011 to 2016 and is similar to the growth rate of Albury Wodonga over the last decade or more. Spatial Economics lower growth scenario assumes average annual population growth of 0.8%. This is just below Shepparton-Mooroopna's estimated growth rate (0.9%) from 2016 to 2019 and above the estimated growth rate (0.6%) from 2001 to 2006.

In summary our analysis indicates that:

- even under the higher growth scenario Shepparton-Mooroopna has sufficient residential land to satisfy demand until 2050.
If this higher growth rate is maintained until 2050 it will be necessary, around 2035, for Council to take steps to identify additional land supplies to meet demand after 2050. This will ensure that in 2050 Shepparton-Mooroopna will continue to have at least the minimum 15 year land supply required by State Planning Policy. There is ample time available to monitor actual development trends before such action is required;
- if actual population growth in Shepparton-Mooroopna is in line with the VIF2019 projection the city has sufficient residential land to provide for housing demand until at least 2054. In this case, action to decision on rezoning of an additional residential land supply would not need to be made until closer to 2040; and
- If population growth were to decline to the level in the low growth scenario the already identified residential land supply would be sufficient to ensure that Shepparton-Mooroopna still had more than the required minimum 15 year land supply in 2050.

For industrial land our analysis indicates that, depending upon which of the three demand scenarios is assumed, Spatial Economics has calculated that Shepparton-Mooroopna has between a 13 to 20 years supply of zoned industrial land. In addition, there is a 20 to 31 year supply of land identified, but not yet zoned, for future industrial use. That is a total potential industrial land supply of between 33 and 51 years depending on the level of average annual demand. In summary, even under the highest growth scenario, the Shepparton-Mooroopna 2050: Regional City Growth Plan appears to have made an adequate provision for likely future industrial land requirements.

Spatial Economics recommends that Council continues to monitor, on a regular basis, actual population growth and residential and industrial development trends so that prompt action can be taken to increase land supplies should this become necessary in future.



1.0 Report Scope and Structure

As part of its preparation for ongoing community consultation on the Shepparton-Mooroopna 2050: Regional City Growth Plan, the Greater Shepparton City Council engaged Spatial Economics to provide an independent assessment of the adequacy of the residential and industrial land supplies identified in the Growth Plan.

Spatial Economics has wide experience in evaluating the likely future demand and supply of both residential and industrial land. This includes undertaking previous residential and industrial land supply assessments for the City of Greater Shepparton and other Victorian and inter-state councils as well as providing advice to both state and local governments on best practice arrangements for land supply monitoring.

It is important to note that Spatial Economics was not asked to review the objectives, strategies and policies set out in the Shepparton-Mooroopna 2050: Regional City Growth Plan. We have taken as our starting point the spatial structure set out in the growth plan and focussed on testing this against realistic assumptions regarding future growth rates. That is, we have limited our assessment to the adequacy of the planned land supply and not addressed the issue of whether the form of Shepparton's growth should be primarily north-south or include expanded development to the east.

This report is structured as follows:

- An overview of population growth and residential land development trends in Shepparton-Mooroopna over the past decade;
- A review of population and housing demand growth forecasts including consideration of the implications of the unavoidable uncertainty regarding medium to longer term growth rates;
- Consideration of the adequacy of the proposed supply of residential land set out in the Shepparton-Mooroopna 2050 Regional City Growth Plan in the light of our assessment of the population and housing forecasts;
- An overview of recent industrial land trends and consideration of the adequacy of the proposed supply of industrial land set out in the Shepparton-Mooroopna 2050: Regional City Growth Plan; and
- An outline of our views on an appropriate approach to ongoing management of the land supply in the context of uncertainty regarding the level of future demand.



2.0 Recent growth trends in Shepparton-Mooroopna

2.1 Recent Population Growth Trends

The overall demand for housing is driven by population growth. Population growth comes from two main sources: natural increase (i.e. births minus deaths) and from migration. Migration may be from (or to) other parts of Victoria/Australia or from overseas.

Over recent years population growth in the City of Greater Shepparton has been driven both by significant natural increase and by net migration from overseas. The population gain from net overseas migration has been more than sufficient to offset a significant loss of population to other parts of Victoria and Australia.

In summary:

- Shepparton-Mooroopna's largest source of population growth is overseas migration;
- while there are large numbers of people moving both into and out of Shepparton-Mooroopna and to other parts of Australia there is a net loss through internal migration; and
- natural increase is a significant contributor to growth.

This is shown in the table below.

Table 1: Sources of Shepparton-Mooroopna's population growth (2016/17-2018/19)

<i>Births</i>	2,184
<i>Deaths</i>	1,260
Natural Increase	924
<i>In-migration from other parts of Australia</i>	14,249
<i>Out-migration to other parts of Australia</i>	15,207
Net Internal Migration	-958
<i>In-migration from overseas</i>	2,273
<i>Out-migration to overseas</i>	843
Net overseas migration	1,430
Total population growth	1,396

Census data show that Greater Shepparton gains population from other regional shires including Moira, Campaspe, Strathbogie and Swan Hill but loses population to Geelong, Bendigo and especially, local government areas in Melbourne. This is shown in the table below.

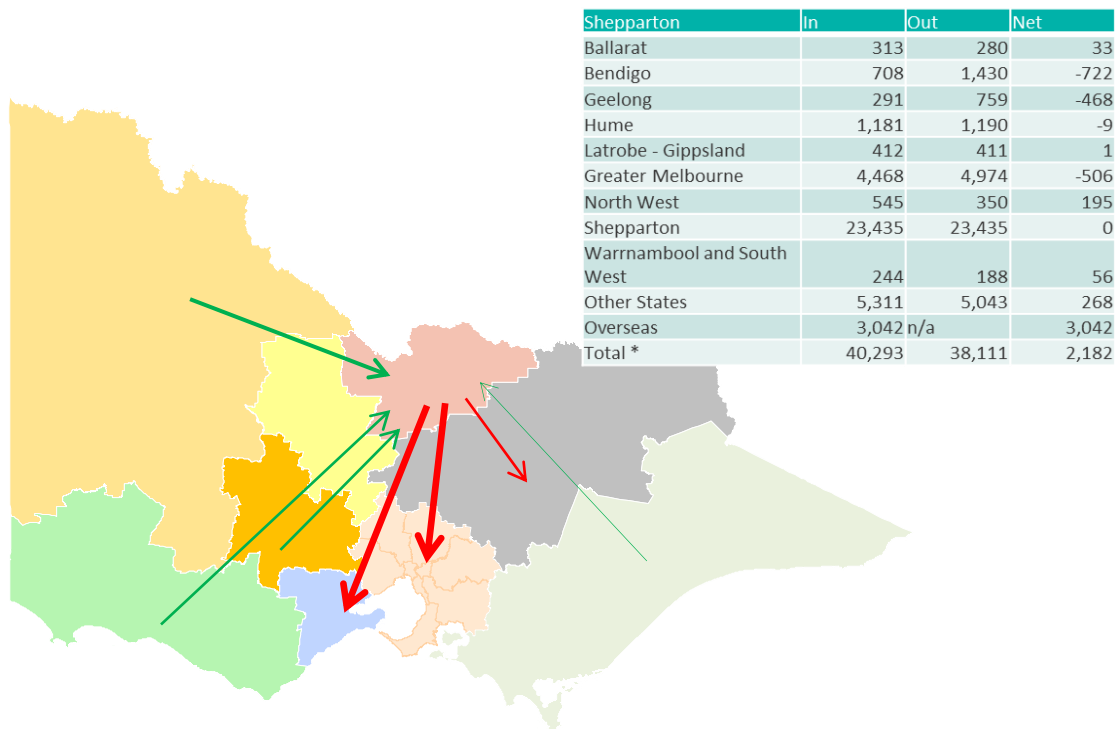
It should be noted that census data are only published at the LGA level and not for individual cities. In the case of the Shepparton-Mooroopna, this does not affect the conclusions that can be drawn for ongoing planning.



Table 2: Greater Shepparton LGA – top population gains and losses to other LGA's, 2011-2016

Most net gains		Most net losses	
Moira	+236	Greater Geelong	-290
Campaspe	+108	Greater Bendigo	-225
Strathbogie	+46	Hume*	-150
Swan Hill	+39	Casey*	-122
		Whittlesea*	-119
		Wyndham*	-100
		Melbourne*	-96

At the regional level, there is a movement out of the Shepparton region, to regions focussed on bigger population centres. This is consistent with Victoria and Australia wide trends, especially for younger people to move to larger cities in search of higher education and employment opportunities.

Map 1: Inter-regional migration, Shepparton region, 2011-2016

Source: 2016 census, ABS and DELWP

Overall, the estimated resident population of Shepparton-Mooroopna grew from 42,835 in 2001 to 52,104 in 2019. Average annual growth rates have varied over this time – from 0.6% per annum from 2001-2006, to 1.5% from 2006-2011, to 1.3% from 2011-2016 and 0.9% between 2016 and 2019.

2.2 Recent Residential Land and Housing Development Trends

Over recent years (since 2011) annual residential building approvals in Shepparton-Mooroopna have averaged 280 per annum, representing 84% of implied housing construction across the municipal area. There has been variation in these numbers from year to year, ranging from a low of 220 in 2016/17 to a high of 360 in 2018/19.

Over the same period residential lot construction averaged just over 300 per year but there has been substantial variation in lot production from year to year.

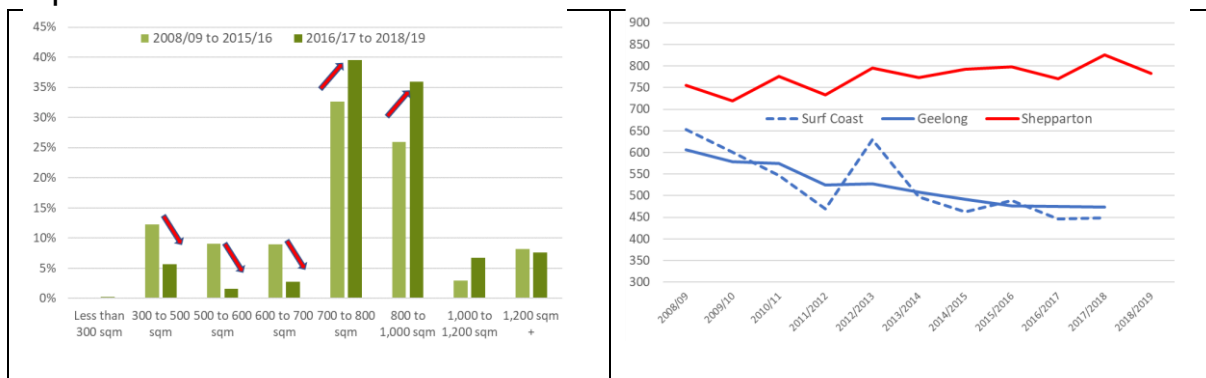
In summary, over the last decade, on average over 85% of new housing in Shepparton-Mooroopna has been developed on newly subdivided land in the city’s growth areas. This has included a significant component (some 17% of total ‘greenfield’ housing numbers) of – mainly detached - dwellings specifically targeting the older households market.

Infill housing (either building on vacant lots in established suburbs or replacement of detached housing with new dwellings at a higher density) has, on average, accounted for 11% of all new dwellings. The average falls to 9% of all new dwellings if the abnormally high level of dwelling construction on infill lots in 2010 is excluded. For planning purposes there is no evidence to suggest that infill housing will contribute much more than 10% of Shepparton-Mooroopna’s total housing needs in coming years.

One notable feature of the Shepparton-Mooroopna housing market is that there have been very few dwellings constructed on rural residential allotments (over the decade only around three per year on average). This may reflect a shortcoming in the available mix of allotments. There is evidence from some other regional cities that demand has been shifting from larger, un-serviced, rural residential allotments to smaller, serviced, low density residential allotments (hydraulic servicing). If Council were to facilitate such serviced low-density residential development on some areas currently zoned for rural residential living, there is potential to divert some demand from more conventional ‘greenfield’ housing estates.

Over the past decade the median size of new residential lots in Shepparton-Mooroopna has not varied greatly although there has been some increase in the percentage of larger lots constructed (see graph below). This is somewhat different to the trend in higher priced locations closer to Melbourne and other major regional centres where lot sizes have tended to reduce as developers struggle to keep lot prices within key price points.

Graph 1: Broadhectare lot construction size characteristics



Spatial Economics has therefore decided to use the current median lot size in estimating likely yields from remaining ‘greenfield’ areas. This assumption has been used where there is no more definite information (such as an approved Precinct Structure or Development Plan) available regarding anticipated lot yields.



2.3 Recent Industrial Land Development Trends

From 2015/16 to 2018/19¹ there were 49 industrial lots constructed in Shepparton-Mooroopna. More than 40% (21 lots) of these lots were between 0.5 and 5 hectares in size with the majority (57% or 28 lots) being 0.5 hectares or less in size. Only one lot of more than 5 hectares was constructed over this period.

The majority (78% or 38 lots) of industrial subdivision activity has been on land zoned Industrial 1 (IN1Z), 18% or 9 lots zoned Commercial 2 (C2Z) and the remainder (4% or 2 lots) zoned Industrial 3 (INZ3).

Over the last decade there has been a significant increase in the rate of development of industrial land. From 2009 to 2015 it averaged 3.45 hectares per annum. The average annual area developed increased to 6.27 hectares from 2015 to 2017 and to 7.51 hectares from 2017 to 2019.

Over the last five years slightly less than 60% of the total area of industrial land consumed (i.e. lots on which a factory or warehouse construction occurred) was in East Shepparton, with smaller amounts (almost 30%) in North Shepparton and most of the balance in Kialla. There was minimal consumption of industrial land in the Mooroopna, Lemnos and North West Shepparton industrial precincts. Over 70% (50 lots) of all the lots on which development occurred over this period were 0.5 hectares or smaller in size. Just over a quarter (27% or 19 lots) were between 0.5 and 5 hectares in size. Only one lot of more than 5 hectares was consumed over this period.

Map 3 illustrates the location of the industrial precincts.

The increase in construction of industrial lots in Shepparton-Mooroopna is consistent with other available indicators of development in local industrial activity. For example, in recent years the value of industrial building approvals has increased significantly (from \$13.8 million in 2016/17 to over \$20 million in the year to the March quarter of 2019). The Gross Regional Product (GRP) for Greater Shepparton has also increased significantly.

The processing and distribution of agricultural products is a key driver of consumption of industrial land in Shepparton-Mooroopna. Since 2010/11 employment in the agricultural sector in Greater Shepparton increased by almost a quarter (24%). This is more than three times faster than total employment which grew by only 7% over the same period.

In summary, the consumption of industrial land in Shepparton-Mooroopna has increased significantly over recent years and this trend is consistent with other indicators of economic activity, in particular strong growth in the production, processing and distribution of agricultural products. While, to date, these are only short term trends they do suggest that planning for future industrial land demand should include one or more 'strong demand growth' scenarios.

¹ Measured to the March quarter 2019



3.0 The population growth and housing demand assumptions underlying the 2050: Regional City Growth Plan

3.1 The population and housing growth assumptions used in preparing the draft 2050: Regional City Growth Plan

The population, household and dwelling growth assumptions used in preparing the draft Shepparton-Mooroopna 2050 Growth Plan are drawn from the Victorian Government's official population projections 'Victoria in Future 2019' (VIF 2019). This publication sets out population, household and dwelling growth projections to 2036 for all regions and local government areas in Victoria.

For the City of Greater Shepparton VIF 2019 forecasts average annual population growth of 0.9%, or a total population increase of 11,690 people, from 2018 to 2036. VIF 2019 also forecasts an additional 6,857 households in the City of Greater Shepparton by 2036.

VIF 2019 also presents population and dwelling forecasts for sub-areas within Local Government Area boundaries.

For Shepparton-Mooroopna VIF 2019 projects total population growth of 11,212 between 2018 and 2036 (up from 51,631 to 62,843). Over the same period dwelling numbers are projected to increase by 6,156 (growing from 21,555 to 27,711) or an average of 342 per year.

VIF 2019 does not publish data beyond 2036 for individual Council areas or parts of Council areas. It is understood that in preparing of the Shepparton-Mooroopna 2050: Regional City Growth Plan unpublished VIF projections were used for 2050 and that these amounted to a projected population growth for Shepparton-Mooroopna of 1% per year between 2036 and 2050. This equates to an additional dwelling requirement of 4,100 from 2036 to 2050.

3.2 Should a single growth forecast be relied upon for longer term strategic planning?

As noted above preparation of the Shepparton-Mooroopna 2050: Regional City Growth Plan was based upon the single set of forecasts for the City of Greater Shepparton and Shepparton-Mooroopna set out in VIF2019.

These forecasts are approved by the State Government and are prepared using a well-established and accepted methodology and incorporate sound assumptions.

However, it is reasonable to question whether a single set of growth forecasts should be used in preparing a long-term strategic plan, such as the Shepparton-Mooroopna 2050: Regional City Growth Plan.

Spatial Economics believes that current best practice is to utilise a realistic range of growth scenarios when preparing medium and longer-term strategic plans. This has the advantage of recognising the inherent uncertainty involved in any medium to longer-term forecast. It also allows the strategy to be 'stress tested' and helps ensure that land use and infrastructure plans have the flexibility to cope with unexpected change in growth rates.

The inherent uncertainty associated with any medium to longer-term forecast of population growth is widely accepted.



For example, VIF2019 presents a range of growth forecasts for Victoria and, in its introduction says:

"Population projections are estimates of the future size, distribution and characteristics of the population. They are developed by applying mathematical models and expert knowledge of the likely population trends to the base population.

Projections provide information about population change over space and time but they are not predictions of the future. They are not targets nor do they reflect the expected effects of current and future policies.

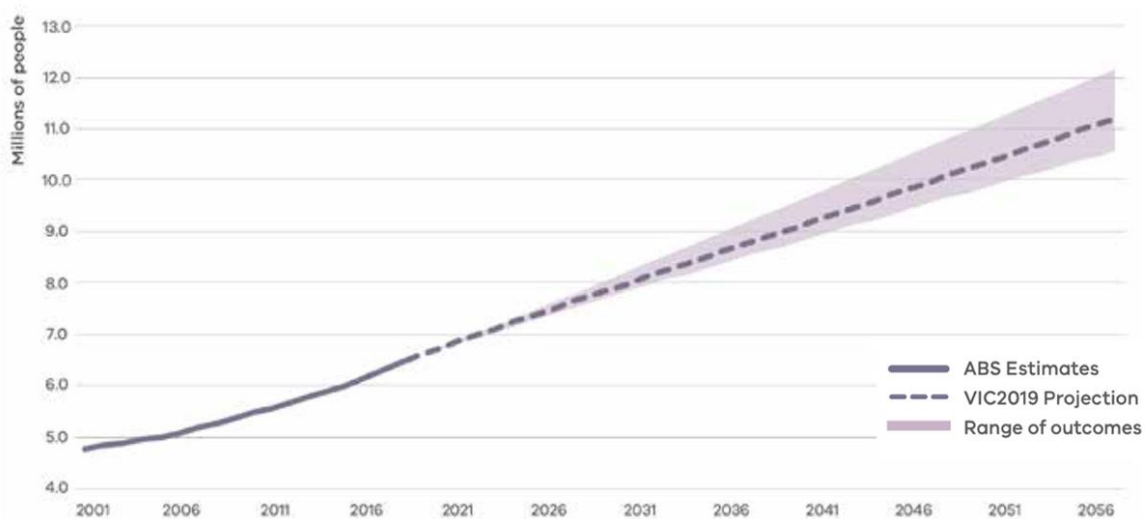
The projections give an idea of what is likely to happen if current trends continue. They may indicate a need to manage change to achieve preferred outcomes or to mitigate the impacts of no-preferred outcomes"

In relation to growth projections for Victoria as a whole VIF2019 says:

"Under the VIF2019 assumptions Victoria is projected to add 4.7 million people from 2018 to 2056, reaching a population of 11.2 million. This represents annual average growth of 125,000 people, at a rate of 1.5% per annum.

Conditions and trends may change in the future, however, and if other assumptions were used, different growth levels would result. Migration levels are more sensitive to changes in policy or economic conditions than births or deaths. Graph 1 (see below) shows population growth outcomes with different migration assumptions, illustrating average annual growth in each scenario, not the volatility of growth in individual years."

Graph 2: Projected population, Victoria" range of outcomes



The unavoidable uncertainty associated especially with assumptions regarding the rate of net overseas migration is very clearly illustrated by the current experience with the impact of the Covid19 pandemic on migration and population growth. As a result of a drastic fall in overseas migration growth rates for Australian, Victorian and regional areas will be substantially reduced for, at least, two years.

VIF2019 does not present multiple growth scenarios for individual regions or municipal areas. This presumably reflects a judgement that to do so would be likely to lead to confusion and could result in 'projection shopping' by those seeking to advance particular points of view either in favour of or expressing concern regarding future growth.



However, the decision to present only a single set of projections in VIF2019 does not remove the uncertainty associated with regional and municipal projections. Instead it avoids addressing the issue. Indeed, the smaller the forecast area (e.g. region as against State, municipal as against region) the greater the uncertainty that is unavoidably associated with any medium or longer-term growth projection.

The question must still be addressed - how robust can we expect population projections for a regional city the size of Shepparton-Mooroopna to be?

Demographer Tom Wilson of Charles Darwin University has reviewed state government prepared population projections for sub-state regions and municipalities in Australia. He has done so with both the benefit of hindsight and with local and regional population estimates that the ABS has published since the time projections were prepared. His conclusions were as follows:

- Five year projections were better than ten year projections;
- Large area projections were a lot better than small area projections;
- While small area projections have large errors, for places of more than 100,000 people most projections were within 5% for a ten year period;
- For areas under 10,000 people, projections were highly error prone.
- For places over 25,000 people, the correct direction of change (i.e. gain or loss) was projected in 90% of cases;
- For places under 2,000 people, 60% of projections did not project the correct direction of population change.

These findings correspond with similar research undertaken in the UK. This led Wilson to suggest a realistic 'shelf life' for projections.

Table 3: Shelf life of population projections

Place size (pop'n)	Shelf life of population projections (years)
<2,500	3
2,500 – 10,000	7
10,000 – 50,000	12
50,000 – 100,000	14
>100,000	15

Source: Tom Wilson, Paper presented to Australian Population Association conference, 2016

For the current purpose the key point is that longer term projections are inherently problematic and this needs to be taken into account in sound strategic planning.

Spatial Economics has therefore chosen to utilise a range of growth forecasts in assessing the adequacy of residential and industrial land supplies in Shepparton-Mooroopna.

3.3 Identifying a realistic range of growth scenarios for Shepparton-Mooroopna

The growth projections (or scenarios) prepared by Spatial Economics are for the Shepparton-Mooroopna urban area, not the Greater Shepparton municipality.

Spatial Economics projections build on the VIF2019 projections for population, households and dwellings. They do not contradict the VIF2019 projections in any way. The Spatial Economics projections for Shepparton-Mooroopna are for exactly the same area as the VIF 2019 projections



(i.e. in terms of the Australian Bureau of Statistics definitions, a combination of the Shepparton North, Shepparton South and Mooroopna SA2s).

Instead Spatial Economics has expanded VIF2019 projections in two ways. Firstly we have extended the VIF19 projections from 2036 to 2050. VIF2019 projected that Shepparton-Mooroopna population would grow by 1% in that final year (ie 2035/36). Spatial Economics has assumed this 1% annual rate of growth will continue through to 2050. Secondly, we have developed two alternative population growth scenarios, one higher, one lower. Both the higher and lower projections are based upon what Spatial Economics believes are potentially realistic alternative assumptions regarding future growth trends in Shepparton-Mooroopna.

These alternate growth scenarios are not what we forecast will occur. Instead they are used to demonstrate the impact of possible different growth rates on the demand for dwellings and residential land. Like all projections, the growth scenarios presented in this report should be seen as a way to help better inform decision making.

Spatial Economics' high growth scenario assumes that Shepparton-Mooroopna's population growth rate rises in 2023 to 1.3% per year – the rate of growth that Albury-Wodonga has experience over the last ten years – and remains at that rate until 2050.

The low growth scenario assumes that Shepparton-Mooroopna's growth drops to 0.8% per year in 2023 and remains at that rate until 2050. This is the rate of growth that Mildura-Wentworth has experienced over the last ten years.

It will, no doubt, be argued by some that our suggested higher growth scenario is too modest. Higher growth rates experienced in some other regional cities (such as Bendigo or Geelong), or short-term upturns in demand and development activity in Shepparton-Mooroopna may be quoted in support of such a view. However the evidence from across Victoria and New South Wales is clear – growth rates are strongly influenced both by city size (larger cities grow faster) and by distance from the state's main metropolitan area (cities closer to Melbourne or Sydney benefit most from 'overflow demand' from the higher priced metropolitan area).

Furthermore, VIF 2019 already assumes that, over time, the Shepparton region gains rather loses people to other parts of Victoria. This compensates for lower and even negative natural increase as the population ages.

In this context the VIF2019 projection, and our two additional scenarios, represent the likely realistic range of future growth for Shepparton-Mooroopna.

The projected population and dwelling numbers associated with each of the three (VIF 2019 plus Spatial Economics higher and lower) scenarios are summarised below.

Table 4: VIF2019 extended - Shepparton-Mooroopna projected population and dwelling change from 2018

	2018 to 2025	2025 to 2030	2030 to 2035	2035 to 2040	2040 to 2045	2045 to 2050
Population	4,405	3,225	3,155	3,179	3,336	3,506
Dwellings	2,258	1,795	1,755	1,441	1,469	1,544



Table 5: Higher growth - Shepparton-Mooroopna projected population and dwelling change from 2018

	2018 to 2025	2025 to 2030	2030 to 2035	2035 to 2040	2040 to 2045	2045 to 2050
Population	4,464	8,206	12,198	16,456	20,998	25,843
Dwellings	2,339	4,360	6,486	8,435	10,435	12,569

Table 6: Lower growth - Shepparton-Mooroopna projected population and dwelling change from 2018

	2018 to 2025	2025 to 2030	2030 to 2035	2035 to 2040	2040 to 2045	2045 to 2050
Population	3,364	5,559	7,926	10,346	12,865	15,487
Dwellings	1,871	3,321	4,609	5,711	6,819	7,972

Table 7: Average annual dwelling change - Shepparton-Mooroopna, by growth scenario

	2018 to 2025	2025 to 2030	2030 to 2035	2035 to 2040	2040 to 2045	2045 to 2050	2018 to 2050
VIF2019 (extended)	323	359	351	288	294	309	321
High	334	404	425	390	400	427	393
Low	267	272	276	220	222	231	249

In summary the higher scenario implies an approximately 15% increase in terms of total dwelling demand to 2050 when compared to the 'medium level' VIF2019 projection. The lower scenario results in an approximate 17% reduction in total dwelling demand to 2050 when compared to VIF2019.



4.0 The Demand for and Supply of Residential Land in Shepparton-Mooroopna

4.1 Some preliminary comments on uncertainty in planning for residential land supply

As noted in the preceding section of this report uncertainty is unavoidable when considering medium to longer term population growth – especially at a regional and small area (i.e. regional city) level.

It is equally difficult to predict medium to longer changes in housing preferences and therefore in the demand for newly serviced (or 'greenfield') residential land. Over time there will be changes in the relative demand for dwelling types (detached housing versus townhouses or apartments), locations (established suburbs versus greenfield housing estates), and type and size of allotment (smaller versus larger lots).

Variation in demand for particular types of housing and residential land may result from demographic change (smaller and older households), from the preferences of purchasers and renters (for locations closer to jobs and facilities versus dwelling size), or from increased costs and ability to pay (leading, for example, to choice of smaller dwellings and allotments).

Housing trends may change more slowly in smaller cities and regional areas than in larger, and higher cost, metropolitan areas. But changes will still occur and will add to the uncertainties that must be addressed in longer term strategic plans. Planning that is based on one set of demand projections, or that locks in controls based upon current dwelling preferences, make it difficult for the market to adjust supply to cater for unexpected changes in housing demand.

There are two key approaches that can help ensure that strategic plans have the best chance to cope effectively with this kind of uncertainty:

- the first is to err on the side of assuming stronger growth overall and in any given market segment. That is to ensure that (within reason) there is scope to meet any unexpected upturn in demand; and
- secondly, to plan for a diversity of supply types and locations.

It may not seem obvious why planning should err on the side of assuming stronger rather than weaker growth. However, in summary, the experience in other places is underestimating future housing demand has more serious effects (for example, limiting growth or leading to unnecessary increases in housing costs) and takes longer to correct.

4.2 Total housing demand and demand for 'greenfield' residential land

Not all future demand for new housing in Shepparton-Mooroopna will translate into a demand for new serviced residential land. A portion of the total additional demand for housing will be met by the construction of medium and higher density housing (town houses and apartments) in established parts of Shepparton-Mooroopna. The Shepparton -Mooroopna 2050: Regional City Growth Plan identifies a range of possible locations for such housing.

As noted earlier in this report, over recent years approximately 87% of new housing in Shepparton-Mooroopna has been constructed on new serviced ('greenfield') land. For the purpose of assessing potential future requirements for greenfield land Spatial Economics has assumed that this percentage will not reduce.

This may be a conservative assumption – as cities grow, and as housing costs and journey to work times increase, it can usually be expected that there will be a higher percentage of medium and higher density housing. For a city the size of Shepparton-Mooroopna, it is likely that any switch to a higher share of medium density housing will be slow and limited. It is therefore sensible to err on the side of caution and assume no change in the mix of dwelling types and share of housing needs



likely to be met by redevelopment in established suburbs. This will help ensure that the future requirement for 'greenfield' residential land is not underestimated.

4.3 Assumed dwelling yields from future 'greenfield' housing estates

Spatial Economics has also assumed that there will be no decrease in average residential block sizes in future 'greenfield' residential estates and therefore that average housing yields from greenfield residential land will not change from that achieved over recent years. Obviously, where known, specific allowance needs to be made for local constraints (for example, areas subject to flooding or with protected native vegetation) when assessing likely allotment and dwelling yields.

Again, this is a conservative, but we believe well justified, assumption. In most Victorian regional cities, where land prices have not risen to near metropolitan levels, there is a clear preference for larger allotments.

There is one market segment where Spatial Economics do believe there is potential for average lot sizes to fall. This is in relation to the development of rural living/low density residential allotments. In recent years Shepparton-Mooroopna has seen a relatively low percentage of rural residential allotments developed when compared to other similar sized regional cities.

We believe that this may be a result of a limited supply of land currently zoned for low-density residential development. The share of total housing demand going to low-density residential estates could therefore increase (with a compensating reduction in rural residential demand) if Council makes a decision to increase the area zoned for low-density residential development.

4.4 Future residential land requirements under the three growth scenarios

The projected number of new greenfield dwellings required in each period to 2050 under each of the three growth scenarios, is summarised in the table below:

Table 8: Projected Greenfield Dwelling Requirements, Shepparton – Mooroopna

	2018 to 2025	2025 to 2030	2030 to 2035	2035 to 2040	2040 to 2045	2045 to 2050	2018 to 2050
VIF2019 (extended)	1,912	1,550	1,538	1,308	1,266	1,330	8,905
High	1,954	1,728	1,834	1,719	1,718	1,833	10,786
Low	1,599	1,223	1,198	1,142	956	995	7,114

4.5 Adequacy of the residential land supply proposed in the 2050: Regional City Growth Plan

To translate this projected 'greenfield' housing demand into an assessment of the adequacy of the provision for 'greenfield' residential land supplies made in for Shepparton-Mooroopna 2050: Regional City Growth Plan it is necessary to consider both the total area of land identified for future residential development and the likely allotment yield from this land.

The table below lists all of the areas identified for future 'greenfield' residential development in the Shepparton-Mooroopna 2050: Regional City Growth Plan together with the size and current planning status (unzoned, zoned but requiring preparation of a Structure Plan, zoned and development able to proceed) of each area.

Spatial Economics has used likely site-specific allotment yields (drawn from Council assessments and prior Spatial Economics land supply assessments) where this is known. For all other areas either zoned or identified for residential development Spatial Economics has assumed recent average yields (see earlier discussion).



On this basis the estimated yield from areas already zoned for residential development, or identified for future residential development in the 2050 Growth Plan (see map 2) is summarised in the table below:

Table 9: Residential Broadhectare Land Supply Stocks – Shepparton/Mooroopna

Locality	Zoned Stocks	UGZ - PSP Required	Potential Residential (unzoned)	Total
Congupna	0	0	840	840
Grahamvale	870	0	1,160	2,030
Kialla	1,257	1,000	0	2,257
Mooroopna	375	0	791	1,166
Shepparton	1,494	0	2,500	3,994
Shepparton North	545	0	0	545
Total	4,541	1,000	5,291	10,832

Source: Spatial Economics, 2019. Residential Land Supply & Demand Assessment.

Note:

1: Includes the Radio Australia potential residential site contained in the Shepparton-Mooroopna 2050 Regional City Growth Plan. This site was not included in the 2019 land supply assessment.

2: As at March 2019 the Shepparton North East Precinct (Grahamvale) was unzoned. However as at October 2020 the precinct was zoned Urban Growth and subsequently classified as zoned broadhectare residential.

As at March 2019, there was a residential lot capacity within zoned broadhectare sites of approximately 4,540 in Shepparton/Mooroopna.

Within Shepparton/Mooroopna, the zoned broadhectare lot supply is located in:

- Grahamvale -870 lots (19% of supply);
- Kialla -1,257 lots (28% of supply);
- Mooroopna -375; lots (8%);
- Shepparton– 1,494 lots (33%); and
- Shepparton North -545 lots (12%).

Sites for future residential development are identified within various Council strategy planning documents. Precinct structure planning and rezoning processes are required before residential development can proceed on such sites.

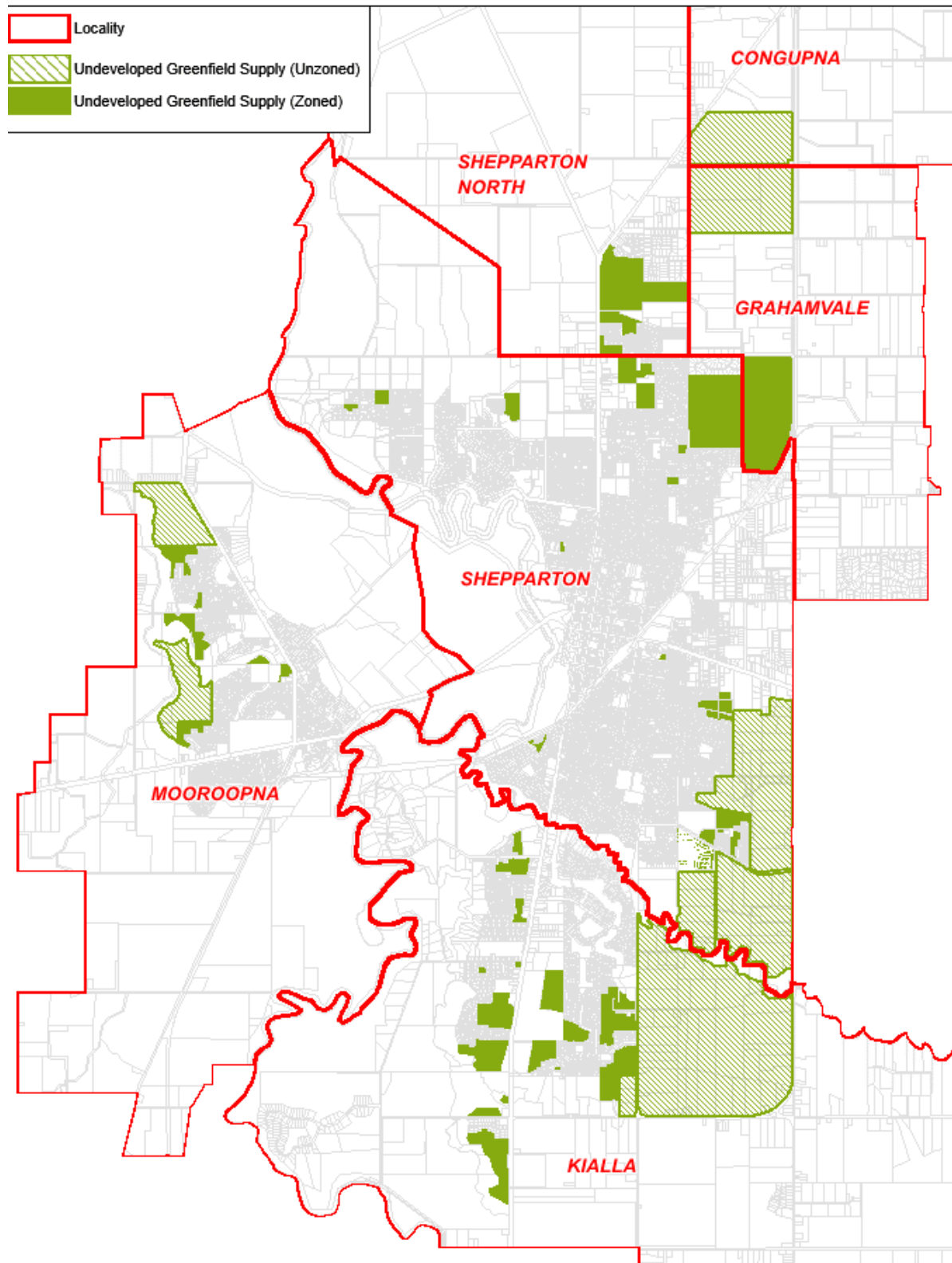
There are approximately 1,120 hectares of land (with an estimated yield of 6,300 dwellings) identified for potential future broadhectare residential development in Shepparton/Mooroopna. By locality, the stock of potential (unzoned) broadhectare land are located in:

- Congupna - 840 lots (98 hectares);
- Grahamvale -1,160 lots (128 hectares);
- Kialla - 1,000 (430 hectares);
- Mooroopna -791 lots (109 hectares); and
- Shepparton – 2,500 lots (352 hectares).

Map 2 illustrates the site location of the zoned/unzoned undeveloped residential broadhectare land stocks.



Map 2: Undeveloped Residential Greenfield Land Stocks, Shepparton-Mooroopna



It should be noted that a number of the areas identified for future development have drainage issues which have restricted their estimated yield. Given investment in suitable drainage works it is possible that yields from some of these areas could be significantly increased.

In terms of years of residential land supply under each of the three population growth scenarios outlined earlier in this report this equates to:



Table 10: Estimated Years of Broadhectare Residential Land Supply

	Zoned	Unzoned	Total
VIF2019 (extended)	14	21	35
Higher growth	13	18	31
Lower growth	18	27	45

In summary:

- even under the higher growth scenario Shepparton-Mooroopna has sufficient residential land to satisfy demand until 2050. If this higher growth rate occurs – and is maintained - it would be necessary for council to take steps by 2035 to identify and zone additional land supplies in order to maintain at least the minimum 15 year land supply required by State Planning Policy after 2050. There is ample time available to monitor actual development trends before such action is required;
- if actual population growth in Shepparton-Mooroopna is in line with the VIF2019 projection the city has sufficient residential land to provide for housing demand until at least 2054 and action to decision on rezoning of an additional residential land supply would not need to be made until closer to 2040.
- If population growth were to decline to the level in the low growth scenario the already identified residential land supply would be sufficient to ensure that Shepparton-Mooroopna still had more than the required minimum 15 year land supply in 2050.

We have made recommendations later in this report regarding the ongoing monitoring of population growth and residential development trends so that Council can take timely action should higher growth rates occur and there is a need to identify and zone additional residential land supplies.



5.0 Provision for future industrial land supply

As noted earlier in this report, development and consumption of industrial land in Shepparton-Mooroopna has accelerated over recent years. It increased from an average of 4.8 hectares per annum over the decade from 2009 to 2019, to 6.9 hectares per annum from 2015 to 2019 and 7.5 hectares per annum from 2017 to 2019.

Such short-term trends cannot be relied upon in forecasting future demand. However they do suggest that it is appropriate for Council to take a cautious approach in planning for possible future industrial land needs. Spatial Economics has therefore adopted a scenario-based approach to assessing potential future industrial land demand and the adequacy of the currently identified stocks of industrial land. This is consistent with the approach adopted in assessing local industrial land needs in the State Government's '*Regional Urban Development Program*'.

Specifically, Spatial Economics has chosen to use three demand scenarios in assessing potential future industrial land requirements. These are:

Scenario 1: The longer term trend

This scenario assumes average annual demand for 4.8 hectares of industrial land. That is, continuation of the average annual consumption over the decade from 2009 to 2019.

Scenario 2: The trend over the last five years

This scenario assumed average annual demand for 6.9 hectares of industrial land. This is the average level of consumption of industrial land for the five years from 2015 to 2019. It implies a more than 40% increase in average annual demand compared to scenario 1.

Scenario 3: An accelerated growth trend

This scenario assumed that the stronger (7.5 hectares per annum) demand experienced over the two years from 2017 to 2019 will be sustained into the future. This equates to a 56% increase in demand compared to scenario 1.

In considering likely future demand for industrial land it is also relevant to take account of current stocks of vacant industrial lots. In this regard Shepparton-Mooroopna has a relatively tight supply – only 107 vacant industrial lots or a lot vacancy rate of 12%. By way of comparison other major regional centres in Victoria, and Melbourne, typically have a vacancy rate of 25% to 30%. Outside the East Shepparton and Kialla industrial precincts there are minimal vacant industrial lots. Furthermore, there are especially tight vacant lot stocks in some important lot size ranges – for example only 31 vacant lots of over 0.5 hectares in size and only 5 lots of greater than 5 hectares in size.

This would suggest that, at least in the short term, there is a good likelihood that the actual rate of annual lot development will be towards the higher end of the three scenarios set out above.

As at March 2019 Shepparton-Mooroopna had a total supply of 614 hectares of zoned industrial land of which 137 hectares is zoned and vacant.

The largest stock of vacant zoned industrial land (70 hectares) is in East Shepparton. The balance of the zoned and vacant industrial land stock is distributed between Kialla (21 hectares), Mooroopna (8 Hectares), North Shepparton (4 hectares) and 2 hectares in Lemnos North-West Shepparton respectively.

In addition, there are four major locations ('investigation areas') identified for potential future industrial zoning across Shepparton-Mooroopna. Of these areas the largest (of 162 hectares) is in North Shepparton, two (of 38 and 14 hectares) are in Lemnos and one (of 20 hectares) is in Mooroopna. That is a total gross identified supply of unzoned future industrial land of 234 hectares.

Depending upon which of the three demand scenarios is assumed, Spatial Economics has calculated that Shepparton-Mooroopna has between a 13 to 20 years supply of zoned industrial land. In



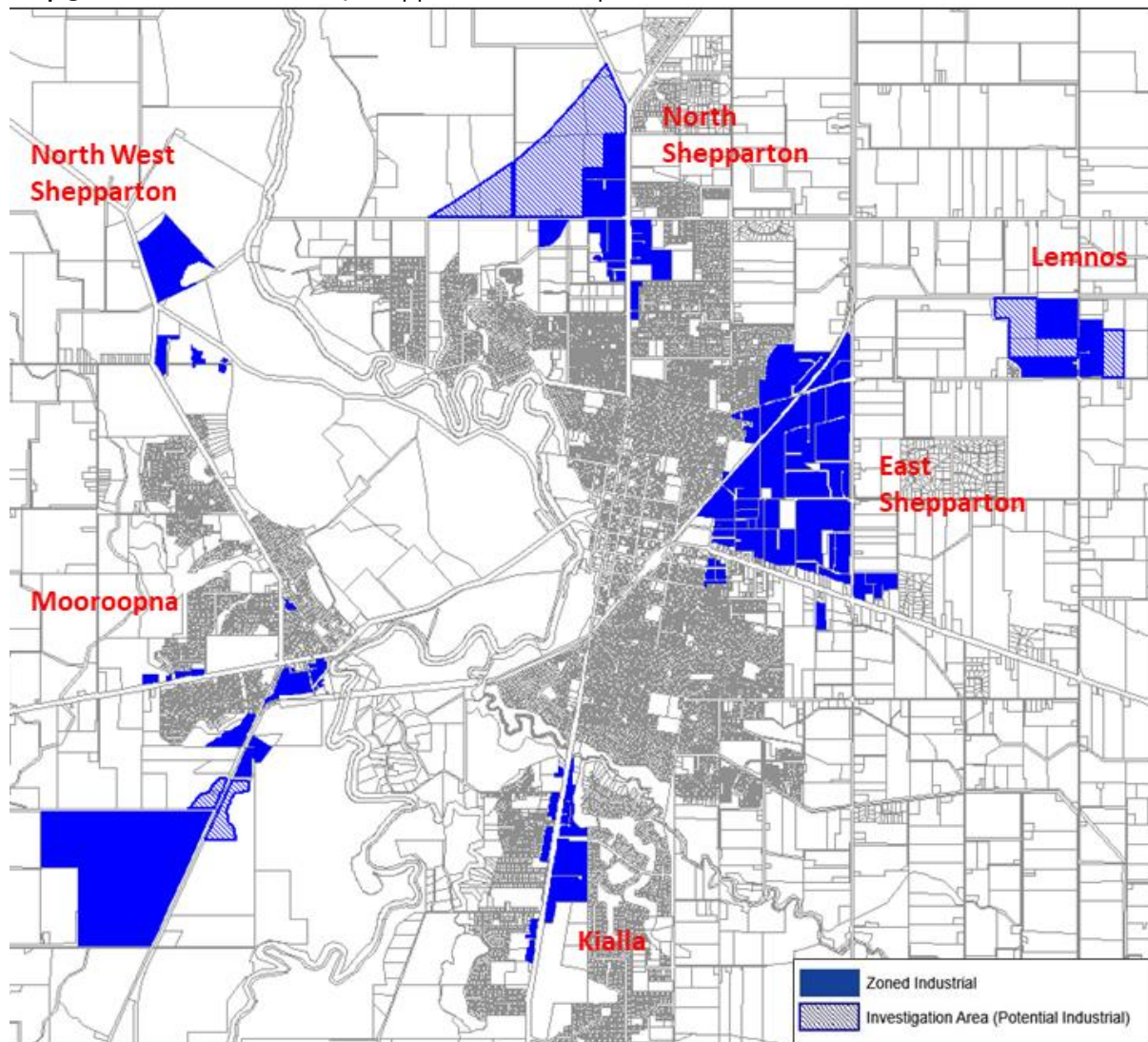
addition, there is a 20 to 31 years supply of land identified, but not yet zoned, for future industrial use. That is a total potential industrial land supply of between 33 to 51 years of supply depending on the level of average annual demand.

Table 11: Estimated Years of Industrial Land Supply

	Zoned	Unzoned	Total
Scenario 1: The longer term trend	20	31	51
Scenario 2: The trend over the last five years	15	21	36
Scenario 3: An accelerated growth trend	13	20	33

In summary, even under the highest growth scenario, the Shepparton-Mooroopna 2050: Regional City Growth Plan appears to have made an adequate provision for likely future industrial land demand.

Map 3: Industrial Land Stocks, Shepparton-Mooroopna



6.0 Ongoing management of land supplies given uncertainty regarding future growth rates

Planning for housing and industrial development thirty years into the future inevitably involves considerable uncertainty. Economic development and population growth trends will change over time. So will housing preferences and methods of industrial production. Council's strategic planning must provide for the likelihood of such changes.

Some might argue that the answer to planning for such uncertainty is just to provide for a much more than ample supply of developable land so that any potential upturn in demand can be catered for. But to do this would involve substantial costs to both Council and the community. It is likely to mean added costs in the planning and provision of infrastructure. It could also lead to unnecessary speculative increases in land prices, and as a consequence in rates and land taxes, on rural land that may never be required for development. It could thereby threaten the viability of existing activities such as agriculture. It would make it harder for local businesses to plan effectively to meet future needs. Finally, and importantly, it would also add to the uncertainty faced by the community regarding the potential impacts of ongoing growth.

A better, more practical, approach is to make provision for a more modest, realistic, increase in the forecast rate of development and combine this with regular and systematic monitoring of actual development trends. This will enable timely action to be taken, if necessary, to update planning strategies and provide for additional land supplies.

Earlier in this report we set out a 'higher growth' scenario that assumes an increase in forecast annual population growth from 1% to 1.3% (i.e. a sustained 30% increase on average growth rates over the last decade). This higher growth forecast has been used to 'stress test' the provision made for future housing development in the 2050 Growth Plan. If population increases in Shepparton-Mooroopna reach and maintains the level projected in this high growth scenario our land supply analysis suggests that Shepparton-Mooroopna will still have sufficient residential land to meet demand until at least 2050.

In summary the Shepparton-Mooroopna 2050: Regional City Growth Plan provides a significant buffer to provide for a potential future upturn in housing demand.

Similarly, our assessment is that the planned industrial land supply is currently insufficient zoned broadhectare land stocks to meet the requirements in the medium to longer term. Shepparton-Mooroopna is currently experiencing a rapid increase in the actual consumption of industrial land at unprecedented levels. However, in terms of longer term provision, there is sufficient unzoned stock to meet longer term requirements.

However, growth trends and market preferences can change fairly quickly. It is therefore imperative that forecasts are regularly assessed against actual development activity. Actual development activity can vary significantly from longer term forecasts even over a short period. An example is the sudden upturn in residential development activity seen in Shepparton-Mooroopna over a number of recent years. Such short-term upturns in demand may be driven by short term factors and will probably not be maintained over a longer period. However it is important that planning authorities are not caught out by such unexpected changes in development trends.

We recommend that Council commit to a continuing program of monitoring of development trends and of the adequacy of both the residential and industrial land supply. This will ensure that Council is in a position to move quickly to update the Shepparton-Mooroopna 2050: Regional City Growth Plan should this become necessary.

This ongoing monitoring program should include:

- Continuing monitoring of changes in the Estimated Resident Population data released by the ABS. This should be done at both a municipal and ABS SA2 level. It is particularly



important to do this after the 2021 census results are released. Past experience is that the ABS will then revise its population trend estimates, sometimes significantly. This in turn raises the need for review/revise population projections;

- Monitoring the quantum, location and type of residential subdivision approvals and housing planning and building approvals using Council's internal data sources;
- Annual monitoring of the actual 'consumption' (i.e. subdivision) of 'greenfield' residential land and updating of estimates of residual capacity for all remaining 'greenfield' land parcels;
- Regular monitoring of price trends for both 'greenfield' and subdivided land. Price trends are often a key indicator of supply problems;
- Equivalent monitoring processes for land stocks, development activity and sale prices of industrial land.

A well designed, and consistently implemented, monitoring program can help early identification of changes in key 'drivers' of demand, track where growth is going, and assess how well the various pieces of the Growth Plan are working. Information from a monitoring program can help Council fine tune land use planning policies to better achieve the Growth Plan goals. It is a more useful and cost-effective option than seeking to provide for uncertainty by unnecessarily designating additional land for possible development at some future time.

In addition, we recommend that Council hold annual 'development forums' with the local development and real estate industry for the purpose of gathering relevant intelligence. This should include any evidence of significant changes in development trends (such as changes in pricing and in demand for different types of housing and/or industrial development) and any particular issues being faced by the land development industry. Such 'development forums' provide a good opportunity both for Council to share information with the industry and also to gain an early warning of any emerging issues that may require changes to the Planning Scheme or the Shepparton-Mooroopna 2050: Regional City Growth Plan.



Attachment 1: The methods used in Spatial Economics population and dwelling projections for Shepparton-Mooroopna

The purpose of this note is to clearly set out the methods and assumptions used by Spatial Economics in making population and dwelling projections used in its review of the residential and industrial land supply provided for in the Shepparton-Mooroopna 2050: Regional City Growth Plan.

Like other regional centres in Victoria (e.g. Bendigo, Horsham, Mildura, Bairnsdale) the Shepparton-Mooroopna urban area is surrounded by a large rural area dotted with small towns which are still part of the City of Greater Shepparton. The Greater Shepparton municipality is large, three times the size of the combined local government areas of Albury and Wodonga. It is important to note that the Spatial Economics projections are for the Shepparton-Mooroopna urban area, not the Greater Shepparton municipality.

The Spatial Economics projections use and build on the Department of Environment, Land, Water and Planning's (DELWP) Victoria in Future (VIF19) state, regional, local government area and small area (SA2) projections for population, households and dwellings. The Spatial Economics projects do not contradict the VIF19 projections in any way.

Spatial Economics has expanded the VIF19 projections in two ways. Firstly it has extended the VIF19 projections from 2036 to 2050. Secondly it has developed two alternative population growth scenarios, one higher, one lower, to demonstrate the impact of possible different growth rates on the future demand for dwellings in Shepparton-Mooroopna.

Like all projections, they should be interpreted as a technique to help decision making and not as a prediction of what the future will be. In its introduction VIF19 says:

"Population projections are estimates of the future size, distribution and characteristics of the population. They are developed by applying mathematical models and expert knowledge of the likely population trends to the base population.

Projections provide information about population change over space and time but they are not predictions of the future. They are not targets nor do they reflect the expected effects of current and future policies.

The projections give an idea of what is likely to happen if current trends continue. They may indicate a need to manage change to achieve preferred outcomes or to mitigate the impacts of no-preferred outcomes"

Source: *Victoria in Future 2019*, DELWP, Victoria

The geographical extent of the Shepparton-Mooroopna projections

VIF19's most geographically detailed projections are for SA2s (statistical area level 2). SA2s are part of the standard geographical classification used by the ABS for Australia. In Greater Shepparton there are five SA2s. Three of these, Mooroopna, Shepparton North and Shepparton South cover the urban area of Shepparton-Mooroopna. The VIF19 projections for the Shepparton-Mooroopna urban area is the amalgamation of these three urban SA2s.

The remainder of Greater Shepparton is covered by the SA2s of Shepparton East and Shepparton West. The Spatial Economics projections are for the same area.

Projecting populations

The VIF19 projections for Shepparton-Mooroopna are part of a large suite of top down projections for (a) Victoria, (b) then, Greater Melbourne and Regional Victoria (c) then, regions of Victoria (or SA3s in ABS parlance), (4) then SA2s and (5) local government areas.

The VIF19 projections for Shepparton Mooroopna are backed by extensive research and assumption making based on birth and death rate trends, overseas and within Australia migration trends. Most of these data are sourced from the ABS.



The VIF19 population projection for Shepparton-Mooroopna assumes the population growth rate rises from 1% in 2018/19 to 1.2% between 2022 and 2025 and drops back to reach 1% by 2036.

The Spatial Economics projection has these same assumptions and numbers in its medium or main projection.

Converting population projections into projections for dwellings

Population projections are converted into household and dwelling projections through the three steps set out below:

The first step to making household projections is to set aside the so-called 'population in non-private dwellings'. These are people who live in institutions such as school boarding houses, college hostels and aged care accommodation.

In Shepparton-Mooroopna it amounted to almost 800 people or 1.5% of the population at the last census in 2016. The remaining 98.5% of the population is the population in private households. VIF19 assumes that the proportion of the population in non-private households rises over time (mainly due to ageing) reaching 2.1% by 2036.

1. The projected number of households is derived by dividing the population in private households by the average household size.

If a population of 60,000 has an average household size of 3 it will need roughly 20,000 dwellings to accommodate it. If the average household size is 2, 60,000 people will need roughly 30,000 dwellings. Along with population growth, declining household sizes are therefore make a significant contribution to dwelling growth.

VIF19 assumes the average household size in Shepparton-Mooroopna falls from the 2016 census figure of 2.46 to 2.3 by 2036. Average household sizes have been falling almost universally over the last hundred years due to lower birth rates, more adults remaining single and an ageing population. In preparing the VIF projections DELWP (and the ABS and relevant departments in other states) research household formation trends to derive household size assumptions. They can differ significantly from place to place.

2. An allowance is made for vacant dwellings. The ABS defines the number of occupied dwellings as the number of households. However in making dwelling projections allowance has to be made for the stock of dwellings that are vacant. This can include, for example, holiday homes, dwellings which have been constructed but not yet occupied and houses vacant in between people making moves.

VIF19 assumes that for Shepparton-Mooroopna this vacancy rate is constant at 3.3%-3.4% throughout the projection period. In other words the dwelling projections adds 3.3% or so to the projected stock of occupied private dwellings.

The Spatial Economics medium projection to 2036 has these same assumptions, processes and numbers as the VIF19 projection.

Extending the VIF 2019 population projections from 2036 to 2050

Spatial Economics has taken the simplest, most easily understood approach to the assumptions used in extending the VIF 2019 projections to 2050. We have basically assumed that all assumptions remain constant from 2036 through to 2050.

That is:

1. The annual population growth remains constant at 1%;
2. The proportion of people in non-private households remains constant at 2.1%;
3. The average household size remains constant at 2.3;



4. The dwelling vacancy rate remains constant at 3.3%

The impact of COVID-19 on short term population growth

There will inevitably be questions about the impact of the COVID-19 pandemic on long term population mobility and growth. Spatial Economics has therefore considered whether short term population growth assumptions for Shepparton-Mooroopna should be adjusted to take account of the possible impact of the pandemic.

Two thirds of Shepparton-Mooroopna's growth comes from natural increase. The remaining third comes from the net effect of overseas and internal migration. It would be reasonable to assume that there will no overseas migration between the last third of 2019/20 and all of 2020/21 together with much lower levels of internal migration. If this was the case the net impact on Shepparton-Mooroopna would be close to zero. This is because the city gains slightly more from overseas migration than it loses through internal migration.

Consequently, Spatial Economics has not adjusted its VIF19 based projections or the other two variations. If users have different views and would like the projections to be re-run under a different set of assumptions then it can be done.

Conclusion

The discussion above seeks to openly explain the assumptions and techniques used in making the three projections presented in this report. If the Council wish to amend some of the assumptions or seek more detailed explanations of techniques used, then Spatial Economics can readily provide this additional information.



Attachment 2 Method for Estimating Residential Land Supply

The following provides a brief outline of the methodology and approach used in the assessment of recent residential lot construction, residential land supply areas, dwelling demand scenarios and determination of assessing adequacy of residential land stocks.

The methodology that Spatial Economics has employed for this project is based on the simple premise of matching the supply type with demand. This methodology assesses recent construction and future supply using the same criteria with the supply type definitions based on outcomes and on a lot by lot basis rather than administrative boundaries.

The methodology used by Spatial Economics is consistent with other State Government methodologies around Australia, including the Victorian State Governments Regional Urban Development Program. The criteria used to define the supply types are explained below.

Future Dwelling Requirements

In the 2019 municipal wide land supply assessment undertaken by Spatial Economics for the Greater Shepparton City Council population and dwelling projections undertaken by id Forecast commissioned were utilised to estimate growth requirements.

The current review of dwelling and residential land requirements for Shepparton-Mooroopna, utilises the recently released forecast data from the State Government – Victoria in Future 2019 (VIF2019) supplemented by two additional (higher and lower) growth projections prepared by Spatial Economics. Details of the assumptions in these growth forecasts are set out in Attachment 1

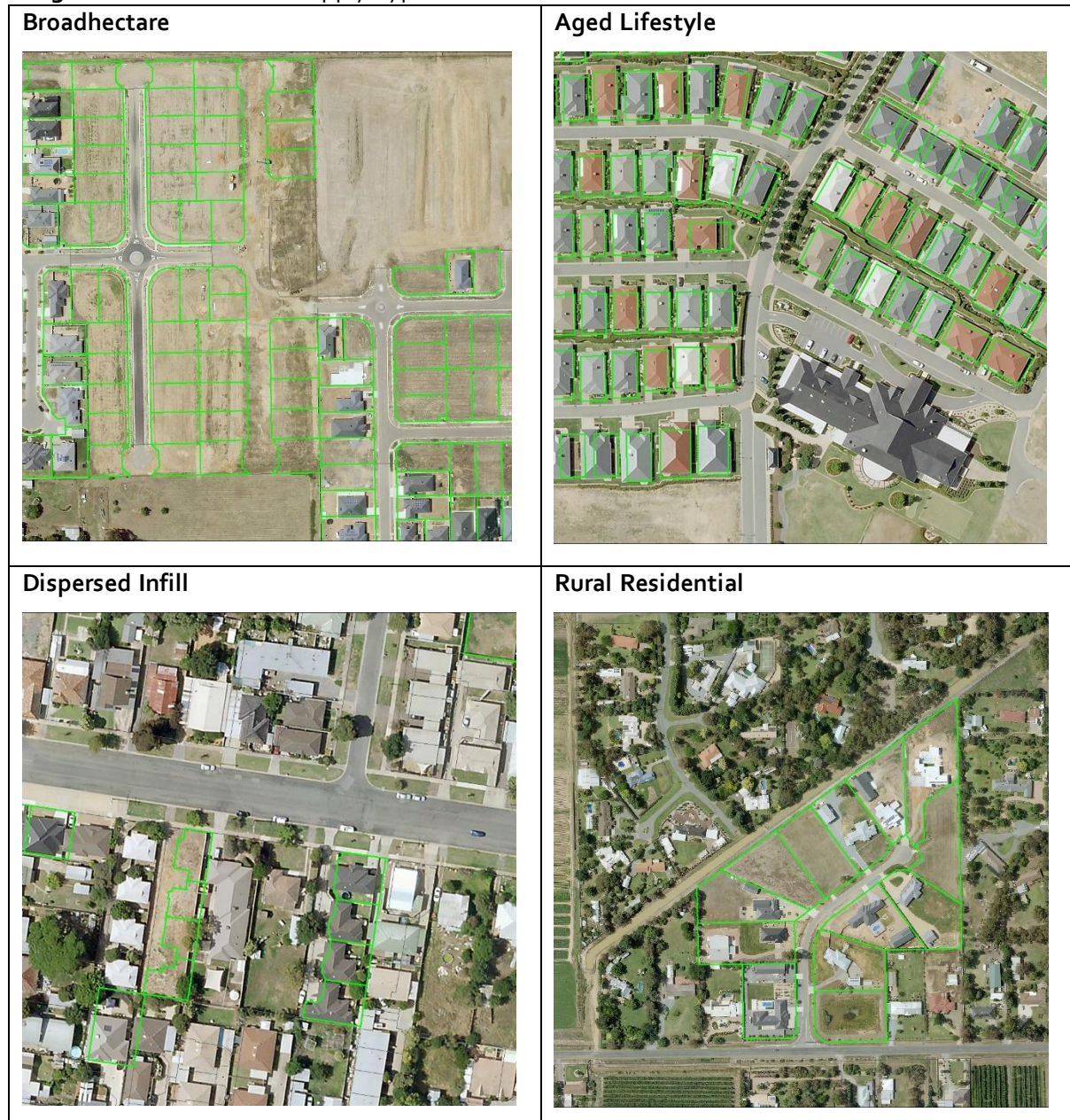
Land Supply Type Definitions

1. **Broadhectare** is defined as residential development on greenfield sites (sites that have not been used previously for urban development purposes or previously subdivided for normal/urban density development) and typically located on/or near the urban fringe. In the case of Shepparton-Mooroopna this includes two sub-categories – general housing development and also housing built on broadhectare land that is specifically targeted for aged persons/households. Typically, in Shepparton-Mooroopna these are detached dwellings within lifestyle villages.
2. **Dispersed Infill** is from a lot/dwelling construction perspective, residential development occurring within the established urban area (not on broadhectare sites) that yield less than 10 dwellings per individual construction project. Typically, it entails 'backyard' style subdivision projects.
(It is worth noting that to date/over the last ten years in Shepparton-Mooroopna there have not been any major redevelopment projects i.e. projects yielding 10 or more dwellings)
3. **Aged Care** covers specialist aged care developments. In the case of Shepparton-Mooroopna, aged care development that has been located within the established urban area of Shepparton.
4. **Rural Residential** is from a dwelling construction perspective, all activity on land zoned Rural Residential and Low Density Residential.



The images below illustrate the supply types.

Image 1: Residential Land Supply Types



Residential Lot Construction

Residential lot construction has been determined via assessment of changes to the residential cadastre and the application of this cadastre to the land supply types identified above.

A constructed lot is defined by the year of construction and the finalisation of certificate of title.

Lot construction is only captured if it is for residential purposes.

It is noted, where new lot construction occurs (typically within mixed use type zones) and one lot results in multiple dwellings, the dwelling count is collected.

Construction activity has been assessed on an annual financial year basis from 2008 to March 2019.



Lot and dwelling construction have been undertaken for the following supply types:

- Rural Residential;
- Dispersed Infill;
- Aged Care; and
- Broadhectare (including a sub-category of 'lifestyle' developments targeted at older households).

Lot Yields

Lot yields on a site basis has been undertaken for broadhectare (zoned and unzoned) and rural residential supply types.

In establishing the lot yield for each individual land parcel, the following information was used:

- zoning,
- existing structure or development plans where these have been completed.
- the extent and location of native vegetation,
- other natural features such as creeks, floodways, escarpments, etc
- localised current/recent market yields
- ability to be sewerred (especially in relation to land zoned rural living)

In addition to taking account of such site specific issues, Spatial Economics has made allowance for 'standard' land development take-outs (local and regional) such as local roads and open space requirements. The amount/proportion of such take-outs are dependent on the size of the land parcel (i.e. a 1ha site will have less take-outs than say a 50ha site). Further intelligence and verification are sourced from the local land development industry (as part of Spatial Economics 2019 residential land supply update) and Council officers.

Rural Residential

Rural Residential allotments have been established via the assessment of the cadastre and zoning information. All allotments zoned either Rural Living (RLZ) and Low Density Residential (LDRZ) is included. This information has primarily been assessed via aerial imagery interpretation.

Years of Supply

With the amount of supply and demand estimated, adequacy is described in years of supply. For example, it can be stated that there are X years of supply based on projected demand within a given geographic area.

In assessing the number of years of broadhectare residential land supply, only a component of the total projected demand is apportioned to estimate future demand. The remainder is apportioned for future demand of other forms of residential supply such as dispersed infill and rural residential.

Spatial Economics in undertaking the review of residential land stocks for the Shepparton - Mooroopna 2050: Regional City Growth Plan, has been particularly conservative in assessing broadhectare land stocks i.e. not risking underestimating the share of demand going to broadhectare development.

Specifically, Spatial Economics have assumed a constant 87% broadhectare share of total residential development. Given the relatively small historical share of both infill and rural residential development, there is a strong possibility this form of development in Shepparton-Mooroopna over-time may increase, therefore increasing the 'years of supply' of broadhectare stocks.



Attachment 3 Method for Estimating Industrial Land Supply

The following provides a brief outline of the major methodologies and approach in the assessment of recent industrial lot construction, industrial land supply areas, industrial land consumption and associated demand projections and determination of assessing adequacy of industrial land stocks.

Industrial Land Supply

Industrial land is used for a defined set of industrial uses although there are often a significant proportion of non-industrial uses that occupy industrial land. In line with the definition used by the State Government in the Metropolitan and Regional Urban Development Program, the zones that are considered primarily for industrial use across Shepparton-Mooroopna include: Industrial 1 Zone (IN1Z), Industrial 3 Zone (IN3Z), Commercial 2 Zone (C2 Zone) and select Special Use Zones.

Future (unzoned) industrial land is identified through various strategic planning policy documents and consultation with municipal officers. Future industrial land is currently unzoned to support industrial development; however the land is designated for future industrial purpose.

In this project every parcel of land is deemed to be unavailable or available as supply.

- *Supply* – zoned industrial land classified as available for industrial development. This includes land that is vacant, disused or assigned to marginal non-industrial uses with little capital value, such as farm sheds.
- *Unavailable* – zoned industrial land classified as unavailable for industrial development. This includes land already occupied by industrial uses, construction sites, major infrastructure, capital intensive farming operations, established residential premises or where it is known that the owner has strong intentions not to develop the land in the medium to long term or when there is a known development commitment.

For all industrial land, each individual parcel is recorded with its size and the applicable zone. This enables an assessment of the overall or gross stock of land either as unavailable or available as supply.

In instances where industrial land was in the process of being approved for rezoning to another use (for example a Commercial, Residential or Mixed Use Zone) and, based on Council feedback, the land is identified as unavailable.

In several instances, discrete parcels of land (within one title) have been created to demonstrate a high degree of availability for development on a particular site. For example, where there is a significant area of land with a specific use operating from a small portion of the land and it is understood the balance of the land is regarded as a potential development site, the title area has been split to show the occupied and vacant components of the land.

The supply of industrial land must take into account the likelihood of a reasonable level of infrastructure servicing. However, the level of servicing required for industrial land in small towns is not necessarily high and industrial land may be considered as supply with only limited services available.

All industrial land that is identified as available as supply, is assessed to determine the “net developable land” which is the land available to develop for industrial uses. This is after allowing for local roads and open space as well as allowing for any constraints that are on the land. These constraints including native vegetation, flooding, or terrain can be very significant and have large effects on the availability of land. The determination of net developable land is done on a site by site basis with reference to any constraints.



Industrial Lot Construction

Analysis of the cadastral database on land zoned for industrial purposes from July 2008 to March 2019 was undertaken to determine the location, volume and resultant lot size of industrial lot subdivisions.

Industrial Land Consumption

To determine industrial land consumption, examination of aerial imagery between specific periods was undertaken and updated to March 2019 via a land use survey of each previously identified vacant industrial allotment.

In comparing the extent to which consumption has occurred, land has been 'back cast' against previous periods to ensure like for like areas have been compared. This has been done to ensure that the effect of the rezoning of new industrial land or the rezoning of industrial land to non-industrial uses does not distort the actual consumption that has occurred between periods.

Future Demand

Projected industrial land demand has been based on the recent industrial land consumption method that calculates the use of industrial land by location, by zone and importantly area. This method is utilised by State Governments' Metropolitan and Regional Urban Development Program.

This method is particularly appropriate for large metropolises, regional centres and townships where there is sufficient demand for industrial land as well as unconstrained supply.

Historical industrial land consumption under the above conditions is a sound base to assess future consumption of industrial land consumption. However, economic/employment activity can and will invariably change. Specifically, as local resident population increases so will the requirement for additional employment land to 'service' the resident population needs. In addition, there is always the likelihood of 'export' related industry development that would require additional industrial land.

Due to this uncertainty relating to forecasting industrial land requirements, three demand scenarios are presented, namely:

Scenario One: Long Term Trend – is assumed at an average annual rate of industrial land consumption of 4.8 hectares. This represents actual industrial land consumption from 2009 to 2019.

Scenario Two: Recent Trend - is assumed at an average annual rate of industrial land consumption of 6.9 hectares. This represents actual industrial land consumption from 2015 to 2019.

Scenario Three: Sustained Accelerated Growth – is assumed at an average annual rate of industrial land consumption of 7.5 hectares. This represents actual industrial land consumption from 2017 to 2019.

Due to the demand for industrial land being relatively 'lumpy' (compared to residential land) the above approach provides sensitivity testing to allow for plausible significant increases in demand for industrial land.

Adequacy of Industrial Land Stocks

Industrial land 'adequacy' is illustrated by using the number of years of supply through the interaction of both demand and supply. The number of 'years of supply' is measured by dividing estimates of both zoned and unzoned areas (net developable) by the average annual rate of industrial land consumption.



Demand scenarios have been developed for potential higher levels of future demand, to take into account either higher population growth or specific changes to the employment/industrial land market i.e. increased economic development activity.

Industrial land is usually clustered together in definitive nodes or clusters due to the negative external effects of industrial uses on other land uses. Hence, industrial land is analysed through identified industrial precincts.

For Shepparton-Mooroopna, the following industrial precincts have been identified, and subsequently land supply information reported and assessed at an industrial precinct and total study area (Shepparton-Mooroopna):

- East Shepparton
- Kialla
- Lemnos
- Mooroopna
- North Shepparton
- North West Shepparton

The adequacy of industrial land stocks is reported at a total study area level.



Shepparton & Mooroopna 2050: Regional City Growth Plan

Background Report



July 2020

CONTENTS

1	Introduction	1
2	Outcome 1 – A City for the Goulburn Region	2
2.1	Freight.....	2
2.2	GV Freight & logistics Centre (GV Link site)	3
2.3	Industry	3
2.4	Goulburn Murray Irrigation District (GMID)	4
2.5	Irrigated land and agriculture	6
2.6	Health and Tertiary Education	9
2.7	Reconciliation Action Plan	10
2.8	Multicultural Strategy	11
3	Outcome 2 – A City of Liveable Neighbourhoods.....	12
3.1	Liveability	12
3.2	Community Planning Program	14
3.3	Greater Shepparton Townships Framework Plan	15
3.4	Electronic Gaming Machines (EGMs).....	15
4	Outcome 3 – A City of Growth and Renewal.....	17
4.1	Housing Strategies	17
4.2	Existing Growth Areas	18
4.3	Future Growth Areas.....	21
4.4	Investigation Areas 4/10 – East of Doyles Road.....	22
4.5	Infill Development	24
5	Outcome 4 – A City with Infrastructure and Transport	25
5.1	Road Projects	25
5.2	Greater Shepparton Movement and Place Strategy	26
5.3	Public Transport.....	27
6	Outcome 5 – A City that is Greener and Embraces Water	29
6.1	Flood Studies.....	29
6.2	Urban Forest Strategy.....	30

6.3	Integrated Water Management (IWM).....	30
7	Outcome 6 – A city of Innovation and Resilience	32
7.1	Environmentally Sustainable Design (ESD).....	32
7.2	Environmental Upgrade Finance (EUF).....	32
7.3	Renewable energy	32
7.4	Transport Energy	35
7.5	Sustainable Waste Management	36

TABLES

Table 1	Residential Investigation Areas	17
---------	---------------------------------	----

FIGURES

Figure 1	GMID irrigation areas and G-MW region map	4
Figure 2	Goulburn Broken Catchment Authority catchment area	6
Figure 3	Shepparton Irrigation Area and land uses.	7
Figure 4	Value of agricultural production Shepparton region, 2016 – 17	8
Figure 5	health and tertiary education facilities	10
Figure 6	Walkable catchment to schools, train stations and local activity centres	13
Figure 7	Key pedestrian links to destinations	14
Figure 8	Mooroopna West Growth Corridor Development Plan	19
Figure 9	Shepparton North Future Urban Structure	20
Figure 10	Master Plan for Kialla Raceway development	21
Figure 11	Master Plan for Kialla North Growth Corridor	22
Figure 12	Location of Investigation Areas 4/10	24
Figure 13	Opportunities that can be leveraged by IWM	31

1 INTRODUCTION

The Victorian Planning Authority (VPA) and Greater Shepparton City Council (Council) has prepared the *Shepparton & Mooroopna 2050: Regional City Growth Plan* (Growth Plan) to guide the sustainable development of the Shepparton-Mooroopna urban area to the year 2050.

The Growth Plan is a high-level and broad strategy that:

- Sets out the future vision for Shepparton and Mooroopna.
- Guides sustainable future growth and development over the next 30 years.
- Identifies the steps needed to manage growth.
- Defines key projects and infrastructure required to support growth.
- Provides certainty for public and private investment decision making.

The *Shepparton & Mooroopna 2050: Regional City Growth Plan Background Report* (Background Report) should be read in conjunction with the Growth Plan. The Background Report contains complementary information that provides an evidence base for the Growth Plan.

2 OUTCOME 1 – A CITY FOR THE GOULBURN REGION

Relevant documents:

Hume Region Planning for Freight Pilot (2013)

City of Greater Shepparton, Industrial Land Review (2011)

Shepparton Residential and Industrial Land Supply Assessment (2019)

Shepparton Health and Tertiary Education Precincts Action Plan (2020)

Shepparton Irrigation Region Groundwater Management Area Local Management Plan (2015)

Regional Irrigated Land and Water Use Mapping in the GMID – Dairy Evaluation (2017)

Goulburn Broken Regional Catchment Strategy 2013 – 2019 (2013)

Regional Irrigated Land and Water Use Mapping in the GMID – Summary (2017)

Cultural Diversity and Inclusion Strategy and Action Plan 2015 – 2018 (2015)

Greater Shepparton Multicultural Strategy 2019 – 2022 (2019)

Greater Shepparton City Council Reconciliation Action Plan (Reflect) (2019)

Shepparton East Agricultural Land Use Options Report (2020)

2.1 Freight

Greater Shepparton has a key role within the Victorian and national freight network.

The major road routes that service Shepparton and Mooroopna are:

- Midland Highway – The Midland Highway links all major regional cities in Victoria. It extends in an arc shape from Geelong to Mansfield connecting Ballarat, Bendigo and Shepparton. It provides the only east-west connection within the immediate vicinity of Shepparton and is heavily used by trucks including B-Double and Higher Mass Limit Trucks.
- Goulburn Valley Highway – Goulburn Valley Highway is a north-south route providing connections between Central New South Wales (NSW) and Melbourne, via Seymour. It travels directly through the major retail precinct of central Shepparton.
- Shepparton Alternative Route (SAR) – The SAR is located on the eastern side of Shepparton and incorporates River Road, Doyles Road and Grahamvale Road. The SAR forms part of the inland freight route to rural NSW and Brisbane.

The road network underscores the role that Shepparton plays in performing a (predominantly eastern seaboard) national freight task. The radial nature of the road network has historically focussed all cross-town freight movements through the central commercial areas of Shepparton and Mooroopna.

Freight is an important sector as Shepparton and Mooroopna accommodate through movements for trucks travelling north as far as Brisbane and east to Bendigo and beyond. There are also a number of freight movements that start their journey in Shepparton to transport food products, both fresh and processed, within Victoria, nationally and internationally. Major industry around Shepparton has focussed its activities to the east of the town which is served by the SAR.

The economy of Greater Shepparton continues to thrive on the back of a number of service, health, food, manufacturing and tourism sectors. Activity in these sectors is placing increased pressure on existing road networks which are trying to accommodate population growth and additional demand for freight movement.

In relation to freight rail, Shepparton is serviced by a rail line linking to Melbourne and Tocumwal to the north. In addition, there are branch lines that link Toolamba to Echuca and Shepparton to Dookie.

2.2 GV Freight & logistics Centre (GV Link site)

Council purchased the land for the GV Link site in 2011. GV Link is a modern transport and logistics centre which is being built on a 331 hectare green field site on Toolamba Road, two kilometres south of the Midland Highway at Mooroopna, 4.7 kilometres south west of Shepparton. Current and proposed road and rail infrastructure will enable easy site access now and into the future.

As a modern transport and logistics centre, GV Link has the potential to provide significant benefits for Victoria and the Goulburn Valley including a more efficient supply chain for regional products to market, reduced congestion on roads into and around Melbourne, direct rail access to the Port of Melbourne and easier access to global markets for local businesses. There are three stages identified for GV Link:

- Stage 1 – a general freight and logistics area comprising four allotments.
- Stage 2 – an additional freight and logistics area comprising five allotments.
- Stage 3 – a true intermodal terminal connecting GV Link businesses to streamlined road transport and a high capacity modern rail terminal.

2.3 Industry

The current supply of industrial land that services Shepparton and Mooroopna is mainly located in the east of Shepparton and at Lemnos.

The *Industrial Land Review, City of Greater Shepparton* (2011) was an assessment of industrial land use and development in the City of Greater Shepparton, which looked at land supply, transport and other associated issues, options and future requirements.

The Review provided a framework for future site assessment and selection, and makes recommendations on actions to be taken to plan strategically for the best outcomes for industrial development in the municipality. The *Industrial Land Review, City of Greater Shepparton* (2011) was adopted by Council in July 2011 and was implemented through Amendment C162 to the Greater Shepparton Planning Scheme (Planning Scheme). This amendment introduced a number of industrial investigation areas, the areas within the scope of the Growth Plan are identified below:

- Investigation area 7 – Wanganui Road, Shepparton North. This area includes lands on the northern side of Wanganui Road and land owned by Council to the south of Wanganui Road. The land is constrained by flooding and further investigation is required to explore mitigation options to guide any future rezoning of this land. This area could be utilised for industrial uses should an increase in demand occur in the future as the land will be bounded by major transport routes.
- Investigation area 8 – Mooroopna south. All land to the south of Mooroopna in proximity to the GV Link site should be considered for inclusion in the Industrial 1 Zone. This is being held by Council as a long term industrial development option and could be a suitable site for a resource recovery precinct. The impact that the construction of the Goulburn Valley Highway Shepparton Bypass will have on traffic movement and development within the surrounding area will need to be understood.
- Investigation Area 10 – East of Doyles Road, Grahamvale. There are a number of land use interface issues to be addressed in the area. There is a mix of agriculture, residential estates such as Dobson's Estate, and the Shepparton East and Lemnos industrial areas. Further investigation is required in this area following the implementation of the Goulburn Broken Catchment Management Authority's (GBCMA) *Shepparton East Overland Flow Urban Flood Study* (2017). In addition to this, the future role and function of the SAR will need to be known and development to the east is considered inappropriate at this time. Investigations will include issues associated with present industry, potential for expansion of industrial and / or residential uses and developments, future servicing requirements and agricultural impacts.
- Investigation Area 11 – Lemnos contains a strong cluster of transport and warehousing businesses. This investigation area is intended to complement and provide for the expansion of industry in this area. It is important to note that only the site owned by Campbells Soups Australia Pty Ltd is connected to reticulated sewerage. Future industrial development in this area should be provided with reticulated services.

The *Urban Development Program 2011: Regional Residential Report City of Greater Shepparton* (UDP) (2011) was undertaken by Spatial Economics Pty Ltd to provide an analysis of the supply and demand for residential and industrial land across the municipality.

It was commissioned as part of a state-wide program by the Department of Planning and Community Development in conjunction with Council. Spatial Economics Pty Ltd also updated the UDP with new data in 2015, resulting in the report known as the *Shepparton Residential and Industrial Land Supply Assessment* (2016).

Since the 2016 update, the consumption of industrial land in Greater Shepparton has exceeded expectations, due to uptake by large scale users. In addition, key residential growth areas in Shepparton and Kialla are now approaching their full capacity. A further update to the UDP is necessary to ensure that an adequate supply of residential and industrial land for the next 15 years is maintained.

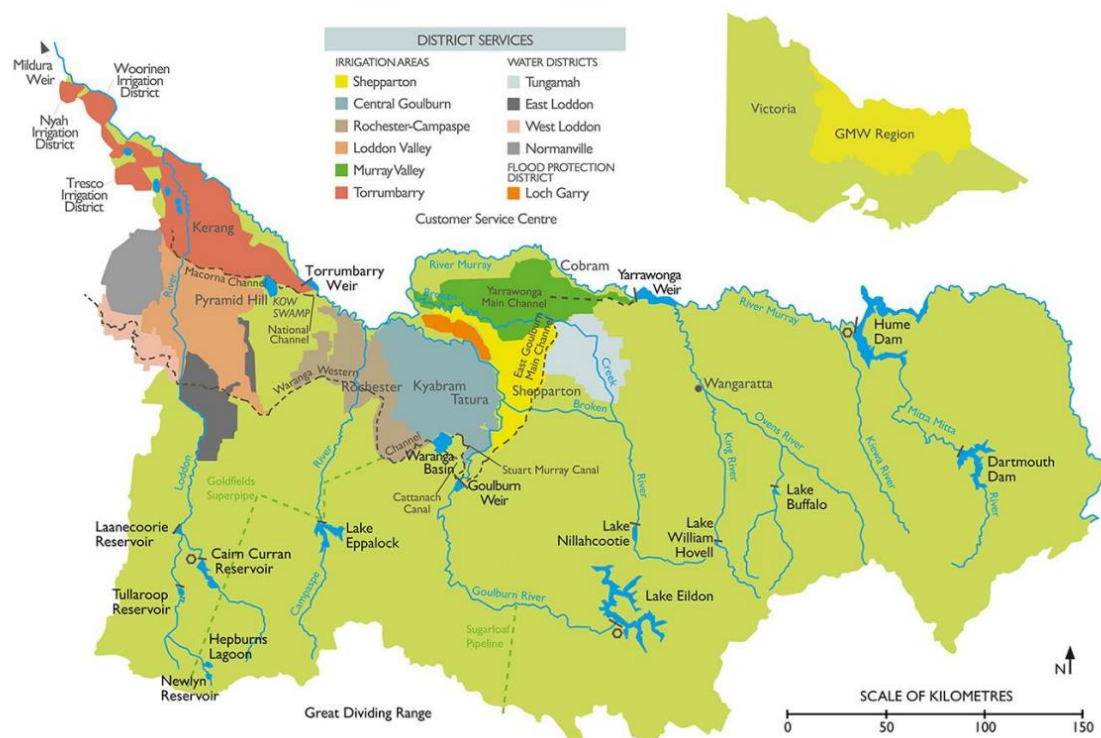
The *Industrial Land Supply & Demand Assessment* (July 2019) provided an update on industrial land supply and consumption and identifies the need for additional industrial land.

2.4 Goulburn Murray Irrigation District (GMID)

The Goulburn-Murray Irrigation District (GMID) system is the largest irrigation system in Victoria. It covers 9,950 square kilometres and accounts for more than 70% of water stored in Victoria and almost 90% of water used in irrigation across the State.

The GMID is made up of the Shepparton, Central Goulburn, Rochester-Campaspe, Loddon Valley, Murray Valley and Torrumbarry Irrigation Areas as identified in **Figure 1**.

Figure 1 GMID irrigation areas and G-MW region map



2.4.1 Goulburn Murray Irrigation District Master Plan

Initiated by the Goulburn Regional Partnership, the master plan is designed to explore the opportunities for long-term growth and prosperity across the GMID, and how this might be achieved. The Master Plan seek to develop a strategy that builds upon the resilience of the GMID through guiding the growth and development of the social, economic and environmental sustainability of the GMID into the future and delivers clear actions for implementation to ensure that the Master Plan will benefit the GMID communities going forward.

It particularly aims to address the challenges facing the GMID over the coming decades such as reduced water availability for agricultural production, high infrastructure renewal and maintenance costs, ongoing structural

adjustment, pressures on natural resources, and demographic shifts. There will also be a strong focus on mitigating the impacts of climate change and globalisation.

Once completed, the Master Plan will provide GMID decision-makers and surrounding communities with a planned approach to the future, in addressing the challenges and taking advantage of the opportunities, leading to better outcomes and stronger, more resilient communities.

This project will be led by the Goulburn Regional Partnership, with assistance and input from Regional Development Victoria (RDV) and other key government agency stakeholders as required. The Goulburn Regional Partnership was established in 2016 by the State government to provide a regional voice directly to government. RDV is a statutory agency of the Department of Jobs, Precincts and Regions.

2.4.2 Goulburn-Murray Water (G-MW)

G-MW is a statutory Corporation constituted by Ministerial Order under the provision of the *Water Act 1989*. Under this Act G-MW provides, manage and operate irrigation districts, water districts and water management districts.

G-MW manages both regulated and unregulated river systems that flow into the Murray and administers groundwater within this area. G-MW has over 25,000 customers and provides over 39,000 connections in a region of 68,000km. The region G-MW is responsible includes the GMID in addition to a broader area (see **Figure 1**).

In relation to development, G-MW is interested in the impact of development on:

- Surface water and groundwater:
 - quality
 - use
 - disposal
 - G-MW infrastructure
 - G-MW services.

As identified in **Figure 1**, to the east of Shepparton is the Shepparton Irrigation District and to the west is the Central Goulburn Irrigation District, there are separate water service committees that operate in these areas as identified in **Figure 2**. The water service committees are made up of customers from the region and help G-MW better understand issues facing customers.

G-MW is delivering the \$2 billion Connections Project, funded by the Victorian and Commonwealth governments. This is the most significant upgrade to the region's irrigation infrastructure in its 100-year history and is the largest irrigation modernisation project in Australia. This project will automate much of the water delivery network, replace ageing irrigation infrastructure, meet measurement compliance requirements and ensure equitable access to maintain the true value of water while also reducing the GMID footprint, making water use sustainable and preparing for future challenges and opportunities.

2.4.3 Goulburn Broken Catchment Management Authority (GBCMA)

The GBCMA works with communities and government agencies to manage activities to protect and improve the catchment's land, water and biodiversity. This work is guided by a Regional Catchment Strategy (RCS) which is the *Goulburn Broken Regional Catchment Strategy*. This Strategy guides efforts to sustain and restore the region's natural environment and the communities that rely on healthy waterways, landscapes and biodiversity to remain prosperous and vibrant.

The catchment area for the GBCMA is identified in **Figure 2**, which identifies Shepparton as being within the "Agricultural Floodplain" district. There is some overlap with the catchment area of the GBCMA and the GMID boundary.

The *Goulburn Broken Regional Catchment Strategy* details strategic priorities along with management measures and possible actions, some notable priorities include:

- Creating opportunities for community leaders to contribute to water policy.
- Prioritising the protection of waterway and wetlands within the modernised irrigation deliver system.
- Modernising water delivery on irrigated land to provide ecological and productivity benefits.
- Delivering farm planning to integrate ecological and agricultural productivity benefits.
- Researching costs and benefits of new options for farm production, such as energy.
- Working with landholders to protect and improved biodiversity on farms and build understanding of its contribution to sustainable and profitable farming.
- Planning and implement flood, fire and drought response and recovery.

Figure 2 Goulburn Broken Catchment Authority catchment area



2.5 Irrigated land and agriculture

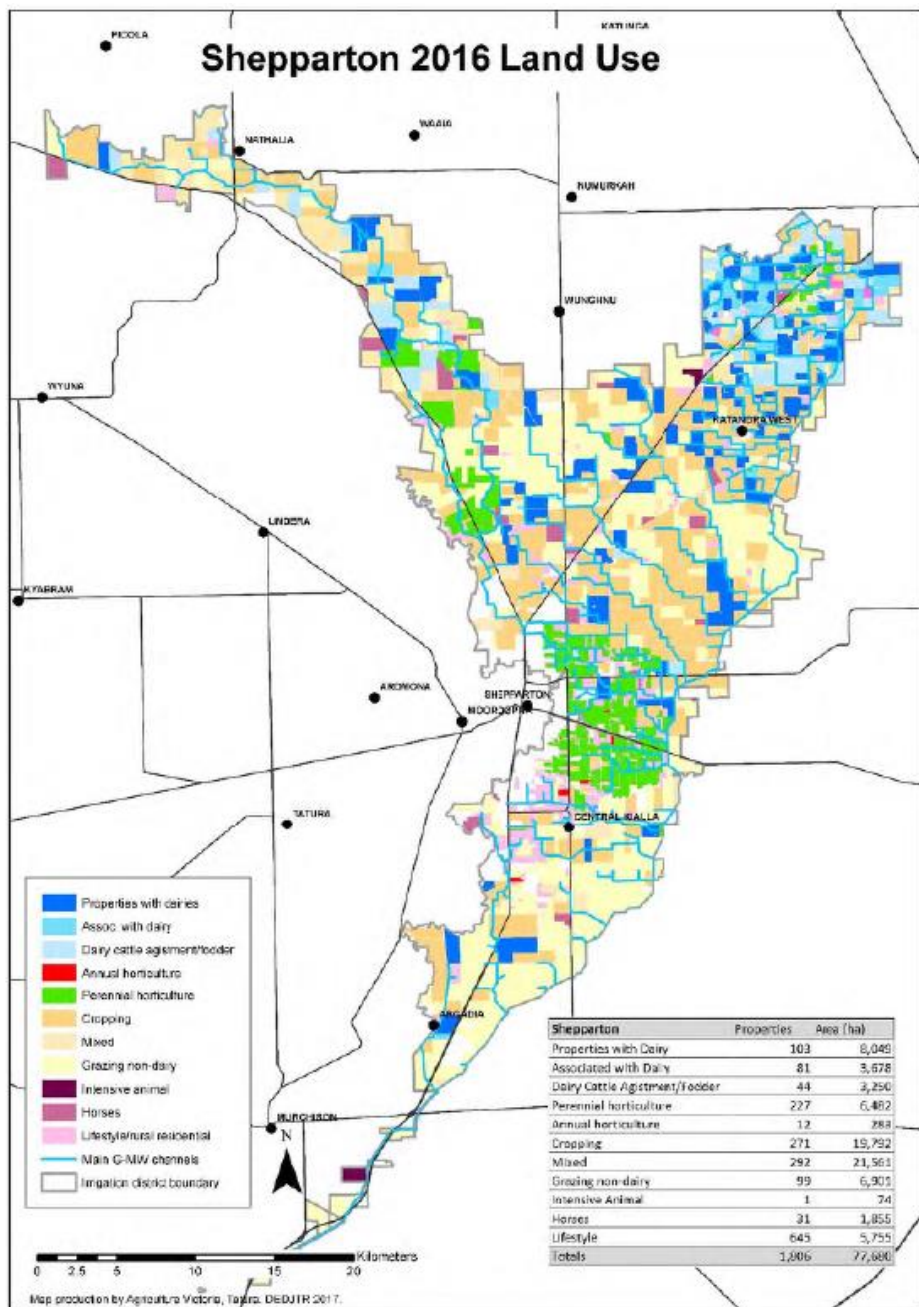
Shepparton and Mooroopna are located on the lower floodplain of the Goulburn Broken Catchment which means the soil is rich making the Goulburn Valley region one of the most productive agricultural regions and food bowls in Victoria. Approximately 25% of the total value of Victoria's agricultural production is generated in the Goulburn Valley region.

Agriculture is central to the economy of Greater Shepparton and Victoria as a whole. Primary agricultural industries in this region include dairy, horticulture, viticulture, livestock production (beef, sheep, goats, pigs and poultry), cropping, timber production and aquaculture.

Greater Shepparton’s farm gate gross value for agricultural production in 2001 was over \$400 million and one of the highest in the Goulburn Broken Catchment. This reflects the intensity and diversity of agricultural production that irrigation permits in a relatively low rainfall area. It also explains why 20 or more major food processing companies are located in and around Shepparton.

Shepparton and Mooroopna are located on the agricultural floodplains within the Goulburn Broken Catchment, so it is essential to preserve and support the industries that rely on these floodplains to secure the economic prosperity and stability of the Greater Shepparton region. **Figure 3** shows the Shepparton Irrigation Area boundary and land use extent.

Figure 3 Shepparton Irrigation Area and land uses.



2.5.1 Dairy

Dairy is the second most extensive land use in the GMID and accounts for around half of the irrigation water used, with the remaining used by perennial and annual horticulture, cropping and mixed farming. In summary:

- The GMID dairy industry remains an extensive land use in the GMID, as such it is a critically important component of the regional economy.
- Dairy supports more than 4,000 people working on farms supplying 16 regional processing facilities which in turn provides more than 3,000 jobs across several towns. In addition GMID dairy supports other services such as vets, dairy machinery and irrigation equipment specialists, agricultural stores, financial services and agronomists.
- In 2015 –16, the GMID produced more than 1,700 million litres of milk with a farm-gate value of more than \$740 million, an estimated \$595 million of the farm-gate value was reinvested back into the local economy.
- Dairy farms have embraced the opportunity to upgrade their irrigation infrastructure over the last five years, with 65.3% undertaking works.
- Of the dairy farmers surveyed. 46.3% had received funding from Commonwealth Government programs such as the On-Farm Irrigation Efficiency Program or State programs.
- Approximately 75% of GMID dairy farmers agreed their property would still be irrigated in the next five years.

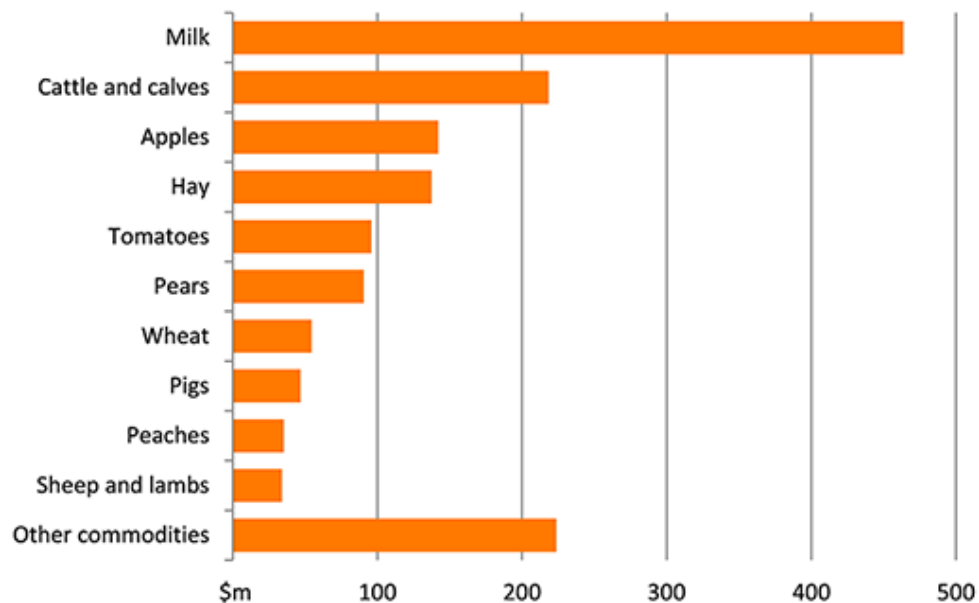
2.5.2 Orchards and fruit growing

Orchards and fruit growing play a key role in Shepparton and Mooroopna. They not only significantly contribute to the economy, but also have an important impact on character of the area. Mooroopna is known as the 'Fruit Salad City' and Shepparton is famous for being the home of SPC, the global canned fruit brand.

The most important commodities in the Shepparton region based on the gross value of agricultural production were milk (\$464 million), followed by cattle and calves (\$218 million) and apples (\$142 million). These commodities together contributed 53 per cent of the total value of agricultural production in the region. In 2016 –17 the Shepparton region accounted for 95 per cent (\$91 million) of the total value of Victoria's pear production. This means that along with dairy, fruit-growing is amongst the most important contributors to Victoria's economy.

Apples, tomatoes, pears and peaches had the highest value for agricultural production in 2016 – 17 as shows in **Figure 4**.

Figure 4 Value of agricultural production Shepparton region, 2016 – 17



2.6 Health and Tertiary Education

The health and tertiary education sectors are key components of the local economy, attracting visitors and providing opportunities for local residents. The *Shepparton Health and Tertiary Education Precincts Action Plan* (February 2020) (Action Plan) provides a framework to attract and align investment to grow Shepparton as a health and tertiary education destination. It aims to support the expansion of important health and tertiary education facilities, leading to increased employment opportunities and improved service provision for the benefit of the wider community.

There are two clusters of health and tertiary education facilities in Shepparton (See **Figure 5**). The first cluster is referred to as the Shepparton CBD Health and Tertiary Education Hub (CBD Hub).

The CBD Hub comprises La Trobe University, the Goulburn Ovens Institute of TAFE (GoTAFE) and Goulburn Valley Health (GV Health) Community Health Services infrastructure. There are also emerging health facilities including Genesis Care Radiation Therapy Centre at the corner of Edward Street and Corio Street.

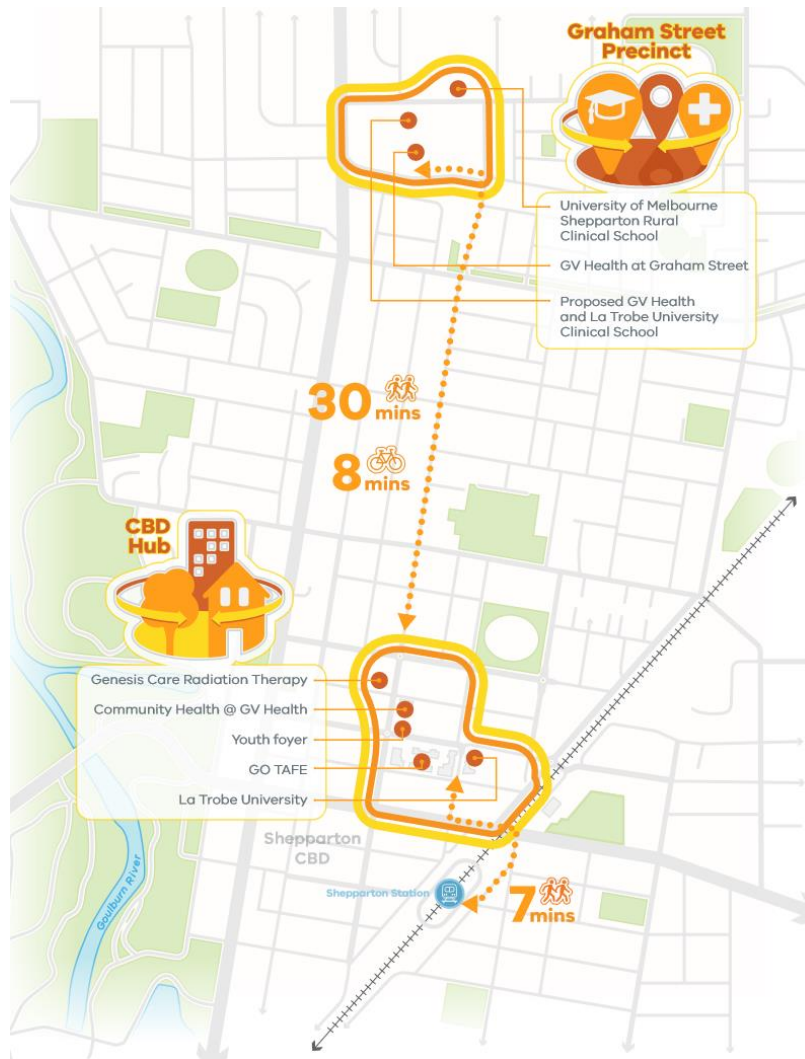
The second cluster is referred to as the Graham Street Health and Tertiary Education Precinct (Graham Street Precinct). GV Health's Graham Street Campus is the major acute referral hospital for the sub region and provides a range of acute, subacute, mental health, aged, primary health and community services across the Goulburn Sub-Region within the Hume Region and southern NSW Riverina. The University of Melbourne Shepparton Rural Clinical School is also located at Graham Street providing facilities and accommodation to support medical students in a rural placement.

There is potential for a second clinical school to be located at Graham Street. The proposed GV Health and La Trobe University Clinical Health School will support the expansion of local clinical training to create career opportunities and pathways for graduates and existing staff within GV Health. There is a willingness from GoTAFE to partner in this.

The CBD Hub and the Graham Street Precinct offer different health and education services and complement each other.

The need for a co-ordinated and collaborative approach to Health and Tertiary Education, as set out in the Action Plan, has become increasingly important due to investment in the CBD Hub with the planned extension of the facilities at GoTAFE, La Trobe University and the expansion of GV Health services at Corio Street. In addition, there has been significant investment in health and the potential for the expansion of health-related tertiary opportunities at the Graham Street Precinct.

Figure 5 health and tertiary education facilities



2.7 Reconciliation Action Plan

The *Greater Shepparton City Council Reconciliation Action Plan (Reflect)* (July, 2019) is an internal organisational plan that outlines Council's commitment to reconciliation and to ensuring Aboriginal and Torres Strait Islander Peoples and cultures are respected, acknowledged and celebrated.

Council worked with Reconciliation Australia over a lengthy period to draft the Plan, which now has Reconciliation Australia endorsement. The Plan was endorsed at the Ordinary Council Meeting held on 18 June 2019. The Plan is a 'Reflect' plan that enabled Council to reflect upon the work it has been doing over many years, and to identify opportunities that better benefit Aboriginal and Torres Strait Islander Peoples and the broader community.

The Plan has a strong focus on truth telling. It contains some information about the distressing and uncomfortable events that happened in the local area, as well as throughout Australia. Council feels acknowledgement of the true history of Australia must occur before true reconciliation can be achieved. The Plan contains actions in the areas of Relationships, Respect, Opportunities and Governance and Tracking Progress.

The Reflect Plan is expected to last for one year in duration, and Council are working to progress to the next level, Innovate. It is hoped the Plans convey a strong message to the community and Council staff that Council is serious about reconciliation and will further its positive work in this area.

The Reconciliation Action Plans will help achieve Council's vision for a future where Aboriginal and Torres Strait Islander Peoples have equitable access, inclusion and opportunities, and where Aboriginal and Torres Strait Islander Peoples' cultures are honoured and respected.

2.8 Multicultural Strategy

The *Greater Shepparton Multicultural Strategy 2019 – 2022* (2019) sets a vision to promote and facilitate good multicultural practice and leadership within and across the municipality. The strategy includes an Action Plan that focuses on the delivery of actions in three priority areas:

- valuing cultural diversity
- accessing opportunity
- enabling contribution and participation.

The strategy seeks to improve the wider community's awareness and understanding of the economic, educational, social and cultural benefits of multiculturalism.

Council adopted the Strategy at the March 2019 Council Meeting.

3 OUTCOME 2 – A CITY OF LIVEABLE NEIGHBOURHOODS

Relevant documents:

Neighbourhood Liveability Assessment of Shepparton: The application of indicators as evidence to plan for a healthy and liveable regional city (RMIT, 2018)

Neighbourhood Walkability Checklist. How walkable is your community? (Heart Foundation, 2011)

Greater Shepparton Townships Framework Plan Review (2018)

Greater Shepparton Cycling Strategy 2013 – 2017 (2013)

RiverConnect Paths Master Plan (2015)

Hume Region Significant Tracks and Trails Strategy 2014 – 2023 (2014)

3.1 Liveability

The Healthy Liveable Cities Group at RMIT developed a Neighbourhood Liveability Assessment of Shepparton and concluded Shepparton provides a high level of liveability in many areas, particularly the central area of town, the indicator results support this including:

- Good access to services of daily activity, services for older people, GPs and supermarkets in the centre of town.
- High levels of local employment across the outer areas of town.
- Two train stations with access to capital cities.
- A walkable centre of town.
- Good access to public open space in many neighbourhoods in Shepparton.
- Good school walkability but only for schools located in the northern end of the town.

The liveability index identified issues that require further exploration to improve the liveability of Shepparton, these include:

- A large proportion of lower income households (lowest 40% of household incomes) experiencing housing stress.
- The need for greater housing diversity in the outer areas of town with current housing diversity largely only available in the centre of town.
- Low levels of Year 12 or VCA completion rates in young adults aged between 18 – 24 years with less than 50% of young adults holding this level of education in a number of neighbourhoods.
- Poor access to supermarkets and associated fresh fruit and vegetables in the outer areas of town.
- An annual EGM gambling expenditure of over \$16 million during the 2016 financial year and over 900 recorded incidents in the Shepparton postcode across a 1 year period.
- Reduced access to public transport and services across the outer neighbourhoods of town particularly in Grahamvale, Shepparton East and Orrvale.
- Reduced public transport and services across the outer neighbourhoods or town, particularly in Grahamvale, Shepparton and Orrvale.

3.1.1 Walkability

The Healthy Liveable Cities Group from RMIT suggests that 800 metres is a good distance for supermarket access. A large amount of Shepparton and Mooroopna’s community is within 800 metres of a supermarket; however the residents living on the outer southern, northern and eastern areas of the city have greater distances to travel. Increased walking distances needed to access supermarkets contributes to car dependency and decreased walkability.

Improved streetscape amenity can enhance the walking environment; the following items are some examples from the Heart Foundation’s checklist for a walkable community:

- Are there trees along the route to provide shade and a pleasant environment?
- Are the street frontages interesting and attractive?
- Is the neighbourhood free from litter and broken glass?
- Do the footpaths all link up with no missing segments?
- Are there drinking fountains in parks or open space?
- Are there places to shelter from rain or hot sun?
- Can you see other people around as you walk?
- Is the wait at pedestrian lights reasonably short?
- Do you feel safely separated from road traffic?

Figure 6 and 7 show opportunities to invest in infrastructure as outlined by the Heart Foundation checklist to encourage residents and visitors to walk as a mode of transport.

Figure 6 Walkable catchment to schools, train stations and local activity centres

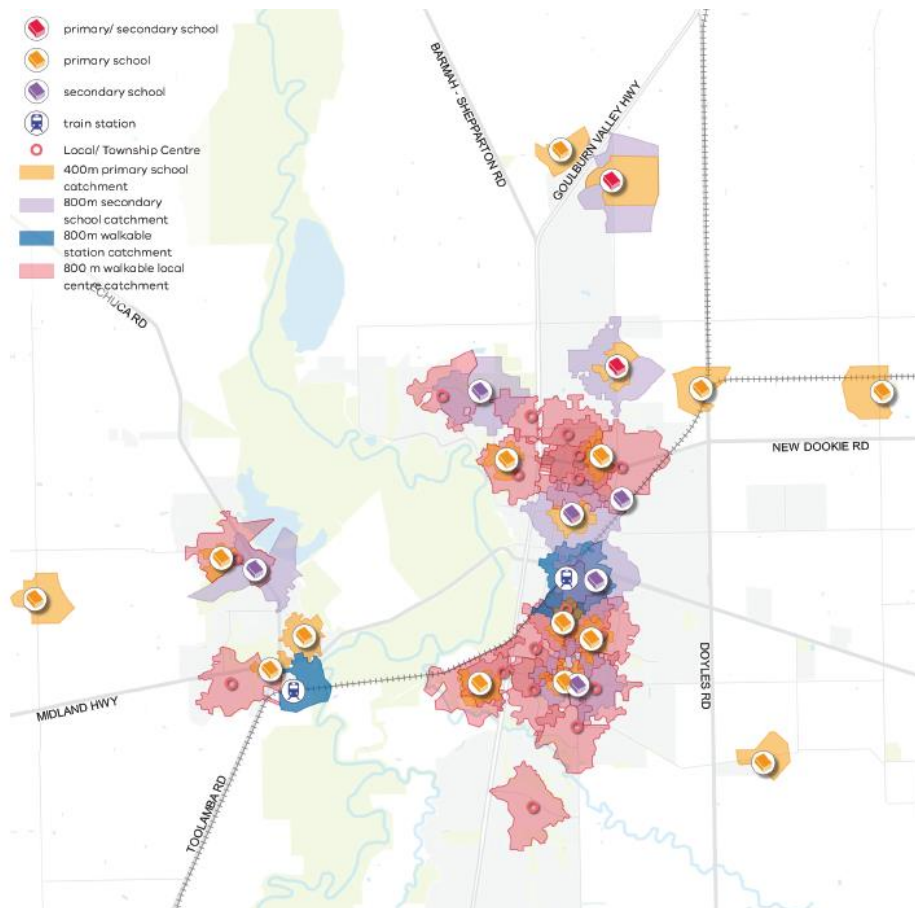
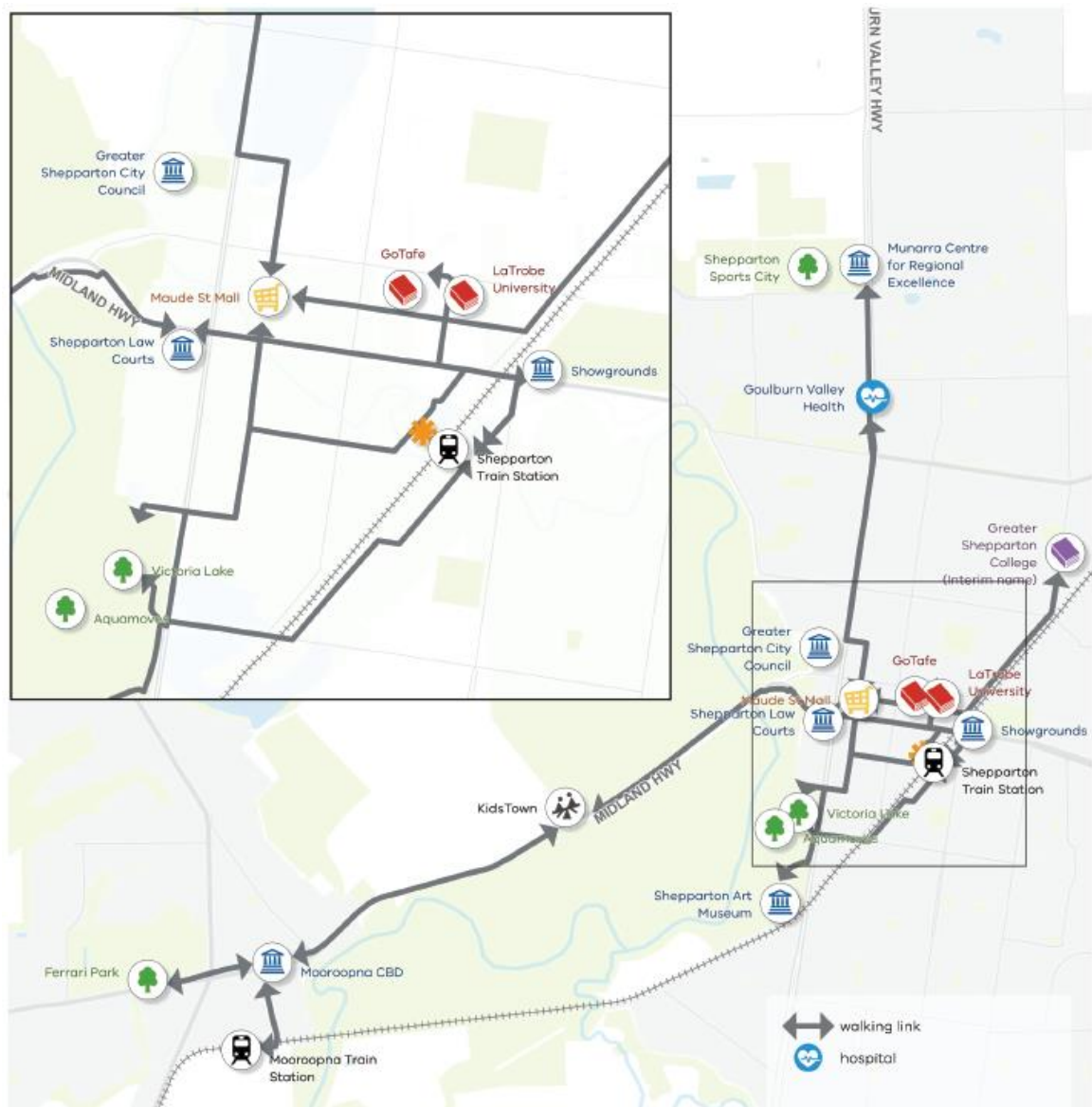


Figure 7 Key pedestrian links to destinations



3.1.2 Cycling

The *Greater Shepparton Cycling Strategy 2013 – 2017* (2013) sets the current vision for cycling infrastructure in Greater Shepparton. This document requires updating to account for infrastructure that has been built and prioritise future investment.

The Growth Plan identifies a number of opportunities to strengthen Shepparton and Mooroopna as a cycling destination. These are discussed in the Growth Plan and include investment in the Shepparton BMX track, the Shepparton Regional Park, Mount Major Mountain Bike Course and the Shepparton to Seymour trail via Nagambie.

3.2 Community Planning Program

Council is committed to developing community plans for small towns, localities and neighbourhoods.

A Community Plan is a written document that identifies a community's strengths and outlines how those strengths can be utilised to build capacity and enable empowerment for the future. A Community Plan captures the priorities a community has identified are important to a strong future.

The Community Plan process involves community representatives engaging their community through consultation, in order to gain their views on future opportunities for their town, locality, or neighbourhood. A Community Plan belongs to the community and Council aims to work to assist the community to implement the relevant areas of the plan by providing advice and information on engaging stakeholders and seeking funding from Council, governments, and other sources.

3.3 Greater Shepparton Townships Framework Plan

The *Greater Shepparton Townships Framework Plan Review* (2019) focuses on the nine townships that the *Greater Shepparton Housing Strategy* (2011) provided framework plans for. The purpose of the review is to complement and build upon the work undertaken through the Housing Strategy in 2011, and to update the framework plans for each of the townships within the municipality.

The outcome of this work will be the revised framework plans for the townships, to be implemented through Amendment C212.

The townships that are included in the Review are:

- Congupna
- Dookie
- Katandra West
- Merrigum
- Murchison
- Tallygaroopna
- Tatura
- Toolamba and Old Toolamba
- Undera.

The Housing Strategy also provided a framework plan for Shepparton East. At the commencement of the Growth Plan project there was a proposal to consider Shepparton East as part of the Growth Plan project boundary. As the project evolved, the focus was directed to the urban areas of Shepparton and Mooroopna and Shepparton East was not included in the Growth Plan project boundary. Shepparton East has not experienced substantial change since the preparation of the Housing Strategy and, as such, its anticipated that no major changes are required to the framework plan in the short term. However, there is a need to confirm this via a review and implement the framework plan into the Planning Scheme.

Any future updates to the Shepparton East framework plan will be picked up by the review of the *Greater Shepparton Townships Framework Plan Review* (2019).

3.4 Electronic Gaming Machines (EGMs)

The prevalence and location of EGMs was identified by the Healthy Liveable Cities Group from RMIT as something to improve on for the liveability of residents. Five major venues with EGMs are located in the centre of Shepparton, one to the south near Kialla, and another venue is located in Mooroopna. All venues are located within, or in very close proximity of a neighbourhood identified as having the highest level of socio-economic disadvantage in Victoria. In total, approximately \$16.4 million was expended on EGMs in Shepparton between July 2016 and June 2017.

A number of councils have prepared gaming policies and implemented these in the local planning section of their respective planning schemes. Generally, the objectives of these policies are similar and include to:

- Minimise the harms that arise from gaming.
- Discourage new gaming machines in vulnerable or disadvantaged area.
- Minimise opportunities for convenience gaming.

- Locate gaming machines where the community has a choice of non-gambling entertainment or recreation activities with the gaming venue and local area.
- Protect the amenity of areas surrounding gaming venues.

Examples of Gaming policies to refer to include City of Ballarat and Cardinia Shire Council.

4 OUTCOME 3 – A CITY OF GROWTH AND RENEWAL

Relevant documents:

Greater Shepparton Housing Strategy (2011)

Greater Shepparton Affordable Housing Strategy 2020 – Houses for People (2020)

Mooroopna West Growth Corridor Structure Plan (2009)

Mooroopna West Growth Corridor Development Contributions Plan (2009)

Shepparton North East Precinct Structure Plan (2019)

Shepparton North East Development Contributions Plan (2019)

Shepparton East Agricultural Land Use Options Report (2020)

4.1 Housing Strategies

The *Greater Shepparton Housing Strategy (2011)* has informed the planning of growth areas in Shepparton and Mooroopna. This includes the Shepparton North and South growth corridors; development of these corridors is nearing completion. The Housing Strategy has also informed the development of additional growth corridors: Mooroopna West, Shepparton North East and Shepparton South East.

The Housing Strategy also identified a number of investigation areas as having potential for residential or industrial development. These areas were included in the Planning Scheme by Amendment C93.

The *Greater Shepparton Affordable Housing Strategy: Houses for People (2020)* has emphasised the need for diversity of housing types and sizes in residential growth corridors, to cater for evolving changes in demographics, household configuration and lifestyle preferences.

4.1.1 Residential investigation areas

The Planning Scheme provides guidance for the development of and reflects the status of investigation areas. The investigation areas that are within the scope of the Growth Plan are identified in **Table 1**.

Table 1 Residential Investigation Areas

Investigation area	Overview from Greater Shepparton Planning Scheme	Status
1 – Kialla Paceway & Shepparton Greyhound racing environs	This area surrounds and includes the greyhound and trotting facilities and is directly adjacent to the Shepparton South Growth corridor. There is potential to extend services to this land. However, future residential development within this area will be dependent on amenity issues such as lighting, noise, odour and dust being addressed to ensure that the long term interests of the racing facilities are protected.	Identified for development as part of Amendment C199, gazetted on 15 March 2019. This Amendment supported a mix of low density residential and equine related activities.
2 – Raftery Road, Kialla	The land is adjacent to the Shepparton South Growth Corridor and is situated between the Seven Creeks and Goulburn River corridors. Development is currently restricted by the 8ha	Identified in the Growth Plan for residential development.

	minimum lot size under the Rural Living Zone. Higher density development is dependent on issues relating to servicing, flooding and the environmental assets of the two river corridors being resolved.	
3 – Adams Road area, Kialla	This area is directly adjacent to the Kialla Lakes Estate though is significantly impacted by flooding. The potential to develop this land to a more intensive residential use is dependent on this issues being resolved.	Identified for development as part of Amendment C195, gazetted on 17 August 2017. This Amendment rezoned the land to the Urban Growth Zone. A PSP and DCP will need to be prepared.
4 (also identified as investigation area 10) – East of Grahamvale Road	There are a number of land use interface issues to be addressed in this area. There is a mix of agriculture, residential estates, such as Dobson's Estate, and the Shepparton East and Lemnos industrial areas. Further investigation is required in this area following finalisation of the Industrial Strategy. Investigations will include issues associated with present industry, potential for expansion of industrial and / or residential uses and developments, future servicing requirements and agricultural impacts.	Identified in the Growth Plan as not being suitable for residential or industrial development and reinforces as forming part of the Goulburn Murray Irrigation District as productive farm land.

4.2 Existing Growth Areas

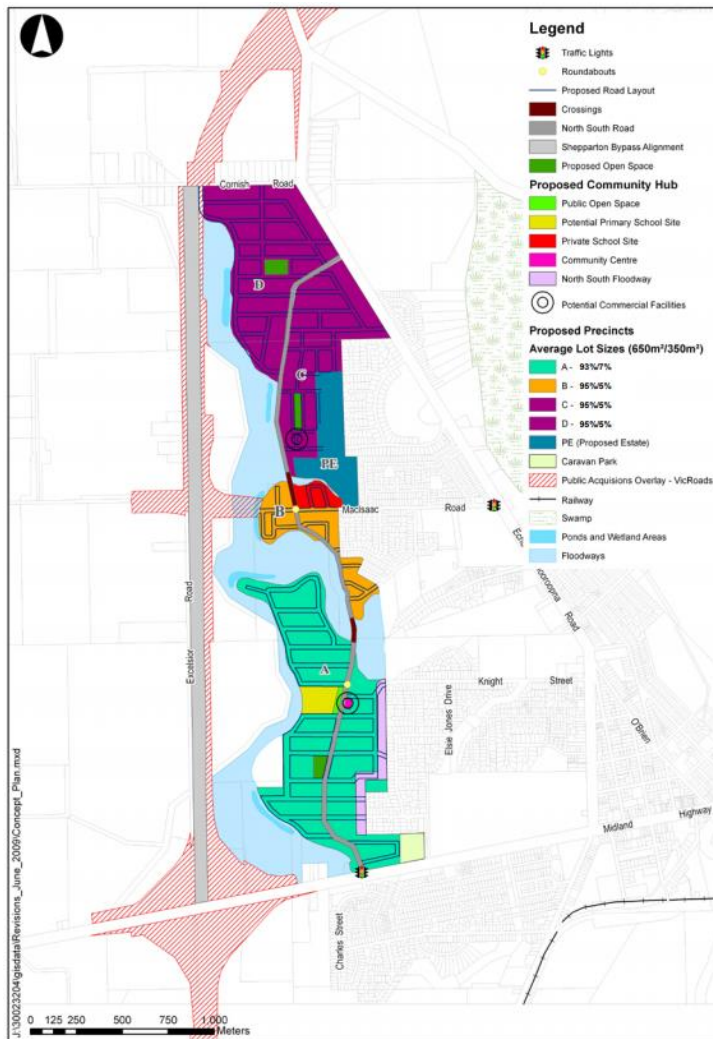
4.2.1 Mooroopna West Growth Corridor

The Mooroopna West Growth Corridor comprises 260 hectares of developable land and is bound by the established urban area of Mooroopna to the east, Cornish Road to the north, the proposed Goulburn Valley Highway Shepparton Bypass reservation along Excelsior Avenue to the west and the Midland Highway to the south. Development of this corridor has commenced and is it predicated to support a residential population of approximately 4,000 based on a total lot yield of 1,600 lots.

Planning for this corridor is guided by the *Mooroopna West Growth Corridor Structure Plan* (2009) and *Mooroopna West Growth Corridor Development Contributions Plan* (2009).

The proposed Structure for Mooroopna West is identified in **Figure 8**.

Figure 8 Mooroopna West Growth Corridor Development Plan



4.2.2 Shepparton North East Growth Corridor

The Victorian Planning Authority (VPA) in partnership with Council has prepared the *Shepparton North East Precinct Structure Plan* (NEPSP) and *Shepparton North East Development Contributions Plan* (NEDCP). The PSP applies to approximately 177 hectares of land to the north east of the Shepparton CBD and is generally bound by Ford Road to the north, Grahamvale Road (SAR) to the east, a G-MW drainage reserve to the south and Verney Road to the west.

The PSP will deliver approximately 1,500 dwelling and cater for a population of 4,000 people.

The Future Urban Structure for the Precinct can be seen in **Figure 9**.

Figure 9 Shepparton North Future Urban Structure



4.2.3 Shepparton South East Precinct Structure Plan

The VPA and Council are preparing the Shepparton South East Precinct Structure Plan (SEPSP) and South East Development Contributions Plan (SEDCP) which applies to approximately 385 hectares of land to the south east of the Shepparton CBD. The Precinct is bound by the Midland Highway (Benalla Road) to the north, Doyles Road (SAR) to the east, Broken River to the south and existing residential development to the west.

Once fully developed, it is anticipated that the SEPSP will accommodate approximately 2,500 lots and cater for a population of 6,000 people. The SEPSP is being finalised and it is anticipated that it will be placed on public exhibition in early 2020.

4.3 Future Growth Areas

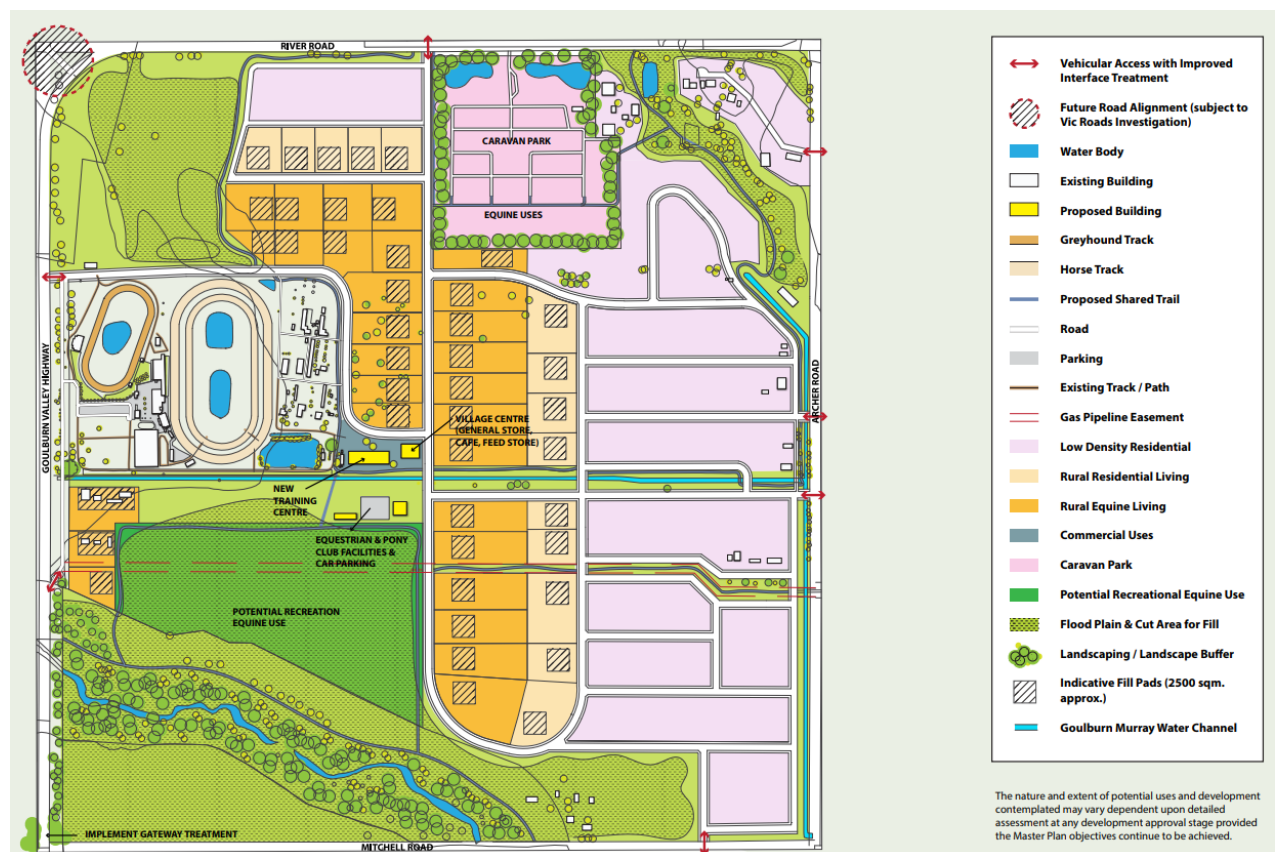
4.3.1 Kialla Raceway Development (previously Investigation Area 1)

A Master Plan was prepared for Investigation Area 1 and adopted by Council on 17 October 2017, Amendment C199 implemented the findings of the Master Plan into the Planning Scheme and was gazetted on 15 March 2018. The Master Plan is the first stage of strategic work which supports a mix of low density residential and equine related activities.

The Master Plan can be seen in **Figure 10**.

This area is now identified as the Kialla Raceway Development for development in the medium term (5 – 10 years). This growth area has the potential to deliver approximately 350 dwellings.

Figure 10 Master Plan for Kialla Raceway development



4.3.2 Kialla West Growth Corridor (previously Investigation Area 2)

Investigation Area 2 applies to an area of land along Raftery Road in Kialla. The land is adjacent to the Shepparton South Growth Corridor and is situated between the Seven Creeks and Goulburn River corridors. This Investigation Area is currently unresolved in the Planning Scheme. The Growth Plan affirms this as an appropriate location for development subject to a more detailed planning process. This Growth Area has the potential to deliver approximately 800 dwellings.

4.3.3 Kialla North Growth Corridor (previously Investigation Area 3)

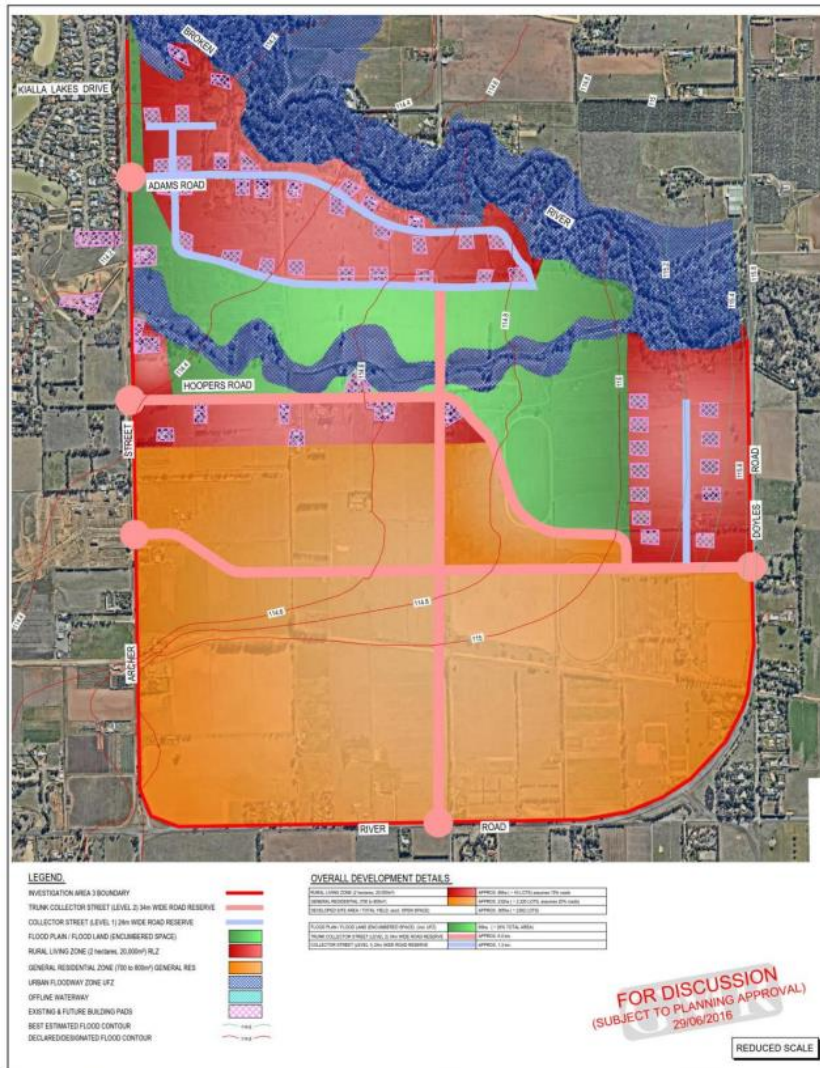
This area is directly adjacent to the Kialla Lakes Estate though it is significantly impacted by flooding. A model of flood behaviour and conceptual master plan were prepared, which informed a planning scheme amendment to identify this land for residential development. Amendment C195 rezoned Investigation Area 3 to the Urban Growth Zone Part A to safeguard the area for future development as a strategic residential growth corridor.

The Growth Plan affirms this as a location suitable for development. A precinct structure plan and development contributions plan will need to be prepared to facilitate the development of the land.

The Precinct is anticipated to deliver approximately 2,000 dwellings and cater for a population of approximately 5,000 people.

The Master Plan for the site is identified in **Figure 11**.

Figure 11 Master Plan for Kialla North Growth Corridor



4.3.4 Long term future growth

The Kialla Central area, Radio Australia Site and Shepparton Airport are identified for long term future growth. It is not expected that these areas will develop for 10+ years.

4.4 Investigation Areas 4/10 – East of Doyles Road

The location of investigation areas 4/10 is located to the east of Doyles Road outside of the current settlement boundary as shown in **Figure 12**. As outlined in the Growth Plan, this area has not been shown for development and is being reinforced as important agricultural land. This is supported by the *Shepparton East Agricultural Land Use Options Report (2020)*, which concluded the following key findings:

- Shepparton East has an ideal combination of natural attributes for high-value agriculture, including excellent soil types, Mediterranean climate and access to a secure supply of high-quality water.

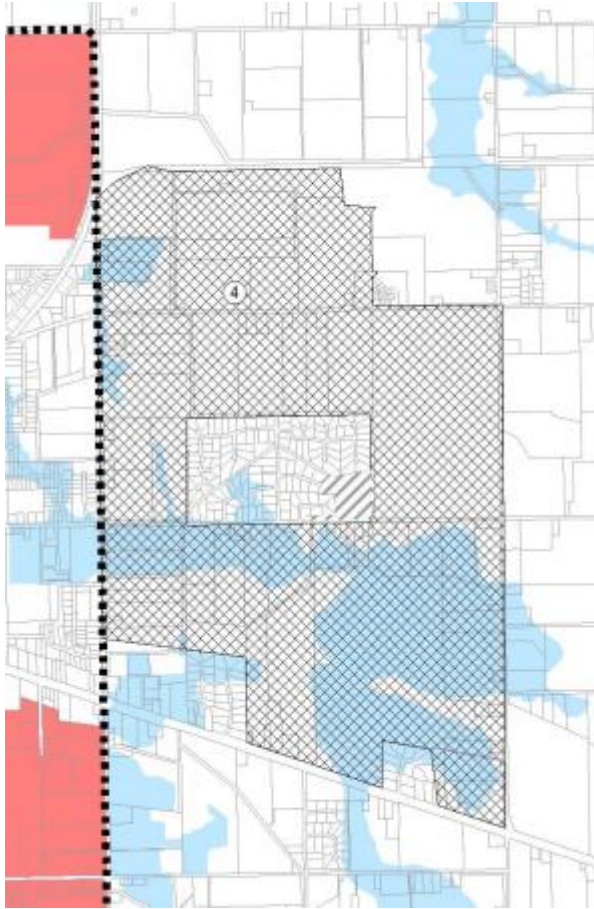
- Farm businesses are establishing new orchards affirming the productive potential of the area.
- The irrigation network servicing Shepparton East has largely been modernised which facilitates farm amalgamation, adaptation to climate change, and adoption of new technology practices.
- There are some residential and industrial land uses adjacent to Shepparton East, while not ideal from a land use conflict risk point of view, the residential estates are contained and well defined.
- Complaints regarding noise from the use of scare gun and gas guns in Shepparton East are received by Council from residential neighbours from time to time. There have been no ongoing disputes.
- EPA guidelines provide clear standards and thresholds for operation of farm machinery, frost fans and scare guns and from the low number of complaints it would appear that farmers are operating within the guidelines. The risk assessment did not identify any high priority risks that reduce the viability of agriculture in Shepparton East.
- Based on the current land ownership and a comparison with industry statistics, farm businesses in Shepparton East are considered to be at the smaller end of the spectrum of farm business sizes.
- An assessment of farm size, land values, land use conflict and planning policy on the viability of farming in Shepparton East found that farm size to be the most significant factor currently impacting farm viability.
- The biggest barrier to increasing farm scale is the uncertainty created by ambiguous planning policy, in particular the identification of Shepparton East as investigation areas for residential and industrial development. If agriculture is to be maintained in Shepparton East, it is critical that businesses are able to increase scale, by increasing the size of the farm, switching to higher value horticultural commodities or more intensive production systems such as protected horticulture.

The preparation of the Study by RMCG included a significant amount of research and analysis. A community workshop was also held which land owners from the Shepparton East were able to attend, a survey was conducted in addition to phone interviews.

A number of physical and land use constraints were also considered to determine that this land is not suitable for urban development:

- according to the *Shepparton East Overland Flow Urban Flood Study (2017)*, a large portion of the site is subject to overland flooding.
- as part of the G-MW Connections Program, there has been considerable investment in irrigation infrastructure to support the current farming practices and reinforce the land as forming part of the GMID.
- according to usage data from G-MW, the majority of land holdings are still accessing irrigation infrastructure and actively farming their land.
- the SAR is adjacent to the site on the western boundary and is a major freight route. This road is identified for potential duplication and is considered a logical eastern growth boundary for the city.
- Land supply areas can be accommodated within the settlement boundary without the need to open up a precinct in the east.

Figure 12 Location of Investigation Areas 4/10



4.5 Infill Development

The *Shepparton CBD Strategy* was finalised in October 2008 and was implemented through Amendment C92. The Amendment zoned the Shepparton CBD to the Activity Centre Zone (ACZ), which defined a number of precincts each with a unique vision. An *Addendum to the Shepparton CBD Strategy* (2016) provided the strategic justification to rezone Benalla Road and the Marketplace to the ACZ through Amendment C192.

The ACZ encourages increased densities and improvements to public realm and connections in the Shepparton CBD. There is still scope for the vision of the *Shepparton CBD Strategy* (2008) and the ACZ to be realised but much of this is left to developers proceeding with development of key sites.

The Growth Plan identifies the need for a stand alone strategic document to be prepared for Mooroopna as there is not currently a strategic document that provides guidance for the established areas of the town.

5 OUTCOME 4 – A CITY WITH INFRASTRUCTURE AND TRANSPORT

Relevant documents:

Greater Shepparton Movement and Place Strategy - Vision and Objectives Paper (2017)

Shepparton CBD Inner East Link Road, Network Traffic Modelling Assessment and Mitigations Report (2020)

Wanganui Road and Ford Road, Shepparton: Feasibility Study Design Report (2018) (Draft Report)

5.1 Road Projects

5.1.1 Goulburn Valley Highway Shepparton Bypass

Construction of the Goulburn Valley Highway Shepparton Bypass is the next logical step in providing a fully duplicated highway from Shepparton to Melbourne..

The full 36km four lane Shepparton Bypass is estimated to cost just over \$1.3 billion in 2016 dollars. In order to make the investment affordable, Council endorsed a five stage Bypass proposal at its Ordinary Council Meeting held in May 2016. The current priority is Stage 1 – Midland Highway to the Goulburn Valley Highway in Shepparton North – a total distance of 10.05kms.

The stages are as follows:

- Stage 1 – 10 kilometres of single lane carriageway in each direction and a Goulburn River bridge crossing between the Midland Highway and Wanganui Road to bypass the centre of Shepparton and Mooroopna.
- Stage 2 – 10 kilometres of single lane carriageway in each direction linking Stage 1 at Wanganui Road with the Goulburn Valley Highway at Congupna.
- Stage 3 – 16 kilometres of single lane carriageway in each direction and a Goulburn River Bridge linking Stage 1 at the Midland Highway with the Goulburn Valley Highway near Toolamba.
- Stages 4 and 5 will duplicate the entire route.

The 2017/18 State Budget allocated \$10.2 million over three years to undertake a business case, preparatory works and land acquisition for Stage 1 of the Shepparton Bypass, and the upgrade of the Ford Road, Goulburn Valley Highway and Wanganui Road intersection. The works on this upgrade are scheduled to commence in mid-2020. The Commonwealth Government has recently committed \$208 million for the construction of Stage 1 of the Shepparton Bypass.

5.1.2 Shepparton Alternative Route (SAR)

The SAR is an important arterial connection running north to south on the eastern side of Shepparton and forms a major connecting route with regional Victoria, New South Wales and southern Queensland.

The SAR links the Goulburn Valley Highway from the Grahamvale Road intersection at Congupna, continuing along Doyles Road and River Road before connecting again with the Goulburn Valley Highway on the southern edge of Shepparton.

Intersections along the SAR are being progressively upgraded to ensure the current and future role and function for the SAR is catered for.

5.1.3 Wanganui Road and Ford Road, Shepparton: Feasibility Study Design Report 2018 (Draft Report)

The purpose of the investigation was to detail how Ford and Wanganui Roads could be upgraded to cater for the potential expected increases in traffic volumes and serve as a key east-west future arterial route connecting Stage 1 of the Shepparton Bypass with the SAR (Grahamvale Road). It was envisaged that a final report would provide the elements needed to effectively advocate for future government funding as part of a future State Government budget process.

A Draft Report was released for public comment in early 2018. Council subsequently undertook further targeted consultation with land owners and occupiers of land adjacent to four community-suggested alternative alignments that submitters felt could also serve as the east-west arterial route. In total, 123 submissions were received by Council for all three consultation phases. In late 2019, it was understood that Council would consider an updated draft report in early 2020.

However, this work was superseded by that undertaken by the Department of Transport over the course of 2019 and early 2020. As a result, Council resolved to transfer all relevant material relating to the upgrade of Ford and Wanganui Roads to the Department of Transport for consideration at the Ordinary Council Meeting held in June 2020.

5.1.4 Major Road Projects Victoria

In mid-2018, the responsibility for planning and designing changes to the arterial road network across Victoria was transferred from Regional Roads Victoria (RRV) to Major Road Projects Victoria (MRPV). MRPV is a dedicated government body charged with planning and delivering major road projects for Victoria.

MRPV merged the business case for all three projects listed above into the Bypassing Shepparton business case. To inform the business case, RRV and MRPV completed further planning studies on the wider Shepparton and Mooroopna road network in 2018 and 2019 to inform all future arterial road upgrades. A critical component of these planning studies was the completion of an updated integrated transport model in mid-2019. This information will inform all future planning and design work for road upgrades across Shepparton and Mooroopna. MRPV also undertook additional design reviews for all three projects to ensure that the routes comply with recently updated standards for arterial roads.

The business case is expected to be submitted to the Department of Transport for consideration in a future State Government budget process.

5.1.5 Shepparton CBD Inner East Link Road (interim name)

The purpose of this study is to prepare a traffic impact assessment, to understand the issues and opportunities involved in establishing the Shepparton CBD Inner East Link Road (interim name), which would effectively realise an eastern bypass of the city centre as envisaged by the *Shepparton CBD Strategy* (2008).

The road is designed to provide a safe and efficient alternative route to Wyndham Street for vehicles, pedestrians and cyclists travelling between the south and north-east of the Shepparton CBD, and assist in catering for the future traffic needs of the City.

In partnership with the Department of Transport and RRV, Council prepared the *Shepparton CBD Inner East Link Road, Network Traffic Modelling Assessment and Mitigations Report* (2020).

The report recommended the upgrading of five key intersections along the route at a cost of \$15.3 million.

5.2 Greater Shepparton Movement and Place Strategy

The *Greater Shepparton Movement and Place Strategy* (MAPS) is being prepared to provide a framework for positive changes to the physical assets and operations of the transport network. MAPS aims to provide a comprehensive understanding of the existing and future transport requirements. The strategy will take a holistic approach to the provision of an improved transport system for various modes including walking, cycling, public transport, driving and freight movements.

The *Greater Shepparton Movement and Place Strategy - Vision and Objectives Paper 2017* provides the long-term vision and objectives of the MAPS based on community and stakeholder feedback and analysis of data and trends related to transport in Shepparton.

The Draft MAPS is expected to be prepared in early 2021 once the wider arterial road investigations being undertaken by Department of Transport, MRPV and RRV are completed over the coming months.

5.3 Public Transport

5.3.1 Rail

The upgrade of the existing passenger rail services between Seymour and Shepparton is imperative to the delivery of better rail connectivity to Melbourne for residents of Greater Shepparton. In 2017, the State Government allocated \$43.5 million (of which \$33 million was for capital works) towards improved passenger rail transport. The works comprise Stage 1 of three stages required to realise the Shepparton Line Upgrade and have recently been completed. In May 2018, the State Government allocated a further \$313 million towards achieving Stage 2 of the Shepparton Line Upgrade. Stage 2 includes signalling crossing loop extension at Murchison East, 59 level crossings between Donnybrook and Shepparton, platform extensions, stabling to house VLocity trains at Shepparton and the preparation of a business case to finalise the scope and costs for Stage 3.

Stage 3 will allow for nine return services using VLocity trains. It is understood that Stage 3 will be realised soon after the completion of Stage 2.

In the long term, it will be essential that Shepparton services are routed through a new heavy rail link via Melbourne Tullamarine Airport. Further work will be required to secure commitment from the State and Commonwealth Governments to ensure sustainable regional transport solutions.

The Department of Transport is preparing the *Shepparton Rail Freight Planning Study*. The study will lead to enhanced freight capacity, ensuring the benefits for both freight and passenger services are maximised. Currently underway, the \$10 million study is jointly funded by the Victorian and Commonwealth governments and includes a \$9 million package of rail freight infrastructure upgrades.

5.3.2 Community Hub

What makes a successful community hub:

- Know the local context you are planning within.
- Use an evidence-based approach.
- Scope and create partnerships early.
- Engage with your community.
- Co-locate your hub with open/outdoor space.
- Provide a mix of programmed and informal space.
- Being mindful of the scale and size of the hub.
- Include consideration of “other” spaces such as storage, wet and dry areas, waiting area, reception area – access points.

There is an opportunity to co-locate a youth component in the community. Youth unemployment and disadvantage is a key issue that needs to be addressed. Council will work with community representatives and NGOs to assist in developing a Youth hub in the Shepparton CBD. The development of the Youth Hub should respond to the needs of Greater Shepparton’s youth, and have regard to the new GOTAFE skills and Jobs Centre to ensure that there is not an overlap in services. Work with the community and organisations such as the Lighthouse Project and Rumbalara to ensure this facility provide the appropriate services to meet young people needs. In developing a business case, the following should be considered:

- Support NGOs undertaking community consultation activities to determine the role and services provided at the Youth Hub.
- Identify appropriate sites, including opportunities for co-location with the Health and Tertiary Education Hub.
- Seek Commonwealth and State Government funding, as well as philanthropic donations to help establish the Youth Hub.

6 OUTCOME 5 – A CITY THAT IS GREENER AND EMBRACES WATER

Relevant documents:

Shepparton East Overland Flow Urban Flood Study (2017)

Shepparton Mooroopna Flood Mapping and Flood Intelligence Project Report March (2019)

Urban Forest Strategy (2017 – 2037) (2017)

6.1 Flood Studies

6.1.1 Shepparton Mooroopna Flood Mapping and Flood Intelligence Project (2019)

The purpose of the *Shepparton Mooroopna Flood Mapping and Flood Intelligence Project Report (March 2019)* is to update the flood intelligence and mapping tools contained within the existing *Shepparton Mooroopna Floodplain Management Study: Floodplain Management Plan October 2002*. The Report was funded by the Commonwealth and State Governments, and Council. It seeks to update the existing information on flood risk within the Shepparton-Mooroopna area. The project involved detailed hydrological and hydraulic modelling of the Goulburn River, Seven Creeks and the Broken River, producing flood mapping and flood intelligence information.

In line with State and regional flood strategies, a priority outcome of the project was to share the updated flood mapping and intelligence information with stakeholders and the wider community.

At the Ordinary Council Meeting held on 18 September 2018, Council resolved to release a draft for public comment commencing on Monday 24 September and concluding on Wednesday 7 November 2018. At the Ordinary Council Meeting held on 19 March 2019, Council resolved to adopt the Report; to prepare and exhibit a planning scheme amendment to include the findings and recommendations of the Report; and to adopt the *Greater Shepparton City Council Municipal Flood Emergency Plan (2018)*.

A planning scheme amendment is required to implement the findings and recommendations of the Report. Further consultation will be undertaken as part of the planning scheme amendment process, in accordance with the *Planning and Environment Act 1987*.

6.1.2 Shepparton East Overland Flow Urban Flood Study (2017)

The *Shepparton East Overland Flow Urban Flood Study (2017)* was commissioned by the GBCMA to investigate overland flooding in the Shepparton East area, including the issues that caused and/or exacerbated flooding as a result of the localised intense storm activity experienced in 1993 and in 2012.

A planning scheme amendment is required to implement the findings and recommendations of the Study. Further consultation will be undertaken as part of the planning scheme amendment process, in accordance with the *Planning and Environment Act 1987*.

6.2 Urban Forest Strategy

The *Urban Forest Strategy (2017 – 2037)* (2017) sets ambitious targets for Council to achieve the following by 2037:

- Increase urban forest canopy cover in each town (includes Shepparton and Mooroopna) to 40%.
- Reduce the number of vacant street tree sites to zero.
- Improve urban forest diversity by age and useful life expectancy.
- Increase the number of biodiversity links through each towns' street and road network.
- Include urban trees in all major Council infrastructure projects at planning, design and implementation phase.
- Ensure best practice urban tree management is being delivered across all Council programs.

The Strategy also audited towns to identify gaps in street tree cover in order to achieve the target to reduce the number of vacant street tree sites to zero and provides guidance on species diversity and street tree species across the municipality.

6.3 Integrated Water Management (IWM)

A number of councils have prepared IWM Plans for their municipal areas. An IWM Plan explores options and sets out recommendations for future water management. It has the potential to deliver on liveability and community benefits by developing an approach to whole or urban water cycle management, including stormwater management, wastewater, water supplies and waterways.

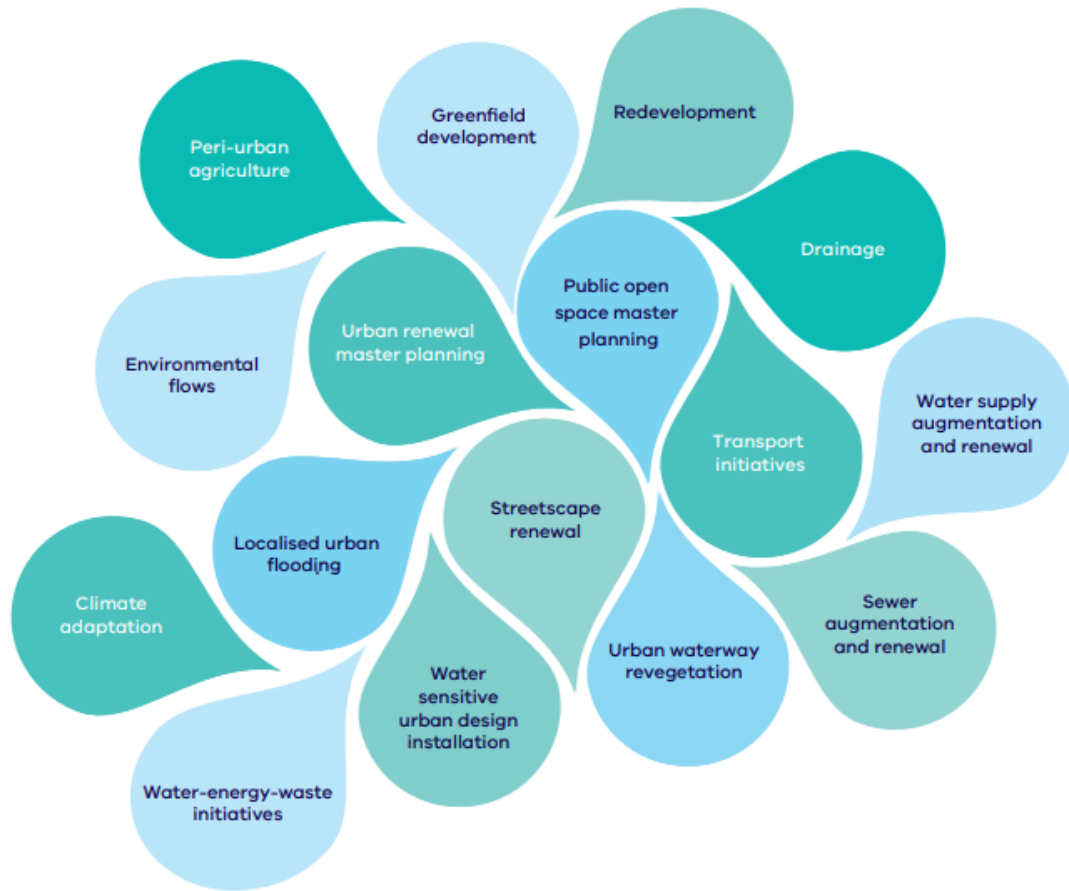
The DELWP *Integrated Water Management Framework* (2017) identifies examples of opportunities that can be leveraged by IWM as identified in **Figure 13**.



The Urban Forest Strategy aims to improve Greater Shepparton's overall liveability through equitable best practice tree planting transforming residential streets from the above image to the below.



Figure 13 Opportunities that can be leveraged by IWM



7 OUTCOME 6 – A CITY OF INNOVATION AND RESILIENCE

Relevant documents:

Solar Energy Facilities Design and Development Guidelines (2019)

Renewable Energy Action Plan (2017)

Community Engagement and Benefit Sharing in Renewable Energy Development (2017)

Solar Energy Facilities – Design and Development Guidelines (2019)

Advice on Automated and Zero Emissions Vehicles Infrastructure (2018)

Parliament of Victoria Inquiry into electric vehicles (2018)

Turning Waste into Energy (2017)

Victoria's Climate Change Act (2017)

<https://arena.gov.au/renewable-energy/hydrogen/>

<https://www.energy.vic.gov.au/renewable-energy/victorian-hydrogen-investment-program>

<http://www.invest.vic.gov.au/opportunities/hydrogen-energy-supply-chain>

7.1 Environmentally Sustainable Design (ESD)

Council is partnering with fifteen other councils to deliver the Sustainable Design Assessment in Planning Process project. This project seeks to improve the consideration of ESD principles during the subdivision approval process. This project was successful in receiving funding through the Collaborative Councils' Sustainability Fund Partnership for the second stage. The councils are working collaboratively to:

- Define 'best practice' ESD with respect to greenfield subdivision and determine how it should be measured.
- Establish a framework to enable assessment of ESD in subdivisions.
- Develop a suite of tools and a model for collaborative implementation, with transferability across the State.

The project provides a basis to progressively improve sustainability of subdivisions without creating an unreasonable burden on land developers or homeowners.

7.2 Environmental Upgrade Finance (EUF)

EUF is a council-based financing mechanism enabling business owners to better access finance for environmental upgrades to existing non-residential buildings. Under an EUF agreement, a lender provides finance to a building owner and council collects repayments through the rates system. Greater Shepparton is a participating council, so can administer EUF finance.

7.3 Renewable energy

Victoria's *Climate Change Act 2017* establishes a target for Victoria to have net zero greenhouse gas emissions by 2050. Victoria's Climate Change Framework makes it clear that moving to a clean energy supply by

increasing renewable energy generation is a key pillar of the State's approach to emissions reduction. There are many opportunities for Greater Shepparton to be a regional leader in this area.

7.3.1 Solar

Greater Shepparton has received applications for a number of large-scale solar energy facilities. Solar energy provides a clean source of energy generation and contributes to the reduction of greenhouse gas emissions which will establish Greater Shepparton as a leader in sustainability in Victoria.

Due to Greater Shepparton's strong agricultural sector and availability of land, it is ideal to co-locate solar farms with agricultural production. This helps to stabilise farm incomes, which can fluctuate due to changing commodity prices and climatic patterns.

When well-sited and carefully designed, solar energy facilities have minimal impacts on surrounding communities, the environment and on agricultural activities. However, significant land use change can raise concerns across communities about potential impacts, which is why public engagement will be an important part of the development process.

The DELWP *Solar Energy Facilities – Design and Development Guidelines* (2019) must be considered when contemplating the most appropriate location for solar energy facilities. Consideration should be given to:

- relevant government policy
- appropriate site location – analysis of opportunities and constraints
- regulatory requirements
- best practice design and development features
- and early and effective community engagement.

Further strategic considerations include:

- policy context, zones and overlays
- agricultural values including irrigation infrastructure impacts
- heritage and Aboriginal cultural values
- landscape values and visual amenity
- biodiversity and native vegetation
- access to the Victorian electricity grid
- other infrastructure requirements
- cumulative effect of solar energy facilities in the area.

Protecting Agricultural Land

Strategies to protect agricultural land are set out in all Victorian planning schemes. Clause 14.01 Agriculture: Protection of agricultural land includes the objective to protect the State's agricultural base by preserving productive farmland.

Key measures are outlined, including the need to:

- Protect strategically important agricultural and primary production land from incompatible uses.
- Protect productive farmland that is of strategic significance in the local or regional context.
- Avoid permanent removal of productive agricultural land from the State's agricultural base without consideration of the economic importance of the land for the agricultural production and processing sectors.

The Farming Zone (Clause 35.07) sets out decision guidelines for 'agricultural issues and the impacts from non-agriculture uses'.

Productive farmland that is of 'strategic significance' represents the most productive farming land in the State. This productivity arises from a combination of land attributes and economic factors. Most rural land is not considered to be strategically significant agricultural land.

When making decisions on the appropriate location of solar energy facilities, councils should require permit applicants to provide an assessment of:

- The agricultural quality of the proposed site.
- The amount of strategically significant agricultural land in the council area and in the region (the regional assessment should include impacts across the area defined by the Regional Growth Plan boundaries, unless otherwise determined by the Council).
- The potential impact of removing this land from agricultural production. The proponent should lodge a report on this assessment with the permit application. Strategically significant agricultural land may include other elements – these criteria have been adapted for use specifically in relation to solar energy facility development.

Irrigated Land

Agricultural land, particularly irrigated land, is a valuable resource, and successive governments have invested heavily in improving agricultural production, including by modernising irrigation infrastructure.

Areas serviced by modernised irrigation infrastructure are designated as strategically significant agricultural land. Careful planning is needed to ensure areas of high agricultural significance are not negatively impacted by solar facilities and do not become fragmented or unworkable as a regional resource. Proponents should demonstrate that the solar energy development will have limited impacts on the significant investments, such as the GMID, that have been made by the Victorian and Commonwealth governments to upgrade irrigation infrastructure, supporting agricultural production in the region.

G-MW suggests that there are large tracts of farming land outside the declared GMID where the siting of solar farms:

- Would not impact on the irrigated agriculture which typically has higher economic returns and is vitally important for our regional communities and the regional, State and national economy.
- Would not compromise the public investment in modernised irrigation delivery infrastructure.
- Would not compromise regional development objectives to retain and attract the return of water usage in the GMID.
- Would not impact on the communities in the GMID which are typically more densely settled than dry land areas.

7.3.2 Solar Homes

Created as a portfolio entity within DELWP, Solar Victoria is responsible for the delivery of the Victorian Government's Solar Homes Program.

The program is a key initiative of the Victorian Government's commitment to reduce energy costs, boost energy supply, create new jobs in the renewables sector and tackle climate change. In the first year of program operations, over 33,000 households have taken up the program offering and installed Solar PV and Solar Hot Water systems. This rapid take up highlights the willingness of Victorians to adopt renewable energy technology, take charge of their power bills and to create a better future.

Over 10 years, the Solar Homes Program will enable the installation of solar panels, solar hot water systems or batteries on 770,000 homes across the State, resulting in over one million Victorian homes powered by renewable energy.

The program will help hundreds of thousands of Victorian households to cut their power bills all while promoting and maintaining the highest standards in safety and quality possible using accredited providers and approved products.

The Solar Homes Program will cut Victoria's carbon emissions by almost four million tonnes – the same as taking one million of Victoria's 4.6 million cars off the road – and generate an eighth of Victoria's 50 per cent target for renewable energy by 2030.

7.4 Transport Energy

7.4.1 Electric energy

The Central Victorian Greenhouse Alliance is partnering with a number of regional councils (including Greater Shepparton), the EV Council Australia and DELWP to develop a business case for providing a network of public electric vehicle charging infrastructure across the State.

Investment into renewable transport energies in regional areas:

Investment in technological innovations for the diversification of transport energy sources should be explored. The *Parliament of Victoria Inquiry into electric vehicles* (May, 2018) identified that regional communities rely heavily on fuel. Alternative transport energy sources could provide the fuel security regional communities need. This should include considerations of energy sources such as electric and hydrogen fuel sources for transport energy.

Increase in peak energy demand:

In the absence of any demand management, incentives and other mechanisms for managing charging behaviour, a battery electric vehicle fleet is likely to cause large increases in peak electricity demand due to a high proportion of people charging their vehicle at the end of the day when they arrive home. On top of this, given the forecast emissions profile of Victoria's energy sector, unless the additional electricity demand for battery electric vehicles comes from zero emissions sources, they could actually lead to an overall increase in greenhouse gas emissions in Victoria.

7.4.2 Hydrogen fuel

There are great renewable energy opportunities, including zero emission vehicles, in regional Victoria. Greater Shepparton could be a potential hub for this to lead the way for a more sustainable future.

What is hydrogen?

Hydrogen is the most common chemical in the universe. It can be produced as a gas or liquid, or made part of other materials, and has many uses such as fuel for transport or a way to store electricity. When it is produced using renewable energy or processes, hydrogen becomes a way of storing renewable energy for use at a later time when it is needed. The only by-products of hydrogen fuel in vehicles is pure water and heat without all the toxic emissions from petrol making it, in theory, a zero emissions fuel.

The hydrogen economy cycle consists of three key steps:

- hydrogen production
- hydrogen storage and delivery
- hydrogen consumption – converting the chemical energy of hydrogen into other forms of energy.

Victorian Hydrogen Investment Program

The Victorian Government is ensuring Victoria captures the benefits of a green hydrogen economy through the Victorian Hydrogen Investment Program (VHIP).

VHIP sets out a clear pathway to developing the Victorian hydrogen sector across three activity streams:

- Market testing: Through the Request for Industry Submissions process, the Victorian Government will determine the current extent of market interest and opportunity for hydrogen, including status of potential projects. This process will inform future investment programs.

- Industry development: The Victorian Government will conduct extensive stakeholder consultation through a Hydrogen Industry Development Discussion Paper. This will build a solid understanding of the sector's primary drivers, barriers, opportunities for growth and other capabilities. The Discussion Paper will be used to create a Victorian Hydrogen Industry Development Plan.
- Victorian Government investment program: The Victorian Government will provide funding to leverage hydrogen research, trials, pilots and demonstrations, creating a strong base of industry knowledge, skills and seed funding.

7.5 Sustainable Waste Management

7.5.1 Waste to energy

Waste to energy facilities can play an important role in an integrated waste management system. Only a handful of waste to energy facilities currently operate in Victoria and only four per cent of waste is diverted to energy recovery. Most of those use organic feedstocks to generate energy they use on site.

Waste to energy facilities can support Victoria's energy transition by providing a small amount of distributed, reliable, partly renewable energy. Waste to energy generation is considered 'renewable energy' where organic waste (biomass) is used as the feedstock.

Waste to energy facilities can add a small volume of supply, and improve both the reliability and diversity of Victoria's energy mix. For example, mass combustion waste to energy facilities provide reliable, dispatchable electricity. On-site generation and consumption can reduce demand from the electricity and gas grids.

Proposed old Heinz factory waste-to-energy plant

A waste-to-energy facility has been proposed for the old Heinz factory in Girgarre. It is expected to process 23,382 tonnes of dairy waste per year from the nearby dairy industry, and 3475 tonnes of food products, 2421 tonnes of fruit and vegetables and 722 tonnes of supermarket and grocery waste. This waste will generate power for a new dairy factory.

The collection radius includes Bendigo, Shepparton, Echuca and areas in New South Wales.

The site was chosen due to the large amount of fruits and vegetables that are produced in the Goulburn Valley which would provide sources of uncontaminated organic waste streams.

7.5.2 Composting facilities

Shepparton is already home to a commercial scale composting facility. It is run by Western Composting Technology who constructed the facility as their flagship plant in October 2008. The Shepparton facility collects and recycles green waste, garden waste and commercial food waste into usable compost products. Products are sold to wholesalers who blend with their own soil conditioners and additives to help grow fresh produce and for use in landscaping. Each year, the Shepparton plant processes 20,000 tonnes of food and organic waste from approximately 49,000 households, and 2,000 tonnes of solid commercial food waste.

There is potential for the addition of more composting facilities in the Shepparton region. This will reduce landfill waste whilst also providing employment opportunity for the area.



Shepparton & Mooroopna 2050: Regional City Growth Plan
Background Report



Shepparton & Mooroopna 2050

Regional City Growth Plan

March 2021



Acknowledgement of Traditional Owners

We, Greater Shepparton City Council, acknowledge the Yorta Yorta Peoples of the land which now comprises Greater Shepparton, we pay our respect to their tribal elders, we celebrate their continuing culture and we acknowledge the memory of their ancestors.

Contents

Executive Summary	5
A Growth Plan for Shepparton and Mooroopna	6
Introduction	9
Vision	15
Principles	16
Outcomes	17
Outcome 1 – A City for the Goulburn Region	19
Outcome 2 – A City of Liveable Neighbourhoods	24
Outcome 3 – A City of Growth and Renewal	30
Outcome 4 – A City with Infrastructure and Transport	42
Outcome 5 – A City that is Greener and Embraces Water	50
Outcome 6 – A City of Innovation and Resilience	54
Implementing the Vision	59

Plans

Plan 1	Regional context	4
Plan 2	Shepparton & Mooroopna framework plan	8
Plan 3	Industrial growth areas	20
Plan 4	Cycling corridors	26
Plan 5	Regional cycling destinations	28
Plan 6	Residential growth corridors	34
Plan 7	Transport	46
Plan 8	Bus network	48
Plan 9	Embrace the river	52

Tables

Table 1	Industrial growth areas	21
Table 2	Current residential growth areas	30
Table 3	Investigation areas considered for residential growth	31
Table 4	Future residential growth areas	32

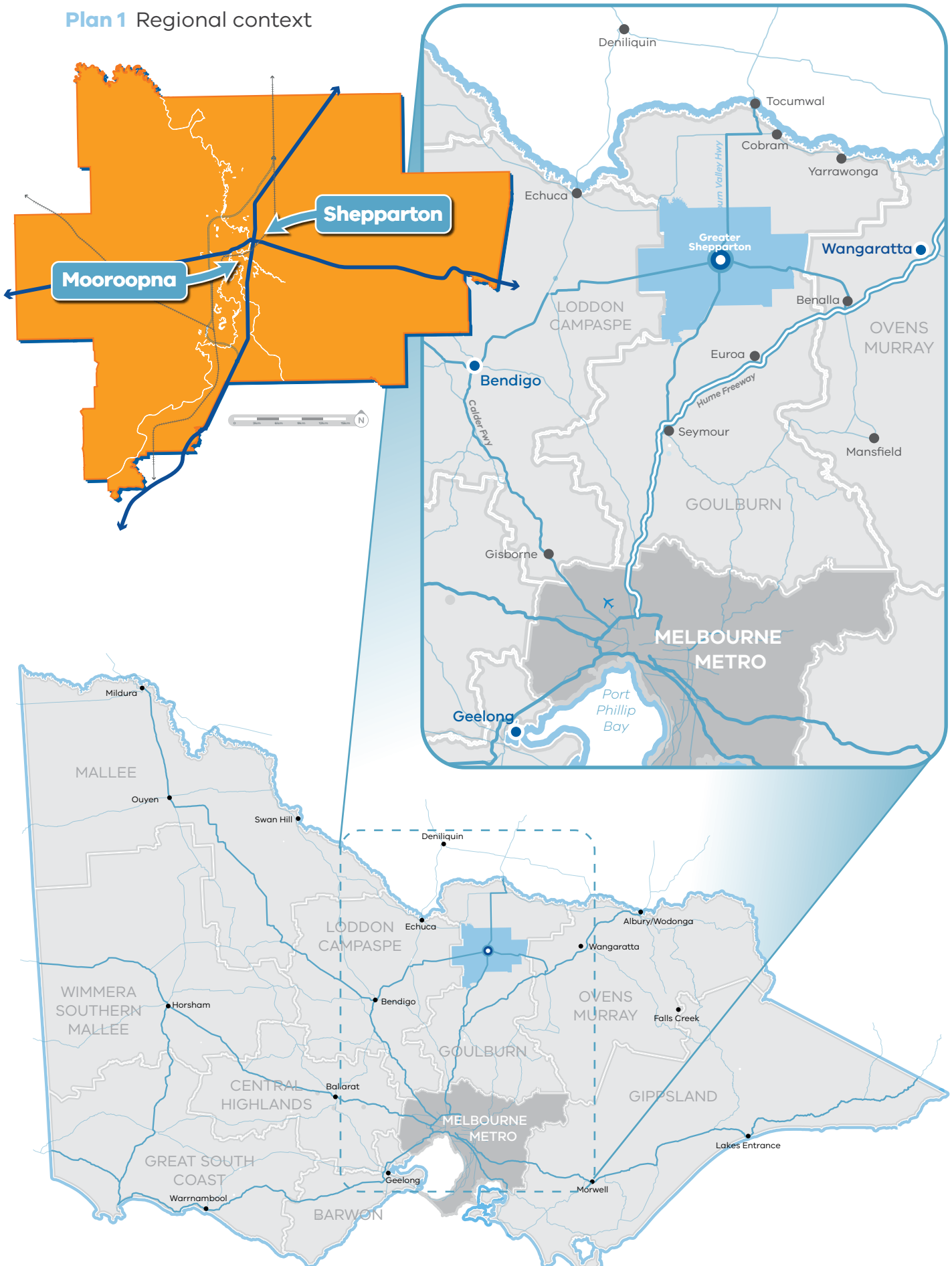
Figures

Figure 1	Greater Shepparton population by age cohort 2016 – 2036	11
Figure 2	Victorian regional cities components of population change 2016	12
Figure 3	Greater Shepparton unemployment rate 2010 – 2018	12
Figure 4	Service hub	18
Figure 5	Shepparton CBD precincts and renewal opportunities	38
Figure 6	Mooroopna opportunities	41
Figure 7	Economic resilience road maps	58

Acronyms

ACZ	Activity Centre Zone
Council	Greater Shepparton City Council
CBD	Central Business District
CVGA	Central Victorian Greenhouse Alliance
GVWRRG	Goulburn Valley Waste and Resource Recovery Group
DELWP	Department of Environment, Land, Water and Planning
DoT	Department of Transport
DJPR	Department of Jobs, Precincts and Regions
EPA	Environmental Protection Authority
GBCMA	Goulburn Broken Catchment Management Authority
GBGA	Goulburn Broken Greenhouse Alliance
GMID	Goulburn Murray Irrigation District
G-MW	Goulburn Murray Water
GOTAFE	Goulburn Ovens Institute of TAFE
GV Health	Goulburn Valley Health
IWM	Integrated Water Management
UGZ	Urban Growth Zone
VIF	Victoria in Future
VPA	Victorian Planning Authority

Plan 1 Regional context



EXECUTIVE SUMMARY

The Victorian Planning Authority (VPA) in partnership with Greater Shepparton City Council (council) has prepared the *Shepparton and Mooroopna 2050: Regional City Growth Plan (Growth Plan)* to guide the sustainable development of the Shepparton-Mooroopna urban area to the year 2050.

The location of Shepparton and Mooroopna is identified on **Plan 1**.

The Growth Plan is a high-level and broad strategy that:

- sets out the future vision for Shepparton and Mooroopna
- guides sustainable future growth and development over the next 30 years
- identifies the steps needed to manage growth
- defines key projects and infrastructure required to support growth
- provides certainty for public and private investment decision making.

The Growth Plan addresses key challenges to guide housing, employment, infrastructure, services and other opportunities for residents and visitors while ensuring Shepparton and Mooroopna become greener, sustainable and resilient to climate change.

The Growth Plan aims to maintain and enhance the unique attributes of Shepparton and Mooroopna and sets a vision for how the urban area will grow and change until the year 2050.

The vision for Shepparton and Mooroopna is that by 2050 it will:

- Be a thriving regional hub with infrastructure to support social and economic wellbeing.
- Offer an affordable and liveable lifestyle with diverse economic opportunities for residents and investors.
- Embrace the natural environment and conserve places of cultural heritage significance.

- Celebrate the functional and recreational opportunities associated with water.
- Be a leader in renewable energy generation and climate change adaptation.

The vision will be achieved by implementing strategies and actions under six outcomes.

Each outcome includes an objective to support the delivery and highlight the key opportunities required to implement the Growth Plan vision.

As the Growth Plan sets a long-term vision to 2050, making precise growth projections is difficult. Sequencing of new growth fronts should be continuously reviewed every 5 years based equally on supply and demand analysis and on the ability to deliver needed infrastructure.

The Growth Plan is an overarching strategy, it makes recommendations on identified opportunities for urban growth and other initiatives to achieve the vision for Shepparton and Mooroopna. The areas identified for growth have been determined through a review of the residential and industrial investigation areas identified as part of the *Greater Shepparton Housing Strategy (2011)* and the implementation of the *Industrial Land Review (2011)*. This review considered land supply needs and development constraints to conclude the most appropriate areas for residential and industrial development.

The proposed growth areas are conditional on relevant council resolutions, Planning Minister support (where planning scheme amendments are required) and a range of further assessments that will occur at the appropriate time.

Other actions in the Growth Plan will be implemented by council programs and government partnerships.

A GROWTH PLAN FOR SHEPPARTON AND MOOROOPNA

Located in the Goulburn Valley region of Victoria, approximately 180 kilometres to the north of Melbourne, Shepparton and Mooroopna combine to form the state’s fourth largest regional city. The City is positioned at the junction of the Goulburn Valley Highway and the Midland Highway and forms part of the Newell Highway corridor that provides links to Melbourne and Brisbane. Shepparton forms part of the State rail network with both V/Line passenger services and freight services. The urban centre provides a broad commercial, administrative and industrial base for the region, offering services and facilities for a local population of more than 65,000 people across the municipality, and a wider catchment of more than 100,000 extending as far as Deniliquin in New South Wales.

Our community is diverse, including one of the state’s largest populations of Aboriginal and Torres Strait Islander Peoples outside metropolitan Melbourne, and people from over 30 nationalities, speaking more than 50 languages, each of which adds its cultural values to Greater Shepparton’s rich character.

Shepparton and Mooroopna have been shaped by a diverse array of factors. For thousands of generations, Aboriginal Peoples managed and protected the land. The initial European explorations by Hume and Hovell in 1824 introduced successive waves of immigration that have shaped settlement patterns, developing and expanding farming and agricultural practices, including innovative irrigation systems, and the development of food processing and related industries.



Rail and road transport networks consolidated Shepparton and Mooroopna as a central hub and continue to be a major contributor to the local economy, as well as agriculture, manufacturing, construction, education, and health and community services.























Shepparton and Mooroopna offer both rural and urban lifestyles, enhanced by access to natural landscapes, arts and cultural events, unique heritage places, extensive sporting facilities, and community amenities such as Victoria Park Lake and the Shepparton Regional Park.

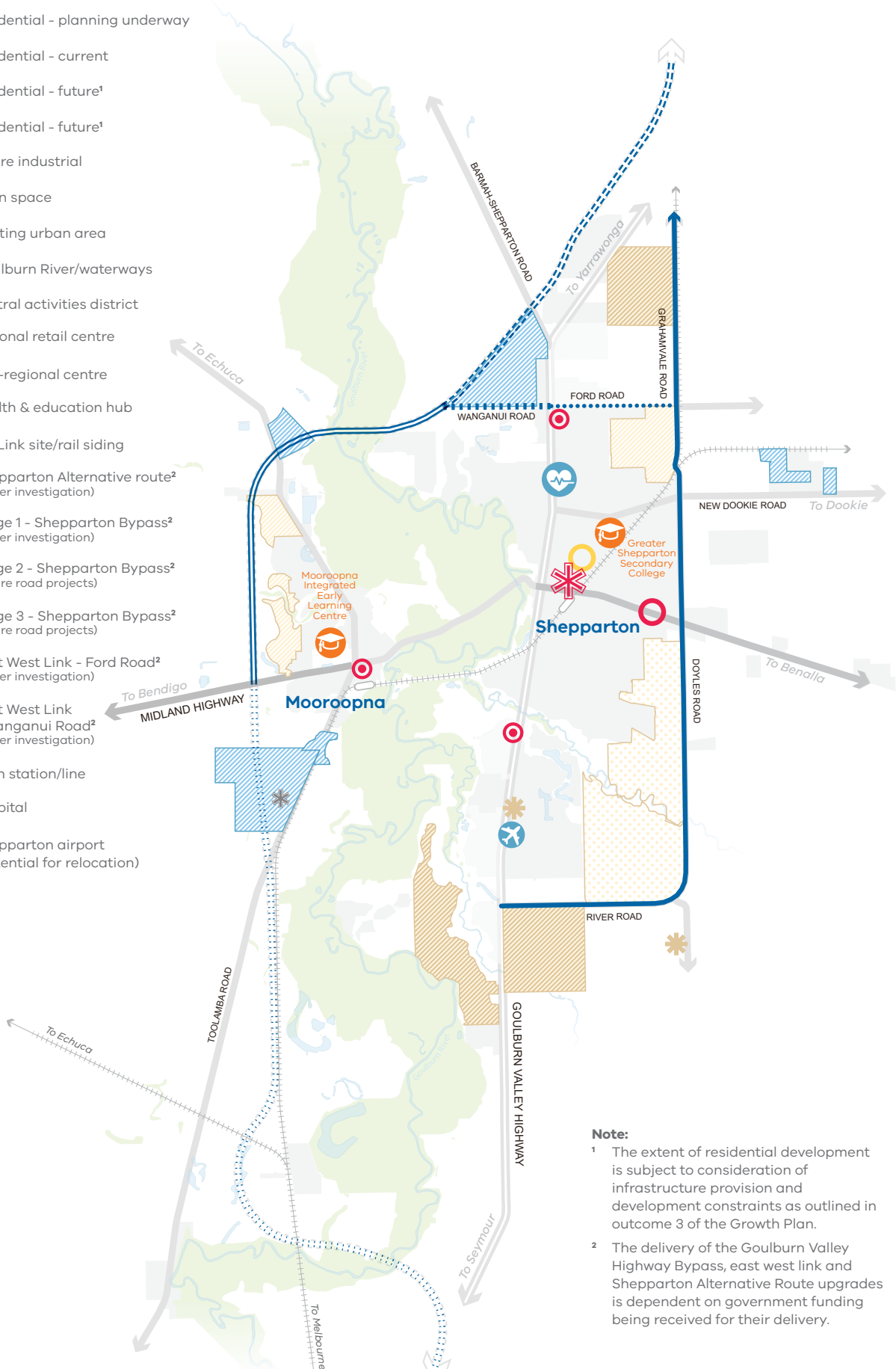
Water has been a key influence on the development of Shepparton and Mooroopna, through both the pioneering irrigation practices that have enabled the towns' growth and the flooding that has devastated the area in 1916, 1974 and 1993. The sustainable use of irrigation water and the appropriate management of development adjacent to riverine floodplains are vital to the continued growth of Shepparton and Mooroopna.

Shepparton and Mooroopna's economy is adapting to meet state, national and global trends including investment in health, education, renewable energy and agriculture. Being at the forefront of these trends will ensure the regional city continues to be an attractive location to live and invest.



Plan 2 Framework plan

-  residential - planning underway
-  residential - current
-  residential - future¹
-  residential - future¹
-  future industrial
-  open space
-  existing urban area
-  Goulburn River/waterways
-  central activities district
-  regional retail centre
-  sub-regional centre
-  health & education hub
-  GV Link site/rail siding
-  Shepparton Alternative route² (under investigation)
-  Stage 1 - Shepparton Bypass² (under investigation)
-  Stage 2 - Shepparton Bypass² (future road projects)
-  Stage 3 - Shepparton Bypass² (future road projects)
-  East West Link - Ford Road² (under investigation)
-  East West Link - Wanganui Road² (under investigation)
-  train station/line
-  hospital
-  Shepparton airport (potential for relocation)



Note:

- ¹ The extent of residential development is subject to consideration of infrastructure provision and development constraints as outlined in outcome 3 of the Growth Plan.
- ² The delivery of the Goulburn Valley Highway Bypass, east west link and Shepparton Alternative Route upgrades is dependent on government funding being received for their delivery.

INTRODUCTION

Why do we need a Growth Plan?

The current overarching plan for Shepparton and Mooroopna is the *Greater Shepparton 2030 Strategy* (2006). This document provides a blueprint for building sustainable economic activity and maximising the quality of life in Shepparton and Mooroopna. Since the finalisation of this Strategy, Shepparton and Mooroopna have experienced a significant amount of growth, supported by investment in infrastructure from the Victorian and Federal Governments.

The Growth Plan articulates a comprehensive work plan for guiding future growth and development, and to ensure alignment and common purpose between state, regional and local planning decisions.

Community Engagement

In early 2018 initial consultation on the Growth Plan commenced and included:

- engagement with state government agencies and authorities
- meetings with community organisations
- consultation with secondary school students
- consultation with primary school students
- responding to a range of enquiries from the community.

Key issues and opportunities report

This engagement informed the preparation of the *Shepparton & Mooroopna 2050: Regional City Growth Plan Key Issues and Opportunities Report* (February, 2019) which was released for public comment from 22 February to 25 March 2019. Three main avenues were used to gather feedback:

- interactive online story map
- community priorities survey
- written feedback.

The VPA and council received approximately 225 comments online, 50 written submissions and had conversations with approximately 90 community members. This feedback was summarised in the Engagement Summary Report.

Draft Growth Plan

Consultation on the draft Growth Plan occurred between 23 September and 28 October 2019. An online survey and written feedback were the two main avenues used to gather feedback.

The VPA and council received 37 written submissions, via email and via the online survey. This feedback was summarised in the *Draft Growth Plan Community Engagement Summary Report* (January 2020).

Additional Consultation

Additional consultation on the Growth Plan following the August 2020 Ordinary Council Meeting occurred from 16 November to 24 December 2020. The purpose of the additional community consultation was to better ensure that any interested stakeholders across Greater Shepparton have had the opportunity to provide informed feedback on the proposed planning outcomes for Shepparton, Mooroopna and Kialla. 79 submissions were received by Council, which are summarised in the *Conversation Report – Shepparton and Mooroopna 2050: Regional City Growth Plan – Additional Community Consultation* (March 2020).

Strategic context

State Policy

Growth and development in Shepparton and Mooroopna is supported by state planning policy. The development of the Growth Plan is informed by:

- *The Hume Regional Growth Plan* (2014) which identifies Shepparton as a regional city and major growth location to service the Hume region.
- *Plan Melbourne 2017–2050* (2017) which identifies Shepparton as one of ten regional cities for Victoria where significant growth will be supported.

Local Policy

Local planning policy identifies Shepparton (together with Mooroopna and Kialla) as the largest urban centre in the city of Greater Shepparton where growth and higher order services and facilities will be focussed. Shepparton is the largest city in northern Victoria and serves an immediate catchment of 120,000 people. Shepparton provides essential services to an estimated additional 100,000 people across an area that extends into the southern reaches of New South Wales.

How has the Growth Plan been prepared?

Preparation of the Growth Plan has been informed by state and local policy and:

- the *Shepparton & Mooroopna 2050: Regional City Growth Plan Key Issues and Opportunities Report* (February, 2019)
- the *Shepparton & Mooroopna 2050: Regional City Growth Plan Background Report* (September, 2019) which contains complementary information that provides an evidence base for this plan
- the *Key Issues and Opportunities Community Engagement Summary Report* (June, 2019)
- the *Shepparton & Mooroopna 2050 Primary School Engagement Report* (2018)
- the *Draft Growth Plan Community Engagement Summary Report* (January 2020)
- background reports
- community and stakeholder engagement
- *Shepparton East Agricultural Land Use Options Report March 2020*
- *Conversation Report – Shepparton and Mooroopna 2050: Regional City Growth Plan – Additional Community Consultation* (March 2020).

How will the Growth Plan be implemented?

The Growth Plan will be implemented as a Background Document with associated policy changes in the Planning Policy Framework section of the Greater Shepparton Planning Scheme. Development contributions will be collected through development contributions plans and other planning mechanisms as appropriate to pay for needed infrastructure. Planning permit applications will be guided by approved precinct plans and development plans. Other actions will be implemented through non-planning processes such as council programs and state government partnerships.

Key tasks in the development of the Growth Plan



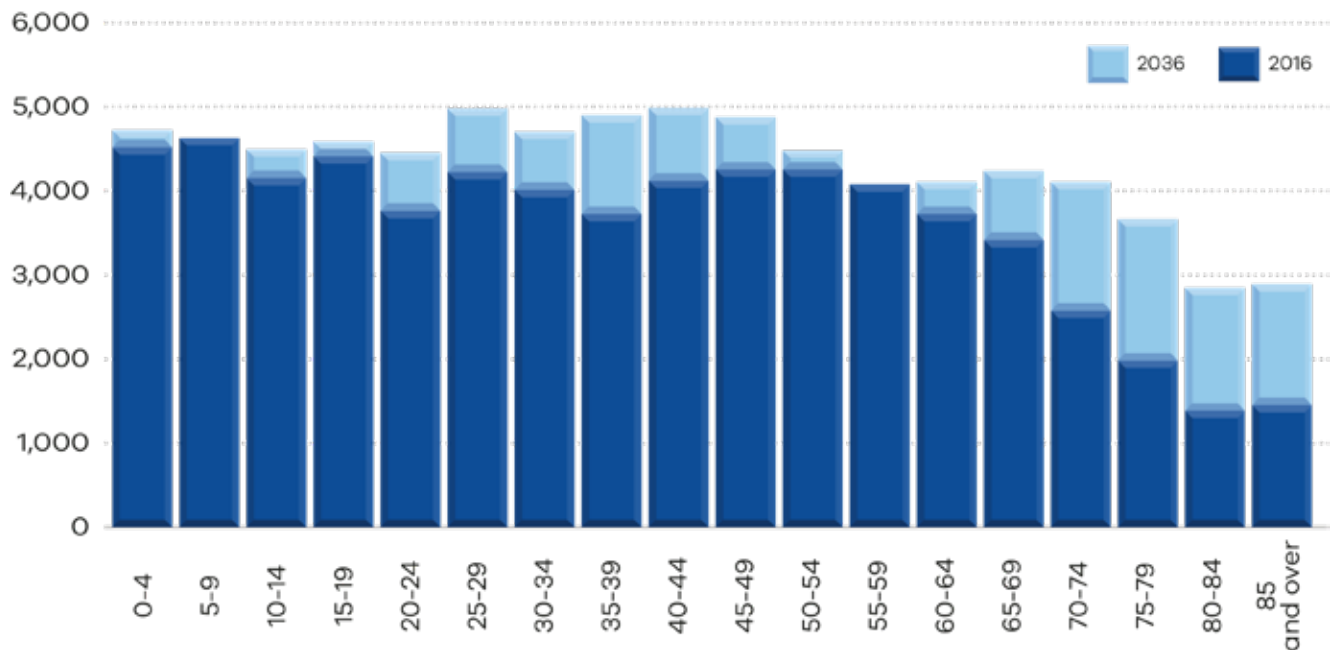
Growth context

Current drivers

The current population of the City of Greater Shepparton is 66,010 and it is anticipated to grow at an average annual growth rate of 0.9% out to 2036, for a projected population

of 77,690 (Victoria in Future, 2019)¹. The age groups that made up the population in 2016 and are anticipated to be represented in 2036 are identified in **Figure 1**.

Figure 1 Greater Shepparton population by age cohort 2016 – 2036



Source: Victoria in Future, 2019

Land and housing affordability are one key driver of population growth in Shepparton and Mooroolpna. Other key drivers include:

- Access to quality education including a range of public and private primary and secondary schools and tertiary education facilities.
- Several regional facilities including health and legal services and government offices and services.
- A thriving agricultural industry with a range of supporting businesses and services.
- A supportive and welcoming location for migrant settlement.

Future trends

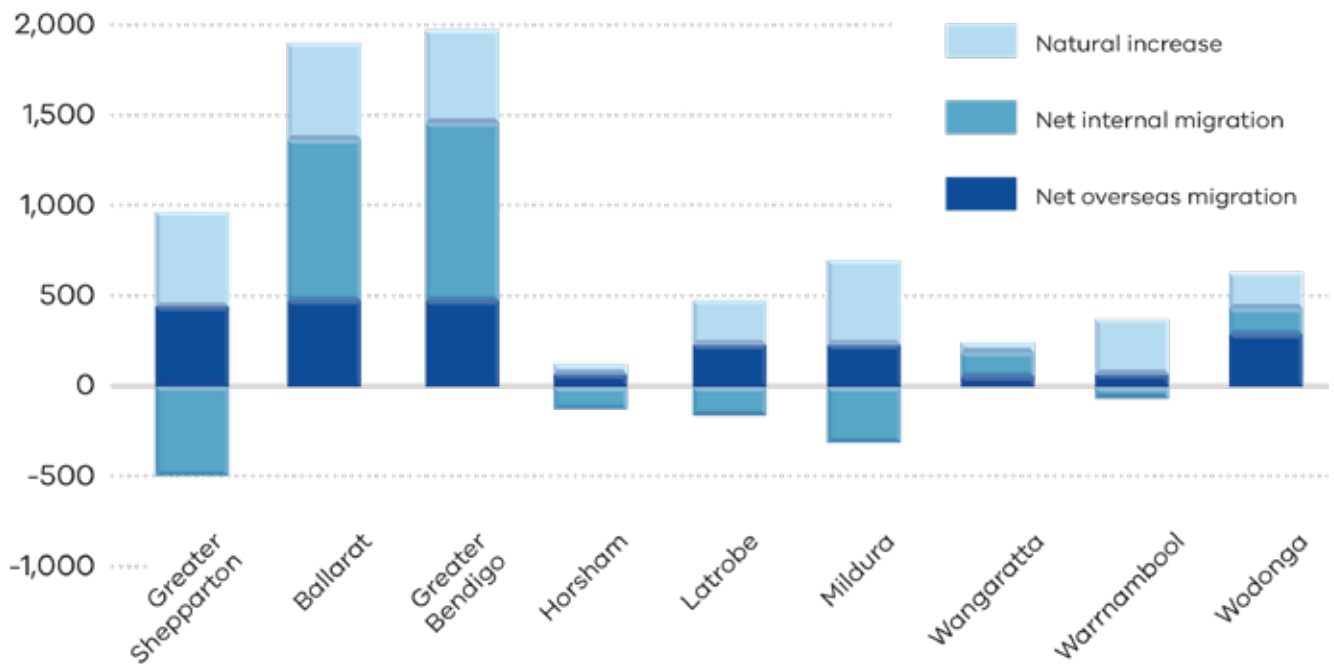
In regional Victoria, the main driver of population growth is net overseas and interstate migration (**Figure 2**). This trend is likely to increase with proposed federal government policies encouraging migrants to settle in regional areas.

Increased jobs numbers resulted in the City of Greater Shepparton having the lowest unemployment rate in 10 years, recorded in December 2018 (**Figure 3**). Continued job growth will attract new residents to Shepparton and Mooroolpna supporting population growth and economic vitality.

The Federal Government in association with several other consortia have proposed high-speed rail options to connect Shepparton with Melbourne and Sydney. These improved connections would result in an increased population growth rate, impacting on Shepparton and Mooroolpna's existing infrastructure and services. There is currently no funding commitment for this infrastructure, and it's considered unlikely construction will occur before 2050.

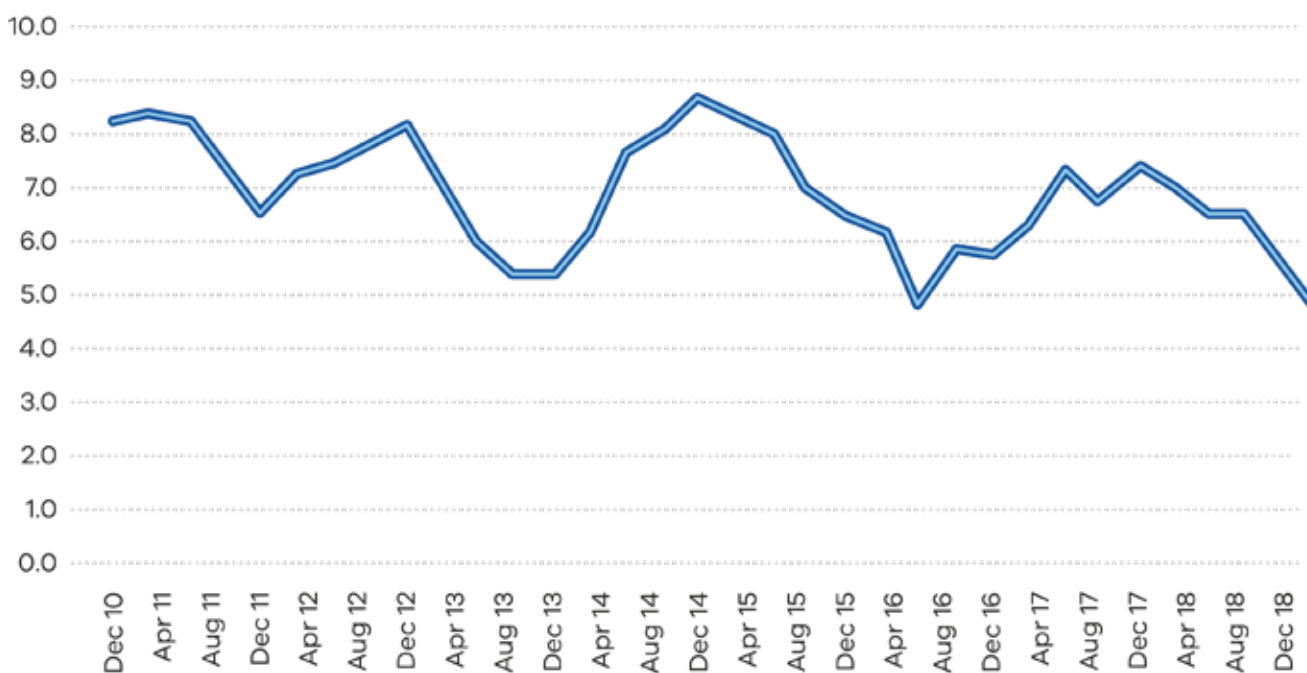
¹ Figures pre-date any known potential impact of Covid-19 on population projections.

Figure 2 Victorian regional cities components of population change 2016



Source: ABS cat. 3218

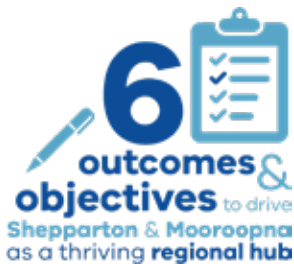
Figure 3 Greater Shepparton unemployment rate 2010 – 2018



Source: Commonwealth Department of Employment

How to read the Growth Plan

The Growth Plan is a long-term plan to guide the future of Shepparton and Mooroopna, it includes:



Shepparton and Mooroopna's unique attributes

Shepparton and Mooroopna include unique attributes that make the area desirable to live and visit, including:

- the Goulburn River and Broken River and associated Shepparton Regional Park
- KidsTown adventure playground
- Victoria Park Lake precinct
- Shepparton and Mooroopna train stations with connections to Seymour and Melbourne
- tertiary education opportunities, including La Trobe and Melbourne University and Goulburn Ovens Institute of Tafe (GOTAFE)
- a range of government and private primary and secondary school opportunities
- a large category 1 regional hospital (Goulburn Valley Health)
- a calendar of festivals and events, including the Shepparton Festival and Converge on the Goulburn
- a diverse and prosperous farming and agricultural industry
- a welcoming location for migrant settlement
- an expanding solar energy industry
- Shepparton Art Museum (SAM).

These attributes are highlighted and strengthened by the Growth Plan.



Timing Key

- immediate/ongoing: next **12 months**
- short term: **1-5 years**
- medium term: **5-10 years**
- long term: **10+ years**



VISION

The vision for Shepparton and Mooroopna was developed through engagement with council and key stakeholders. A single vision has been developed as both Shepparton and Mooroopna will contribute to the development of a prosperous regional hub.

The vision for Shepparton and Mooroopna is that will by 2050 it will:

Be a thriving regional hub with infrastructure to support social and economic wellbeing.



Offer an affordable and liveable lifestyle with diverse economic opportunities for residents and investors.



Embrace the natural environment and conserve places of cultural heritage significance.



Celebrate the functional and recreational opportunities associated with water.



Be a leader in renewable energy generation and climate change adaptation.



PRINCIPLES

The vision for Shepparton and Mooroopna is underpinned by 10 principles. Throughout the Growth Plan, the following icons are identified in the outcome chapters to show principles that are being implemented.



1. An inclusive and healthy community

Community infrastructure will enable gathering, sharing, and learning. Diverse public open space types will allow passive and active recreation by a variety of users.



6. Resilient and sustainable neighbourhoods

Growth will be directed to neighbourhoods with good access to services, jobs and amenities.



2. A healthy environment

The retention and addition of trees and natural spaces will remain a priority. The recreational opportunities associated with the environment and water will be promoted.



7. Integrated transport networks

Investment in a comprehensive transport network including road, rail, freight, cycling and pedestrian infrastructure will ensure a connected and economically robust city. Advocate for continued investment in public transport infrastructure.



3. Protection of productive agricultural land

Growth will be directed away from productive agricultural land. The region's agricultural offering will be strengthened.



8. A city of centres

The existing hierarchy of commercial centres will be strengthened. Connections to service hubs between towns with the wider region will be strengthened.



4. Efficient use of resources

Renewable energy sources, water sensitive urban design and active transport opportunities will be prioritised. Reuse, recycling and other sustainable waste management will be promoted.



9. A thriving and diverse economy

The city will build on its strengths and achieve its economic potential across a range of employment sectors. New businesses will be attracted to the city and existing businesses supported to grow.



5. Sustainable water management and use

Conservation and efficient use of water will be encouraged. River environments will continue to be protected from pollutants.



10. Develop attractive and distinctive places

A wide variety of sporting, recreational, art and cultural activities will be encouraged in key precincts with contemporary facilities. Places of cultural and heritage significance will be valued and conserved.

OUTCOMES

Six outcomes have been developed to drive Shepparton and Mooroopna as a thriving regional hub. Each outcome is supported by an objective which outlines what to strive towards to achieve the Growth Plan vision.

The outcomes and objectives are underpinned by 28 strategies that outline how the outcome will be achieved and 61 actions that outline how the strategies will be approached and delivered.

1. A city for the Goulburn Region

Objective 1 – To strengthen the city’s unique economic and physical attributes to attract residents, visitors and investment.



2. A city of liveable neighbourhoods

Objective 2 – To ensure areas of high liveability are protected and enhanced and opportunities to improve community wellbeing are delivered.



3. A city of growth and renewal

Objective 3 – To provide sufficient land supply and urban renewal opportunities to ensure affordable and attractive living options are maintained.



4. A city with infrastructure and transport

Objective 4 – To deliver a diverse and connected transport supporting vehicles, cyclists, pedestrians and public transport.



5. A city this is greener and embraces water

Objective 5 – To ensure “greening” is at the forefront of decision making and sustainable water consumption is prioritised.

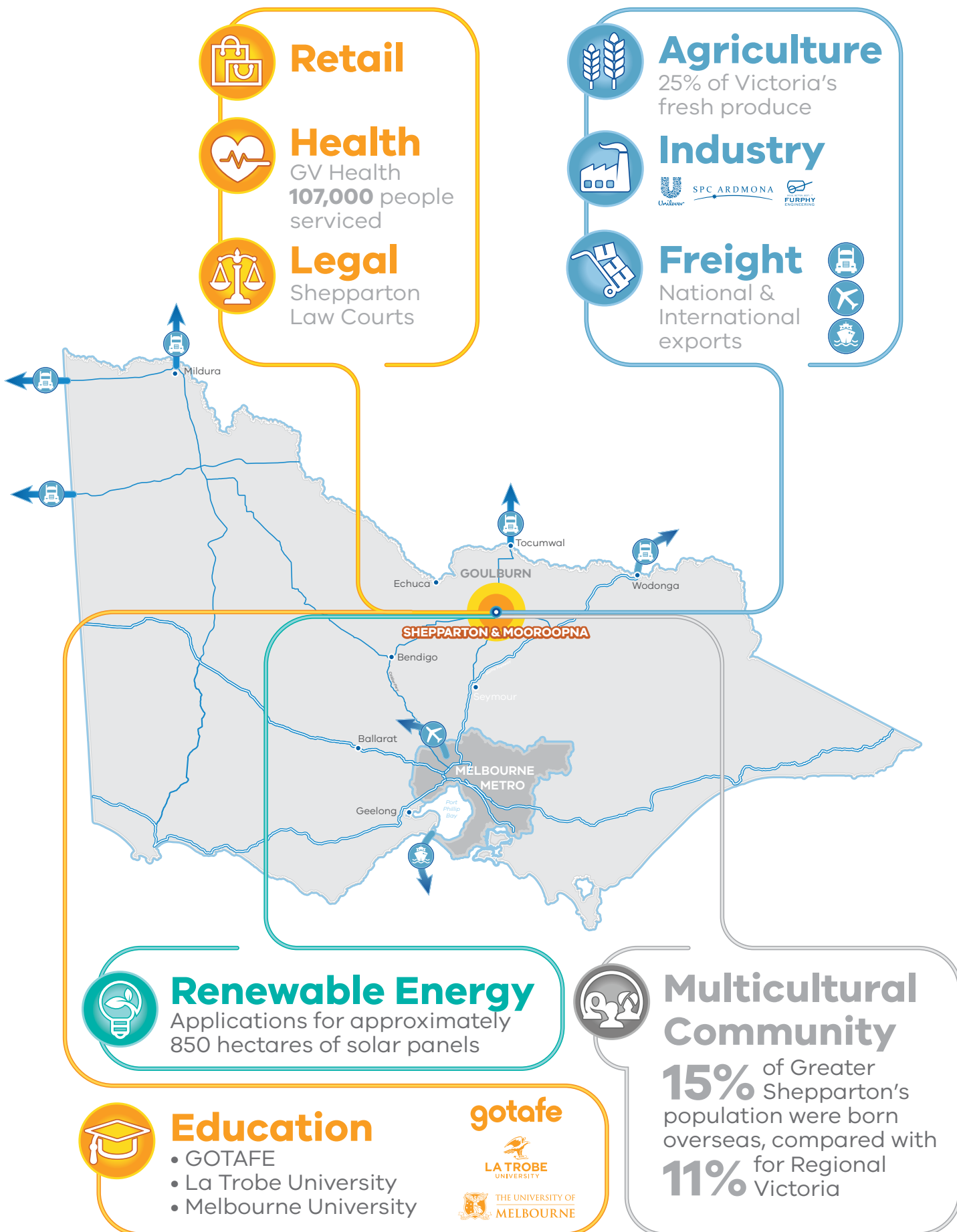


6. A city of innovation and resilience

Objective 6 – To ensure adaptation to climate change and a robust economy for continued prosperity in times of change.



Figure 4 Service hub



OUTCOME 1 - A city for the Goulburn Region



Greater Shepparton is recognised as the food bowl of Victoria with its economy being driven by agriculture, particularly fruit, vegetable and dairy products. The allocation of sufficient industrial land and investment in road and rail infrastructure will support the agricultural sector and the growth of existing, and the attraction of new, food processing and freight businesses.

Irrigation is critical to support the agricultural industry. The Goulburn Murray Irrigation District (GMID) is the largest irrigation system in Victoria and accounts for more than 70% of water stored in Victoria and almost 90% of water used in irrigation across the State.² Encourage ongoing investment in the GMID will ensure the prosperity of the agricultural industry and co-depending sectors continues.

Greater Shepparton is a service hub for northern Victoria and southern NSW (**Figure 4**). The city is becoming an increasingly popular location for businesses and government agencies to locate. Marketing appropriate leasable sites will be important to support this trend.

Visitors are attracted to the city to access health, retail, education, legal and government services. These sectors should be supported and encouraged to expand to continue to meet community needs. Council has adopted the *Commercial Activity Centres Strategy* (November, 2015) to ensure the Shepparton Central Business District (CBD) remains the primary focus for retail and commercial investment in the region. The Mooroopna CBD is identified as a sub-regional centre, its role is to serve an immediate catchment in the surrounding urban area, and the rural and regional hinterland.

Council and others have moved forward with significant initiatives to establish Greater Shepparton as a university city. If effectively established, the community will be able to adapt to the changing environment and maintain skills relevant to the advancement of the region. Locally based knowledge and skills can sustain a stable local labour force that drives innovation to the benefit of local based industries. Considerable investment in health infrastructure is also

underway. \$229 million was provided for stage 1 expansion of the GV Health Graham Street campus, with \$2 million committed to complete planning works for stage 2. \$26 million has also been received for an integrated cancer centre.

The *Shepparton Health and Tertiary Education Precincts Action Plan* (February 2020) has been prepared to continue to drive Shepparton as a health and tertiary education destination.

The city's key industries and services are supported by a diverse population. This cultural diversity makes the city unique, celebrating this and ensuring community awareness and understanding of the economic, educational, social and cultural benefits of multiculturalism is central to the city's future. *The Greater Shepparton Multicultural Strategy 2019 – 2022* (2019) has been developed to assist in achieving this vision.

The Yorta Yorta Nation Aboriginal Corporation are the Registered Aboriginal Party (RAP) for the Shepparton and Mooroopna area. The City of Greater Shepparton has a higher portion of people who identified as Aboriginal and Torres Strait Islander (3.4%) compared with the regional Victoria average (1.8%)³. However, anecdotal evidence shows that this is underrepresented, and this figure is nearly three times this.

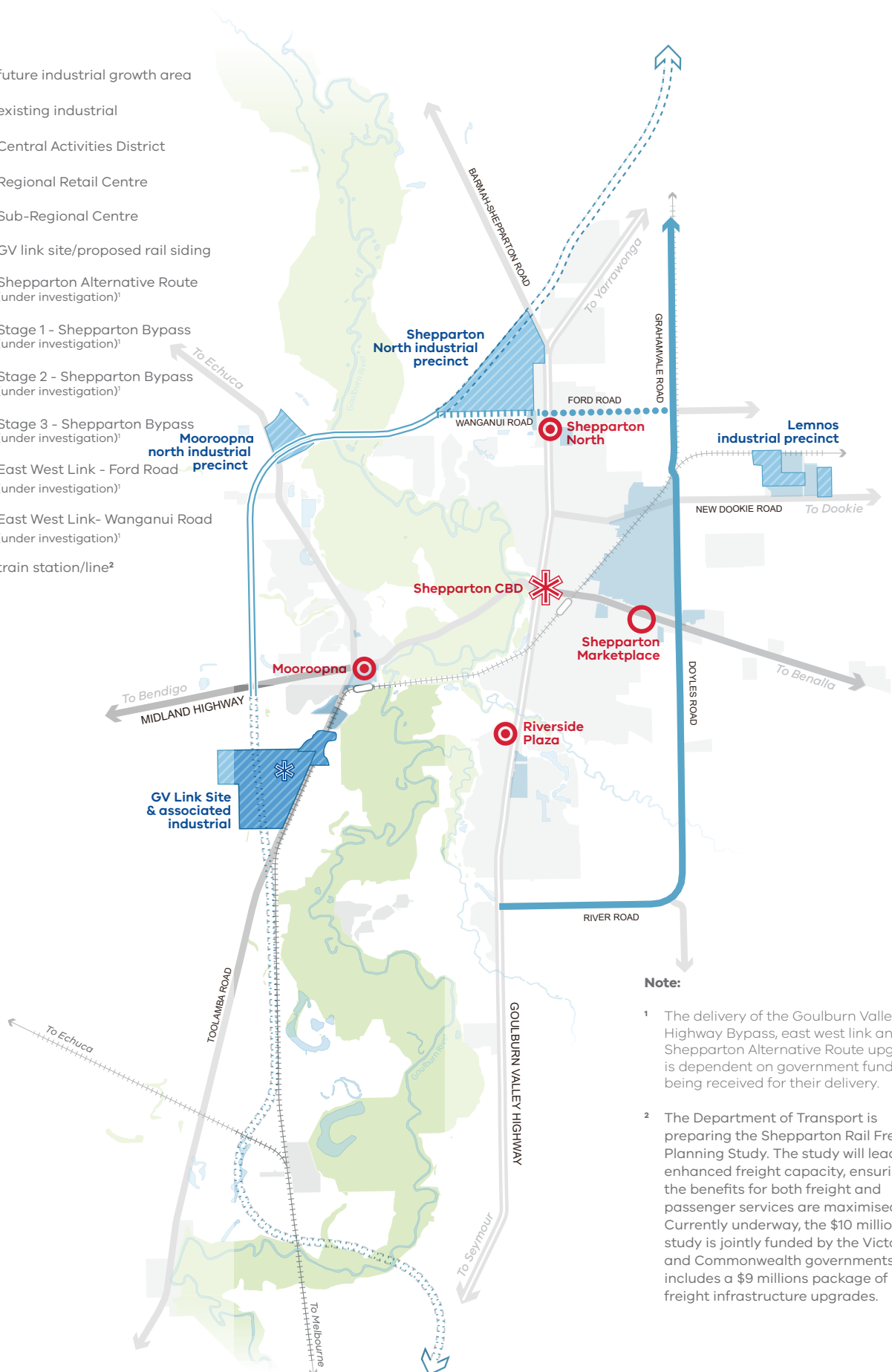
The *Greater Shepparton City Council Reconciliation Action Plan* (Reflect) (July, 2019) is an internal organisational plan that outlines Council's commitment to reconciliation and to ensuring Aboriginal and Torres Strait Islander Peoples and cultures are respected, acknowledged and celebrated. Meaningful relationships and partnerships with the Aboriginal and Torres Strait Islander community should continually be developed for an inclusive and empowered community.

² Goulburn Murray Irrigation District, GMW Connections Project Fact Sheet 10

³ id the population experts, Indigenous profile, 2016, <https://profile.id.com.au/shepparton/population>

Plan 3 Industrial Growth Areas

- future industrial growth area
- existing industrial
- Central Activities District
- Regional Retail Centre
- Sub-Regional Centre
- GV link site/proposed rail siding
- Shepparton Alternative Route (under investigation)¹
- Stage 1 - Shepparton Bypass (under investigation)¹
- Stage 2 - Shepparton Bypass (under investigation)¹
- Stage 3 - Shepparton Bypass (under investigation)¹
- East West Link - Ford Road (under investigation)¹
- East West Link- Wanganui Road (under investigation)¹
- train station/line²



- Note:**
- ¹ The delivery of the Goulburn Valley Highway Bypass, east west link and Shepparton Alternative Route upgrades is dependent on government funding being received for their delivery.
 - ² The Department of Transport is preparing the Shepparton Rail Freight Planning Study. The study will lead to enhanced freight capacity, ensuring the benefits for both freight and passenger services are maximised. Currently underway, the \$10 million study is jointly funded by the Victorian and Commonwealth governments, and includes a \$9 millions package of rail freight infrastructure upgrades.



Industrial investigation areas

The planning scheme identifies a number of industrial investigation areas as potential locations for growth, subject to significant issues or constraints being resolved. These investigation areas were identified as part of Amendment C162 *City of Greater Shepparton Industrial Land Review* (2011). Investigation areas 7 to 11 are within the scope of the Growth Plan. Investigation areas 12 and 13 are located in Tatura and have not been resolved, these are beyond the scope of the Growth Plan. Investigation areas 7, 8, 9 and 11 are identified in **Action 1.1.1** of the Growth Plan as suitable locations for industrial development, subject to the resolution of development constraints. Investigation area 10 is also identified as a residential investigation area and is not considered appropriate for urban development, this is discussed in **Outcome 3** of the Growth Plan.

Industrial Land

The *Industrial Land Supply & Demand Assessment* (2019) concludes Greater Shepparton is currently experiencing a rapid increase in the consumption of industrial land and currently has insufficient zoned industrial land for the medium to long term.

Several industrial investigation areas are currently identified in the planning scheme. It is considered these are all appropriate for industrial development, subject to a number of development and infrastructure constraints being resolved.

The future industrial growth areas are identified on **Plan 3** and **Table 1**. Investment in road and rail infrastructure is extremely important to support the development of the proposed industrial growth areas. This infrastructure will be dependent on funding from State or Federal Government. Advocating for this infrastructure will be essential in driving the growth of the industrial sector.

Each of the future industrial area's will require a structure plan and associated infrastructure funding mechanism to support their development.

Table 1 Industrial growth areas

NAME	DEVELOPMENT CONSTRAINTS	ZONING	LIKELY USES
Shepparton north industrial precinct (previously Investigation Area 7)	Access to the surrounding road network	Currently in the Farming Zone, requires rezoning for an industrial purpose.	Future uses will leverage off strategic location adjacent to proposed transport infrastructure.
GV Link Site and associated industrial land (previously investigation Area 8)	Flooding and servicing	GV Link Site is zoned Special Use Zone to identify its role as a transport and logistics centre. The future industrial area required rezoning for an industrial purpose.	Uses that complement the GV Link Site such as transport, automotive services, and food storage and distribution.
Mooroopna north industrial precinct (previously Investigation Area 9)	Servicing infrastructure	Industrial 1 Zone.	Future uses will leverage off strategic location adjacent to proposed transport infrastructure.
Lemnos industrial precinct (previously Investigation Area 11)	Requires connection to reticulated sewerage	Existing industrial land in Industrial 1 Zone, future industrial area requires rezoning for an industrial purpose.	Expansion of the existing transport and warehousing businesses.

Objective 1 – To highlight Shepparton and Mooroopna’s unique attributes to attract people and investment to enhance strategic advantages.

Strategy 1.1 Facilitate the expansion of the freight and industrial sector

	Action	Timeframe	Responsibility
1.1.1	Plan for industrial land in the locations identified on Plan 3 by and in Table 1 by resolving development constraints and advocating for regionally significant infrastructure.	Immediate	Council
1.1.2	Advocate for investment in the road and rail infrastructure identified on Plan 3 to strengthen freight and industry as key economic drivers.	Ongoing	Council
1.1.3	Advocate for funding to deliver the Goulburn Valley Freight & Logistics Centre (GV Link site) and associated rail siding.	Medium	Council

Strategy 1.2 Reinforce the importance of the Goulburn Murray Irrigation District (GMID) to encourage ongoing investment

	Action	Timeframe	Responsibility
1.2.1	Support the preparation of the GMID Master Plan to ensure the long-term growth, sustainability and prosperity of the GMID.	Immediate	Council, DJPR, GBCMA & GMW
1.2.2	Prepare a communication and media program to increase awareness and understanding of EPA guidelines and farm management practices.	Medium	Council, GBCMA, EPA & GMW
1.2.3	Develop an agricultural brand for the region which highlights key strengths and investment attraction opportunities.	Medium	Council, DJPR, GMW and the GBCMA

Strategy 1.3 Explore the relocation of the current Shepparton Airport site

	Action	Timeframe	Responsibility
1.3.1	Continue to explore a suitable location and advocate for funding to re-locate the existing Shepparton Airport.	Long	Council

Strategy 1.4 Strengthen and support the growth of the business community

	Action	Timeframe	Responsibility
1.4.1	Update the <i>Greater Shepparton Economic Development, Tourism & Events Strategy 2016 – 2020</i> (2016) to support existing and attract new businesses.	Short	Council
1.4.2	Develop and maintain a database of available development sites and rental floorspace to streamline enquiries with government agencies and businesses.	Short	Council
1.4.3	Prepare a structure plan for the Shepparton north sub-regional centre.	Short	Council

Strategy 1.5 Strengthen the city as a leading tertiary education and health service hub

	Action	Timeframe	Responsibility
1.5.1	Implement the <i>Shepparton Health and Tertiary Education Precincts Action Plan</i> (February 2020).	Short	Council, GV Health, La Trobe University and GOTAFE
1.5.2	Develop a business case for the Shepparton Clinical Health and Education Precinct to attract investment.	Short	Council, GV Health, La Trobe University and GOTAFE



OUTCOME 2 - A City Of Liveable Neighbourhoods



Liveability reflects the wellbeing of a community and includes the many characteristics that make a location a place where people want to live now and into the future. A liveable place is one that is safe, attractive, socially cohesive, inclusive and environmentally sustainable.

Approximately 71% of people in Greater Shepparton travel to work by car slightly higher than the average of 67% across regional Victoria⁴. Designing Shepparton and Mooroopna’s streets to be walking and cycling friendly will encourage the community and visitors to walk and cycle, reducing car dependency.

The Shepparton and Mooroopna landscape is relatively flat and ideal for cycling. Investing in infrastructure to enhance cycling as a safe and convenient transport option for both commuting and recreational purposes will contribute to health and wellbeing, reduce congestion and promote environmental sustainability. This investment should include a broad range of cycling opportunities including strategic cycling corridors, principle bicycle network, BMX, mountain biking and regional trails to establish the city as a cycling destination.

Shepparton and Mooroopna include a comprehensive open space network. Existing open space assets should be protected and enhanced to continue to contribute to liveability. Funding for enhancements should be prioritised to areas of most need.

Council facilitates a community plan program in townships and neighbourhoods. A number of communities across Shepparton have developed community plans. A community plan is a written document that identifies a community’s strengths and outlines how these strengths can be utilised to build capacity and enable empowerment in the future. The community plan process helps foster social connections, which is particularly important in new growth areas where a community is emerging.

The network of townships that surround Shepparton and Mooroopna play an important role in supporting liveability. Detailed consideration of these townships falls beyond the scope of this document however they should be acknowledged as providing community infrastructure, employment and alternative and often more affordable housing options for Shepparton and Mooroopna’s residents. Planning for these townships is considered in the *Greater Shepparton Townships Framework Plan Review* (2019). This process should be supported and reviewed where appropriate in the future.

Five major venues with electronic gaming machines are in the centre of Shepparton, with an additional venue in Mooroopna. All venues are located within, or in close proximity of a neighbourhood identified as having the highest levels of socio-economic disadvantage in Victoria.

Greater Shepparton is subject to a gaming machine cap imposed by the Victorian Commission for Gambling and Liquor Regulation. However, additional guidance is required to ensure the location and opening hours of future venues minimises the harm from gaming and does not negatively affect the amenity of locations.

Several actions within the Growth Plan will also have positive liveability impacts particularly around improving access to public transport and community infrastructure, and better utilisation of the river environment for recreation.

⁴ .id the population experts, Method of travel to work, 2016, <https://profile.id.com.au/shepparton/travel-to-work>



Objective 2 – To ensure areas of high liveability are protected and enhanced and opportunities to improve community wellbeing are delivered.

Strategy 2.1 Improve streetscape amenity for a more walkable community

	Action	Timeframe	Responsibility
2.1.1	Advocate for funding to deliver a pedestrian overpass at Shepparton Railway Station to improve pedestrian accessibility and connection to the CBD.	Medium	Council and DoT
2.1.2	Prioritise the allocation of capital works funding for accessibility and streetscape improvements to activity centres, schools and train stations to encourage walkability.	Medium	Council and DoT
2.1.3	Prioritise the allocation of capital works funding for streetscape improvements on the key pedestrian links to encourage residents and visitors to walk to key attractions.	Medium	Council and DoT

Shepparton Railway Precinct Master Plan

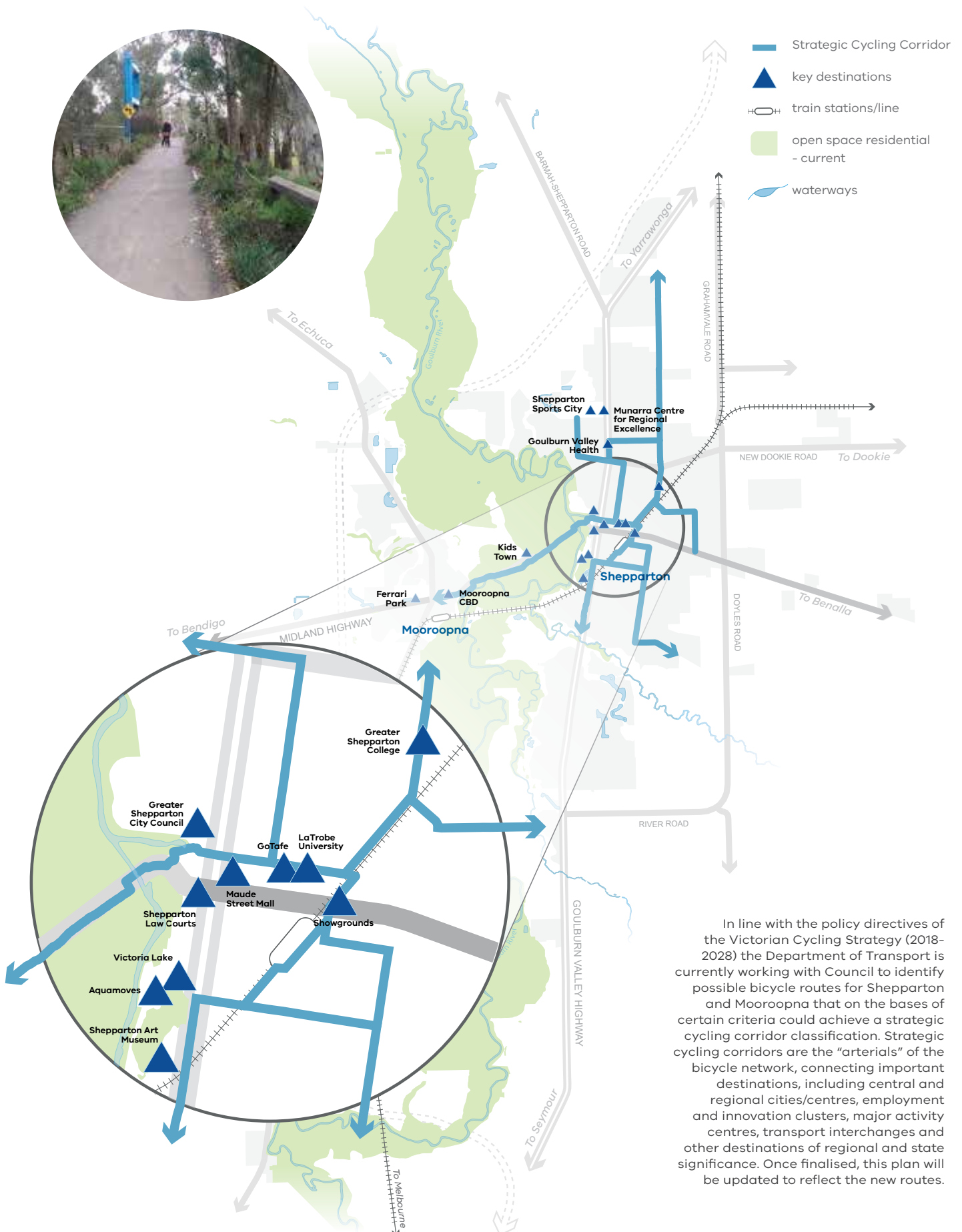
The Master Plan was prepared by Spiire Australia Pty Ltd and finalised in 2017 to set a vision for the station to be a welcoming destination that is well integrated with, and accessible to, the Shepparton CBD.

A key piece of infrastructure required to deliver this vision is a pedestrian overpass to allow access to Shepparton Station from Hoskin Street. Arcadis Pty Ltd prepared the *Shepparton Railway Station Pedestrian Overpass Concept Plan (2019)* which includes architectural drawings and artist impressions of the overpass to assist council to advocate for funding for the delivery of this project.

Shepparton Station pedestrian overpass artist impression - view from east (station car park), prepared by Arcadis Pty Ltd, 2019



Plan 4 Cycling Corridors



In line with the policy directives of the Victorian Cycling Strategy (2018-2028) the Department of Transport is currently working with Council to identify possible bicycle routes for Shepparton and Mooroopna that on the bases of certain criteria could achieve a strategic cycling corridor classification. Strategic cycling corridors are the “arterials” of the bicycle network, connecting important destinations, including central and regional cities/centres, employment and innovation clusters, major activity centres, transport interchanges and other destinations of regional and state significance. Once finalised, this plan will be updated to reflect the new routes.

Strategy 2.2 Support the city as a cycling destination

	Action	Timeframe	Responsibility
2.2.1	Update the <i>Greater Shepparton Cycling Strategy 2013 – 2017</i> (2013) to reinforce local and regional connections. Include the connections to key destinations identified on Plan 4 .	Short	Council and DoT
2.2.2	Advocate for funding to deliver township connections and enhance the existing cycling opportunities identified on Plan 5 to develop the city as a regional cycling destination.	Ongoing	Council and DoT

Regional cycling destination

Shepparton BMX track

The BMX Australian National Championships have been held at the Shepparton BMX track four times in the past 10 years, including the 2019 championships held in May. The track recently benefited from a redevelopment after receiving \$635,000 from the Victorian Government. The 2019 Championships attracted approximately 3,000 athletes and their support teams to Shepparton and is estimated to have injected \$3.8 million into the local economy. The 2020 BMX World Cup event was hosted at the track.

Mount Major Mountain Bike Course

The Greater Shepparton Economic Development, Tourism & Events Strategy 2016 – 2020 (2016) identifies updates to this mountain bike destination as a future minor project for consideration. Continued improvements to the course, trail head facilities and accessibility via Mt Major and TV Access Road is required to enhance the course and attract visitors. Melbourne University and the Goulburn Valley Mountain Bike Club and Parks Victoria are key stakeholders in this project and should be consulted with to assist with funding applications.

Shepparton Regional Park

The *RiverConnect Paths Master Plan* (2015) outlines a network of walking and cycling trails within the Shepparton Regional Park. The project provides the opportunity to connect people with the Goulburn River as well as proving a means for connecting people to an understanding of culture and knowledge through interpretive signage. The delivery of any off-road cycling trails should look to make these multi-purpose for horse riders.

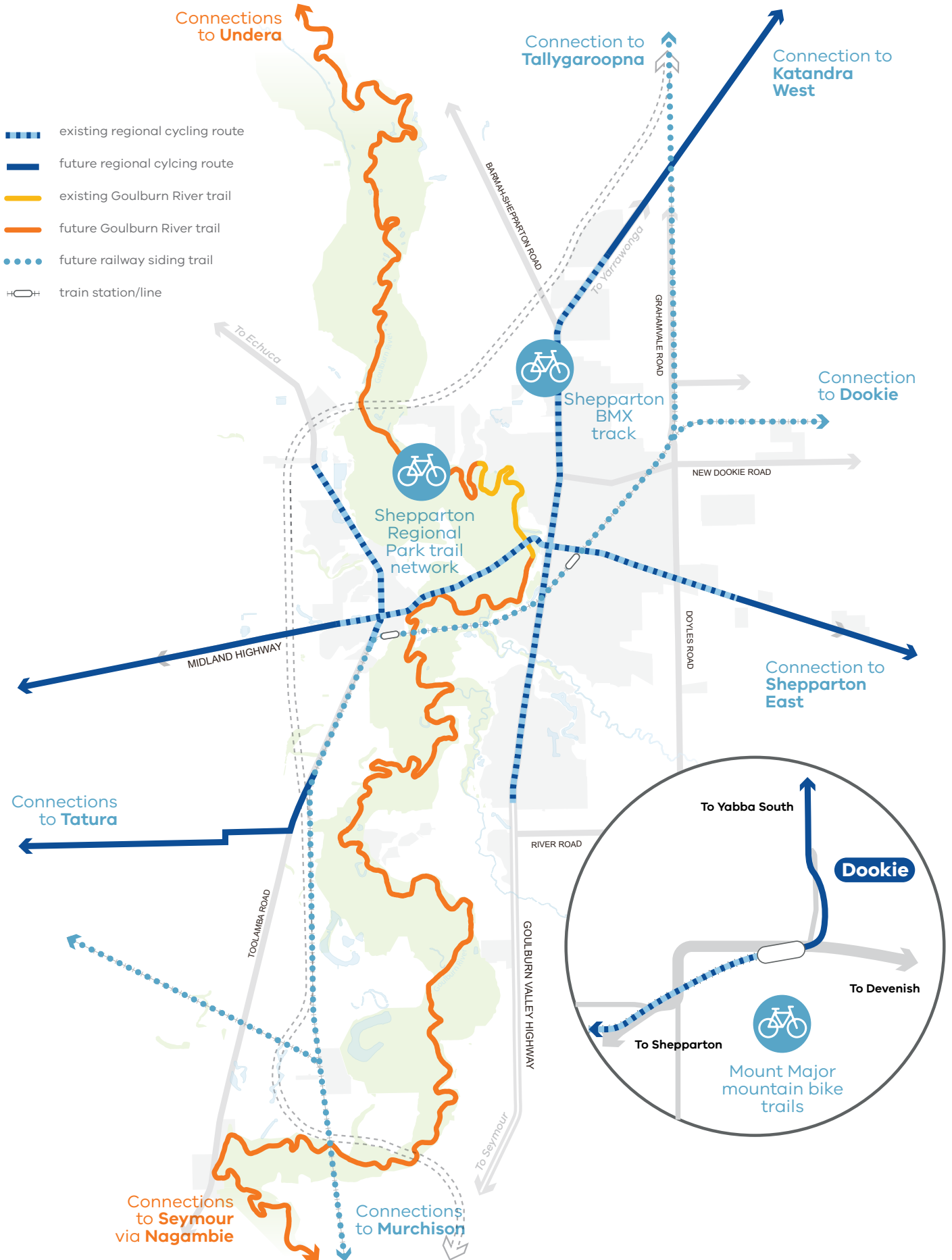
Outcome 5 of the Growth Plan discusses this network and identifies opportunities for expansion.

Shepparton to Seymour trail via Nagambie

The *Hume Region Significant Tracks and Trails Strategy 2014 – 2023* (2014) identifies a cycling connection from Shepparton to Seymour via Nagambie. The path would follow the Goulburn river so would be an attractive recreational path. This connection is costed at approximately \$17.4 million.



Plan 5 Regional cycling destination



Strategy 2.3 Enhance Shepparton and Mooroopna’s open space network by prioritising investment in improvements

	Action	Timeframe	Responsibility
2.3.1	Prepare an audit and funding prioritisation strategy for all council’s open space assets and prepare an open space strategy to direct capital works investment in areas of most need.	Medium	Council

Strategy 2.4 Maintain the Community Planning program

	Action	Timeframe	Responsibility
2.4.1	Implement the Community Planning program in the recently completed and future growth areas identified in Outcome 3 of the Growth Plan.	Ongoing	Council

Strategy 2.5 Respond to change in the townships within Greater Shepparton to define a vision for their future

	Action	Timeframe	Responsibility
2.5.1	Implement the <i>Greater Shepparton Townships Framework Plan (2019)</i> in the Greater Shepparton Planning Scheme and ensure ongoing reviews to this plan to ensure it responds to changing needs and priorities for the townships.	Ongoing	Council
2.5.2	Review the Framework Plan for the Shepparton East township.	Immediate	Council

Strategy 2.6 Minimise negative social and economic impacts from gambling by regulating the number and location of gaming premises

	Action	Timeframe	Responsibility
2.6.1	Prepare a Greater Shepparton Gaming Policy and implement in the Greater Shepparton Planning Scheme.	Medium	Council

OUTCOME 3 - A City Of Growth and Renewal

Principles:    

Existing growth areas

The *Greater Shepparton Housing Strategy* (2011) has informed the planning of growth areas in Shepparton and Mooroopna. The current growth corridors for Shepparton and Mooroopna are identified in **Table 2**.

Table 2 Current residential growth areas

Growth corridor	Strategic document	Ultimate supply (dwellings)
Mooroopna West	Mooroopna West Structure Plan and Growth Corridor Development Contributions Plan	1,600
Shepparton North East	Shepparton North East Precinct Structure Plan and Development Contributions Plan	1,500
Shepparton South East	Shepparton South East Precinct Structure Plan and Development Contributions Plan	2,500
Total		5,600

Future growth areas

Victoria in Future (VIF) 2019 estimates Greater Shepparton will require approximately 350 new dwellings per annum to accommodate projected population growth. This equates to approximately 6,000 dwellings to 2036⁵.

The current growth corridors (see **Table 2**) will provide an ultimate dwelling supply of 5,600, which is expected to accommodate approximately 15 years supply. State policy directs that councils should provide for a minimum of 15 years land supply.

Considering some growth planning will involve the preparation of precinct structure plans that take time to complete (2 to 3 years), it's

necessary to commence forward planning for future land release. This is supported by the *Residential Land Supply Demand Assessment* (2019). A diversity in growth fronts will allow flexibility to respond to influences and changes in supply and demand.

The *Greater Shepparton Housing Strategy* (2011) identified a number of residential investigation areas that remained unresolved at the time of preparing the Growth Plan. A key outcome of the Growth Plan was to resolve the status of these investigation areas to alleviate uncertainty. The investigation areas considered and their status at the time of preparing the Growth Plan are identified in **Table 3**.

Table 3 Investigation Areas considered for residential growth

Investigation Area	Has any strategic planning work been completed to date?	Is this investigation area within the settlement boundary?
1 – Kialla Paceway & Shepparton Greyhound racing environs	Yes – identified for a mix of low density residential and equine related activities.	Yes
2 – Raftery Road, Kialla	Yes – a model of flood behaviour to show the extent of developable land.	Yes
3 – Adams Road area, Kialla	Yes – the land has been rezoned to the Urban Growth Zone.	Yes
4 – East of Grahamvale Road (also identified as Investigation Area 10 – discussed in Outcome 1 of the Growth Plan).	No	No

⁵ Figures pre-date any known potential impact of Covid-19 on population projections.

Investigation areas 1, 2 and 3 had all gone through a strategic planning process to be identified for growth, therefore are reinforced in the Growth Plan as future short-and medium-term growth areas. These areas will accommodate approximately 3,300 dwellings. These areas are expected to provide an additional 10 years residential land supply.

The Shepparton aerodrome and the former Radio Australia site were identified as strategic long-term growth opportunities. Similarly land at Kialla Central is identified in the Housing Strategy as long term future growth, this is affirmed in the Growth Plan. Considering the residential supply provided by the current, short-and medium-term growth areas, these strategic opportunities should be looked at in the long term.

Investigation area 4 is not required from a residential land supply perspective. This land will remain in the Farming Zone and reinforced as viable agricultural land as supported by the *Shepparton East agricultural land use option report* (2020).

Land immediately to the east of the Shepparton Alternative Route (Doyles Road) between the Midland Highway and the Shepparton-Dookie Railway Line will remain in the Farming Zone. The Farming Zone provisions facilitate the use of land for rural industrial uses, including transport-related uses, that do not adversely affect the use of land for agriculture and where land use conflicts can be mitigated. Where appropriate, Council will support the use of this land for rural industry, which must be considered through the planning permit process on a case-by-case basis, particularly where such uses rely on proximity to the Principal Freight Network, uses that require a large site or uses related to agriculture that cannot generally be accommodated in the existing industrial zones. It should be noted that direct access to the Shepparton Alternative Route will not generally be supported, and access should be directed to Old Dookie Road and New Dookie Road.

The future residential growth areas are identified in **Table 4**.

Table 4 Future residential growth areas

GROWTH AREAS	TIMING	SUPPLY	KEY DEVELOPMENT CONSTRAINTS
Kialla North Growth Corridor (formerly investigation area 3)	Short	2,150	Flooding, drainage, access and servicing.
Kialla West Growth Corridor (formerly investigation area 2)	Medium	800	Flooding, access, bushfire and servicing.
Kialla South Growth Corridor (formerly investigation area 1)	Medium	350	Flooding, drainage and access.
Kialla Central	Long	To be confirmed	Servicing and community infrastructure.
Former Radio Australia Site	Long	To be confirmed	Community infrastructure, native vegetation, heritage, drainage and access.
Shepparton Airport	Unkown	To be confirmed	Drainage and access.

Short term (1 – 5 years)

Kialla North Growth Corridor

The Kialla North Growth Corridor is within the Urban Growth Zone but needs a Precinct Structure Plan and Development Contributions Plan prepared to support development. The key issues that need to be addressed include an appropriate flooding and drainage solution, servicing and access onto Archer,

River and Doyles Roads. The potential widening of the Shepparton Alternative Route will need to be considered as part of the detailed planning of this growth area. It is anticipated to provide approximately 2,150 dwellings, however this number might be reduced due to drainage and flooding issues.

Medium (5 – 10 years)

Kialla West Growth Corridor

The Rural Living Zone currently applies to the land and is subject to a current 8-hectare minimum lot size requirement. A model of flood behaviour has been prepared to show the extent of developable land. This requirement will remain until a Precinct Structure Plan and Development Contributions Plan have been prepared to facilitate a low-density residential estate. Standard residential density will be considered if flooding, access, bushfire and servicing constraints can be resolved. The density of this growth corridor must be respectful of the existing context of the area, and development must recognise and be integrated with the existing Kialla West Township.

Development must recognise and mitigate risks associated with bushfire due to the vegetation in the area, as well as the location of the blast zone of the APA High Pressure Gas Pipeline.

Land west of Raftery Road, between Raftery Road and the Arcadia Downs Estate, within the Rural Living Zone and Farming Zone may realise some rural residential potential in the short-medium term. The rural residential development of this land will not require a Precinct Structure Plan.

Kialla South Growth Corridor

Further work is required to support the rezoning and development of this area including an appropriate flooding and drainage solution, servicing and resolving access onto River Road. The potential widening of the Shepparton Alternative Route will need to be considered as part of the detailed planning of this growth area. This area will include a mix of low density and equine-related low-density development. This development will deliver approximately 350 dwellings.

Development must recognise and mitigate risks associated with the location of the blast zone of the APA High Pressure Gas Pipeline.

Long (10+ years)

Kialla Central

The Kialla Central area currently includes a small number of low-density residential lots and a primary school. Dependant on land supply needs, a Kialla Central Structure Plan should be prepared in the long term to:

- Investigate the most appropriate land use mix in the area.
- Determine the need for additional community infrastructure. New development must ensure connectivity to existing road networks and walkability to existing community facilities, particularly the primary school. Any expansion must have regard to the role and function of the Shepparton Alternative Route must provide sufficient buffers to this key network.

- Investigate servicing.
- Review the application of surrounding existing residential zones and the densities proposed in these.
- Review the most appropriate zones for the land around the Kialla Central Township, having regard to the development constraints applying at the time. The development of this growth corridor must recognise and be integrated with the existing Kialla Central Township.

Former Radio Australia Site

The former Radio Australia site is located at 490 Verney Road, Grahamvale. Subject to land supply needs, this site is considered appropriate for long term development as:

- It is all in one ownership
- It is not being actively farmed.
- It has not received recent investment in irrigation infrastructure.

A development plan would need to be prepared to support the development of this site to consider issues including:

- The provision of community recreation facilities to support the existing schools on the west side of Verney Road.
- Native vegetation.
- Heritage.
- Safe pedestrian access across Verney Road.
- An appropriate buffer to ensure farming operations to the east and south are not compromised.
- Drainage.

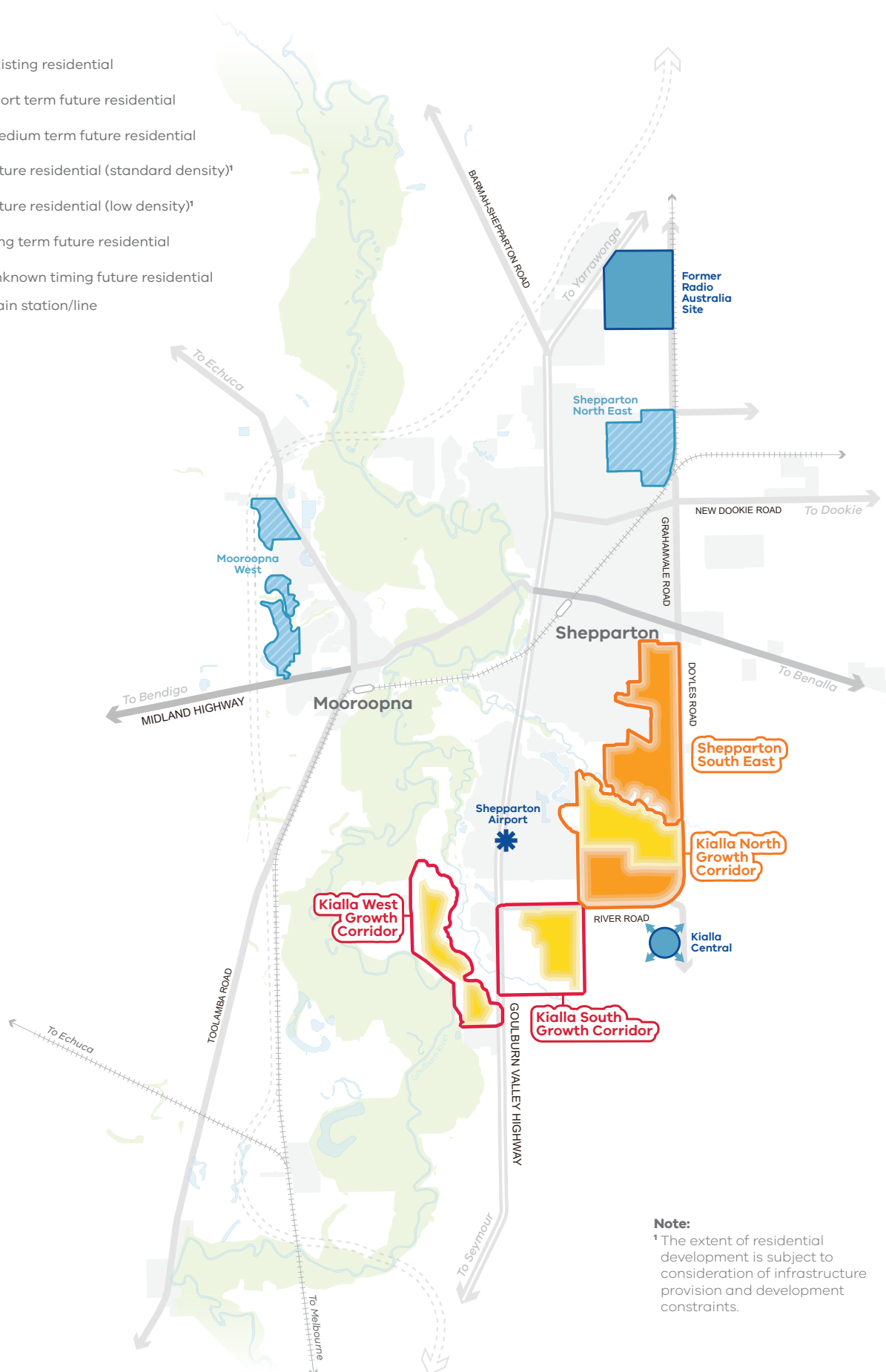
Shepparton Airport

To take advantage of opportunities for both passenger and freight movements, there is a desire to look to relocate the Shepparton Airport. If this relocation occurs, there would be a strategic redevelopment site available. A development plan and infrastructure contributions mechanism would need to be prepared to support an appropriate development depending on land supply and community needs.

Until the relocation of the Shepparton Airport is confirmed, ongoing investment at the current site should continue to be supported and encouraged in the medium to long term, particularly where that investment ensures that safety standards can be maintained.

Plan 6 Residential growth corridors

- existing residential
- short term future residential
- medium term future residential
- future residential (standard density)¹
- future residential (low density)¹
- long term future residential
- unknown timing future residential
- train station/line



Note:
¹ The extent of residential development is subject to consideration of infrastructure provision and development constraints.

Objective 3 – To provide sufficient land supply and urban renewal opportunities to ensure affordable and attractive living options are maintained.

Strategy 3.1 Facilitate new housing in identified growth areas around the City

	Action	Timeframe	Responsibility
3.1.1	Prepare and implement the Shepparton South East Precinct Structure Plan and Development Contributions Plan in the planning scheme.	Immediate	VPA and council
3.1.2	Prepare a Precinct Structure Plan and Development Contributions Plan for the Kialla North Growth Corridor.	Short	Council and proponent
3.1.3	Prepare a Structure Plan and infrastructure contributions mechanism for the Kialla South Growth Corridor.	Medium	Council and proponent
3.1.4	Maintain the current 8-hectare minimum lot size requirement, until a Precinct Structure Plan and Development Contributions Plan for the Kialla West Growth Corridor have been prepared. The land between Raftery Road and the Arcadia Downs estate may realise some rural residential function in the short-medium term and can be considered without the preparation of a Precinct Structure Plan and Development Contributions Plan.	Medium	Council and proponent
3.1.5	Prepare the Kialla Central Structure Plan	Long	Council
3.1.6	Support the Shepparton Airport as a long-term strategic development site if relocation of this asset is realised.	Unknown	Council
3.1.7	Support the development of the Former Radio Australia site as a long-term strategic redevelopment site.	Long	Council and proponent

Infill development

Heritage

Council has prepared the *Greater Shepparton Heritage Study II (2020)* which is an amalgamation of the 2007, 2013 and 2017 studies. Further work is required to understand gaps in local heritage

significance, particularly in Mooroopna. A study on 20th century heritage is also required to ensure this component of Shepparton and Mooroopna’s built form heritage is identified and protected.

Strategy 3.2 Identify and protect Shepparton and Mooroopna’s built heritage

	Action	Timeframe	Responsibility
3.2.1	Complete a heritage gap assessment to understand gaps in sites with local heritage value, particularly potential sites in Mooroopna. Implement this assessment in the Planning Scheme.	Medium	Council
3.2.2	Complete an assessment to identify sites of 20th century heritage significance and implement in the Planning Scheme.	Medium	Council

Shepparton

There are several opportunities for revitalisation and renewal of key development sites in central Shepparton. Higher density housing in the Shepparton CBD will help contribute to economic prosperity and affordability. This aligns with the delivery of the Affordable Housing Policy that council has prepared. This policy seeks to build capacity in council staff and propose innovative measures to enable housing diversity and the provision of affordable housing in Greater Shepparton.

Council is in the process of planning and implementing several improvements to the CBD including streetscape, traffic management and commercial works along key retail strips in Vaughan and Maude Streets (including Maude Street Mall), as well as the Shepparton Court Precinct and the proposed Shepparton Railway Station Precinct. Higher density housing aligns with this suite of revitalisation projects.

The delivery of these projects and their sub components represent a significant coordinated investment in Shepparton’s CBD, generating economic stimulus and ongoing economic benefits estimated at up to \$113 million. The Shepparton Law Courts development received \$73 million in the 2014/15 Victorian State Budget. This development is now complete and provides a regional headquarters for court services for the Hume region.

In the Shepparton CBD, the Activity Centre Zone (ACZ) has been applied as a flexible and facilitative zone to encourage a mix of uses and more intensive development close to facilities and services. The ACZ outlines development opportunities in the Shepparton CBD that have not been realised to their full potential. The extent of the ACZ application, the vision for each precinct and some infill development opportunities are identified in **Figure 5**. Selected renewal sites in the Shepparton CBD include:

- car park site: 84-90 High Street
- CFA building on Maude Street: 266-268 and 270 Maude Street
- vacant site: 3 Sobraon Street
- Pizza Hut site: 525-535 Wyndham Street
- vacant site: 517-523 Wyndham Street
- car park site: 57 and 59-65 Welsford Street
- car park site: 36-50 Marungi Street.

Strategy 3.3 Support compact dwellings developing in the Shepparton CBD for housing diversity, affordability and deliver on the CBD revitalisation.

	Action	Timeframe	Responsibility
3.3.1	Implement the <i>Affordable Housing Strategy 2020 – Houses for People</i> to encourage diverse and affordable housing stock.	Short	Council

Strategy 3.4 Reinforce the planning tools that currently provide guidance in the Shepparton CBD to facilitate more compact dwellings, including townhouses and apartments.

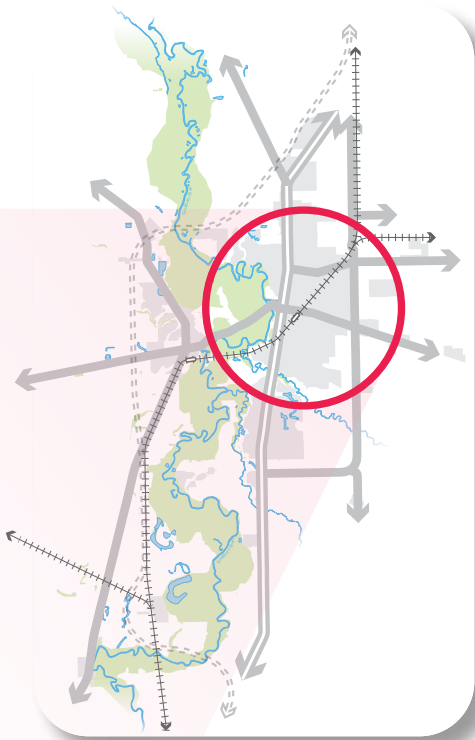
	Action	Timeframe	Responsibility
3.4.1	Promote the potential development opportunities allowed by the Activity Centre Zone (ACZ) as the planning tool that applies to the Shepparton CBD as identified in Figure 5 .	Ongoing	Council

Shepparton
Law Courts



Figure 5 Shepparton CBD precincts and renewal opportunities



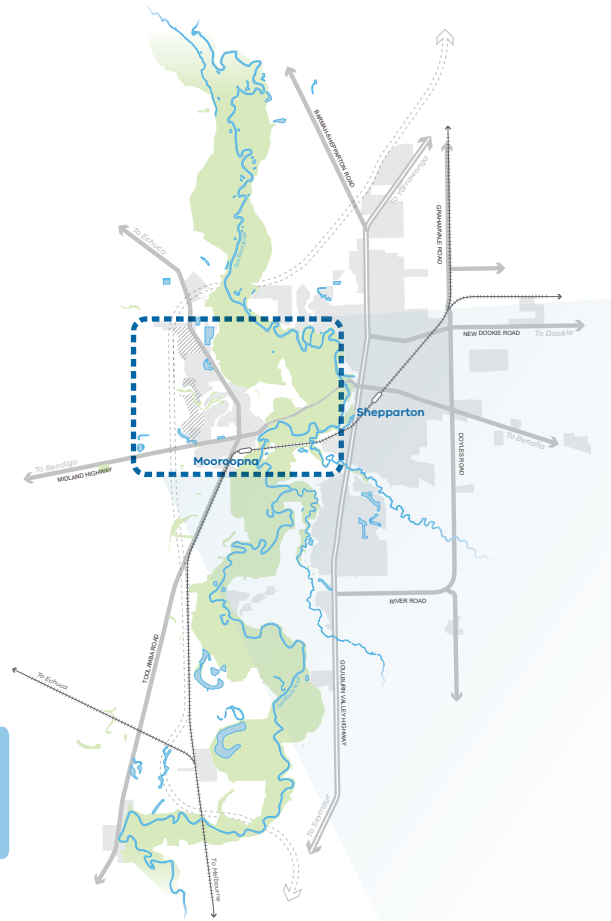


Precinct number	Precinct name	Preferred building height (m)	Suggested uses
1A	Retail core	-	Major anchor stores, specialty retail, cinemas, entertainment, dining, higher-density residential on upper levels
1B		7	
2	Office	-	Office, cafe, residential on upper levels
3A	Office, Retail and Residential	7-11.5	Medium-Density residential, commercial, office, peripheral retail
3B		-	
3C		11.5-20.5	
3D		Less than 9	
4A	Residential/ Redevelopment	11.5	Medium-density residential
4B		-	
4C		11.5-20.5	Higher-density residential
4D		Less than 15	
5A	Office and Higher Density Residential	-	Small offices, service businesses, small peripheral retail, higher density residential on upper levels
5B		7	
6	Shepparton Tertiary Education Precinct (STEP)	15	Post-secondary and tertiary education, community and student-related facilities, higher-density residential
7	Rowe Street East Mixed Use	-	Public space/plaza, retail, commercial
8A	Railway and adjoining land	-	Commercial, residential
8B/8C		11.5	
9	Shepparton Marketplace	-	Retail complementary to Precinct 1 (offices only where ancillary to retail operations)
10	Benalla Road Enterprise Corridor	-	Non-retail and large format retail uses

Mooroopna

Development in the established areas of Mooroopna is not currently guided by a strategic plan. Infill development opportunities in Mooroopna are influenced by flooding constraints, however there are opportunities for revitalisation and better connectivity within the town. Opportunities to be captured in a future strategic planning document are identified on **Figure 6**. Other opportunities include higher density housing, increased tree canopy, Watt Street bridge improvements and down grading McLennan Street for a pedestrian and cyclist focus.

Renewal of the old Mooroopna hospital site is a significant opportunity for the town. A vision showing the potential for this site is identified in **Figure 6**. Future development of this site will need to consider heritage, flooding constraints and access.

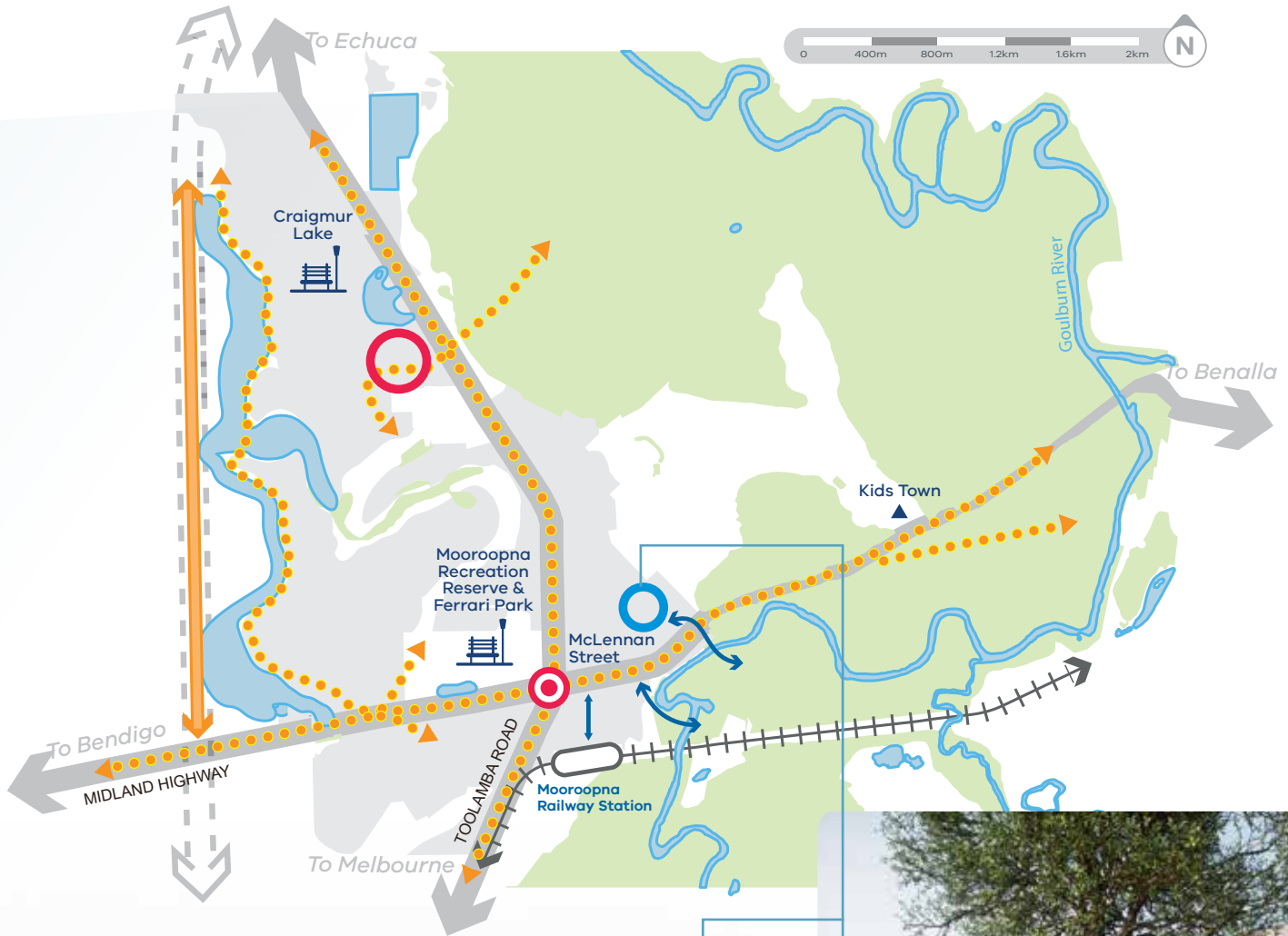


Strategy 3.5 Strengthen the unique vision of Mooroopna through the preparation of its own strategic planning document

Action	Timeframe	Responsibility
<p>3.5.1 Prepare a Mooroopna Structure Plan to identify housing needs, supporting infrastructure, connections and opportunities for change and urban renewal and the opportunities identified on Figure 6.</p>	Short	Council

- upgrade parks and reserves
- improved connections
- potential intersection upgrade (to be investigated)
- improved pedestrian connections
- Mooroopna Hospital potential renewal site
- Mooroopna High School site
- waterways
- Stage One bypass

Figure 6 Mooroopna opportunities



Vision for Mooroopna hospital site prepared by One Collective Urban Design Studio



OUTCOME 4 - A City With Infrastructure and Transport

Principles:



Shepparton and Mooroopna have benefitted from significant investment from all tiers of government including funding towards passenger rail improvements, road projects and community infrastructure. The current total value of committed funding for major projects equates to approximately \$950 million.

The resolution of road infrastructure upgrades and projects is still ongoing with council working with the Department of Transport (DoT) and the local community to understand needs and priorities. Much of the delivery of this road infrastructure remains unfunded and will be subject to future budget processes.

The Goulburn Valley Highway Shepparton Bypass received \$10.2 million over three years in the 2017/18 State Budget for pre-planning works and land acquisition. The Federal Government has committed \$208 million to deliver Stage 1 of the Bypass. Stage 1 will include the construction of a 10km road and a Goulburn River bridge crossing to bypass the centre of Shepparton and Mooroopna. Commitment for funding for the delivery of Stages 2 or 3 of the Bypass has not been received.

The use of Ford and Wanganui Roads as the east west link connecting Stage 1 of the Bypass and the Shepparton Alternative Route (SAR) (River Road, Grahamvale Road and Doyles Road) was established in council policy in 2006. There is no current funding commitment for the delivery of this road project.

Upgrades to the SAR are currently being investigated, including potential duplication. There is currently funding to deliver roundabout upgrades at the intersection of the SAR and Old Dookie Road and New Dookie Road. No further funding for additional upgrades to this road have been committed at this stage.

Council is progressing work on the Shepparton CBD Inner East Link Road (interim name) to divert through traffic out of the CBD and respond to the transport needs associated with the Greater Shepparton Secondary College.

A third stage of funding is required to deliver the Victorian Government’s election announcement of nine return train services between Melbourne and Shepparton daily. Investment in public transport frequency and network connectivity should continually be advocated for to ensure services meet the demands of population growth. This should be in the form of network coverage for buses and timetable frequency for trains and buses. Shepparton and Mooroopna stations are not covered by the myki ticketing system, advocating for their inclusion will provide a more efficient service for patrons.

Community infrastructure provision across Shepparton and Mooroopna has generally been identified as part of the delivery of individual growth corridors, through localised strategic planning documents or in response to funding announcements. A holistic audit of existing and proposed community infrastructure is required to understand gaps and opportunities for needs in the future.

Enhancing opportunities for young people was a key theme heard as part of engagement processes to assist in addressing youth unemployment and disadvantage. The development of a youth hub was identified as a potential major project in the *Greater Shepparton Economic Development, Tourism & Events Strategy 2016 – 2020* (2016). It is recommended that a youth space be incorporated into a broader community hub that also supports the Shepparton CBD Health and Tertiary Education Hub.












Community hubs




Future development of community hubs should be designed so they can adapt and respond to changing community needs over time. Integrating shared spaces, multipurpose community rooms, community services, sport and recreation and should consider integration of other infrastructure such as a primary school. Community hubs should be accessible after hours and contain flexible spaces to adapt to changing demographic needs in the community over time.











Major projects

There are a number of major projects that have recently been delivered or have received funding for delivery. Other projects are part-funded or require funding. Council will continue to advocate for funding for these projects.

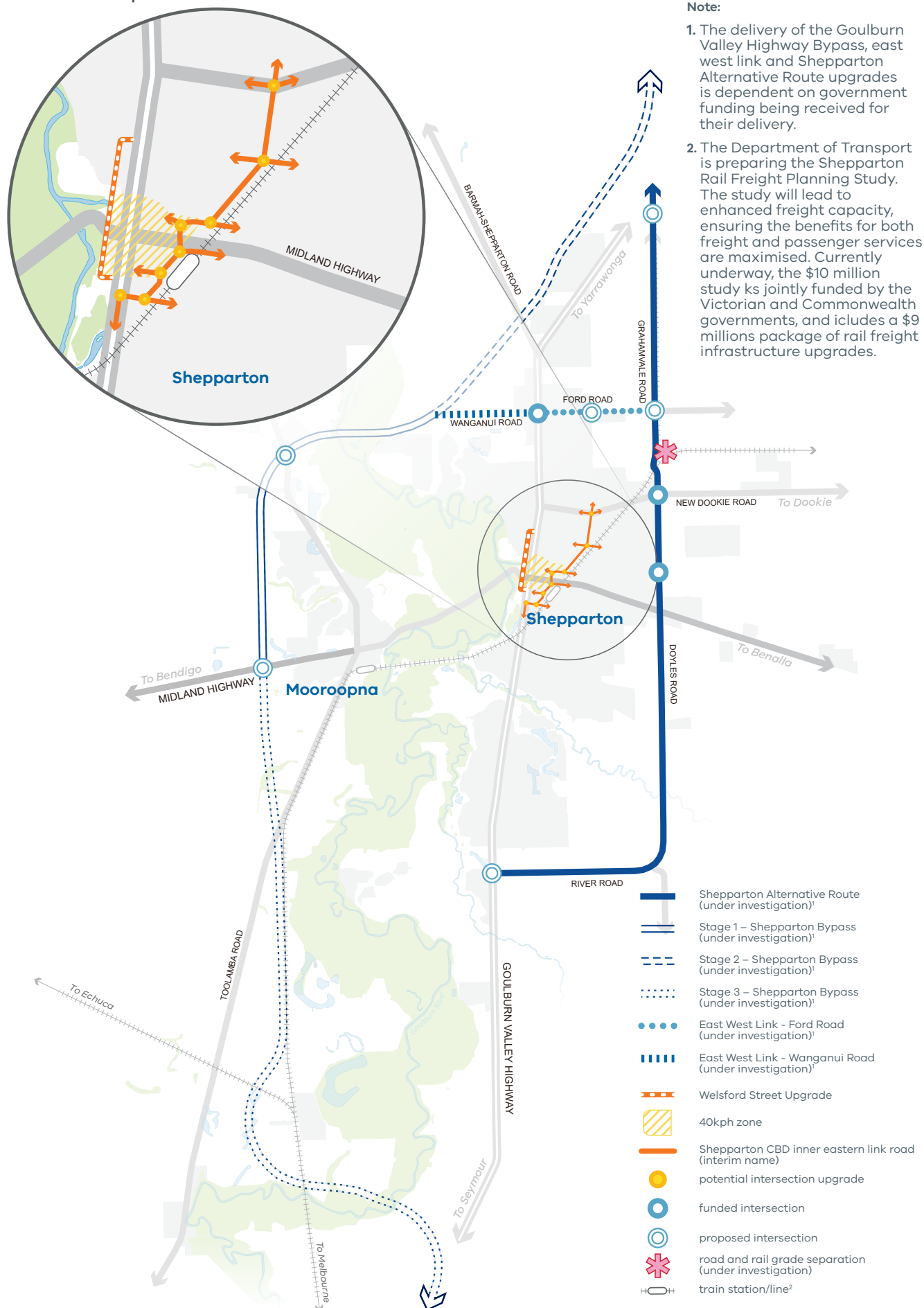
FUNDED		
Project	Amount (approximate)	Principles implemented
Shepparton Railway Freight Planning Study	\$10m	
Shepparton Art Museum (SAM)	\$52m	
Shepparton Education Plan and the Greater Shepparton Secondary College	\$1m (planning work), \$20.5m (Shepparton Education Plan) and \$119m (Greater Shepparton Secondary College)	
Goulburn Valley Health Expansion	\$229.3m – Stage 1 \$2m – Stage 2 (planning work)	
Goulburn Valley Health Integrated Cancer Centre	\$26m – integrated cancer centre	
University of Melbourne's Rural Clinical School	\$6m	
Fish Hatchery	\$7m	
Passenger rail improvements	Stage 3 – \$320m (Federal Government) \$80m (State Government)	
Museum of Vehicle Evolution (MOVE)	\$6.25m	
Vibert Reserve Pavilion Redevelopment	\$3.2m	
Shepparton CBD revitalisation: Maude Street Mall redevelopment	\$19m	

PART FUNDED			
Project	Current contribution (approximate)	Amount Required (approximate)	Principles implemented
Munarra Centre for Regional Excellence	Stage 1 – \$23m	To be confirmed	
Bypassing Shepparton Business Case	Stage 1 – \$10.2m (State funding for early works) and \$208m (Federal funding for construction)	To be confirmed	
Ford and Wanganui Roads	To be confirmed	To be confirmed	
La Trobe University Shepparton Campus Expansion	\$7m (La Trobe University), \$5m (Federal) and \$300,000 (Council)	\$7m (State funding)	

Community Health @ GVHealth (Corio Street, Shepparton)	\$4m	\$30m	
Greater Shepparton Affordable Housing Strategy	\$45m	To be confirmed	

FUNDING REQUIRED		
Project	Amount Required (approximate)	Principles implemented
Shepparton GOTAFE Master Plan	Stages 1 & 2 – \$12.3m	
RiverConnect Paths Master Plan	Route 3 – \$223,644 Route 5 – \$1.8m Routes 1, 2 and 4 – To be confirmed	 
Aquamoves Master Plan April 2020	\$31.7m	
Lemnos Industrial Precinct	To be confirmed	
Shepparton Railway Station Precinct – Pedestrian Overpass and Shared Pathway Linkages	\$18.8m (overpass) \$4.7m (shared pathway linkages) (to be met in full by Council or part with Victorian State Government funding)	
GV Link Freight & Logistics Centre Stage 1	\$15.2m (ultimate configuration)	 
GV Health and La Trobe University Clinical School	\$24.2m	
Shepparton Sports and Event Centre Redevelopment Stage 1	\$40m	 
Shepparton Airport relocation	To be confirmed	 
Building a Better Shepparton Roads initiative (includes Shepparton CBD Inner East Link Road)	To be confirmed	
Goulburn Murray Trade Skills Centre	\$10.6m	
Early Parenting Centre (Family and Baby Unit)	\$6.625m	

Plan 7 - Transport



Objective 4 – To deliver a diverse and connected transport network supporting vehicles, cyclists, pedestrian and public transport.

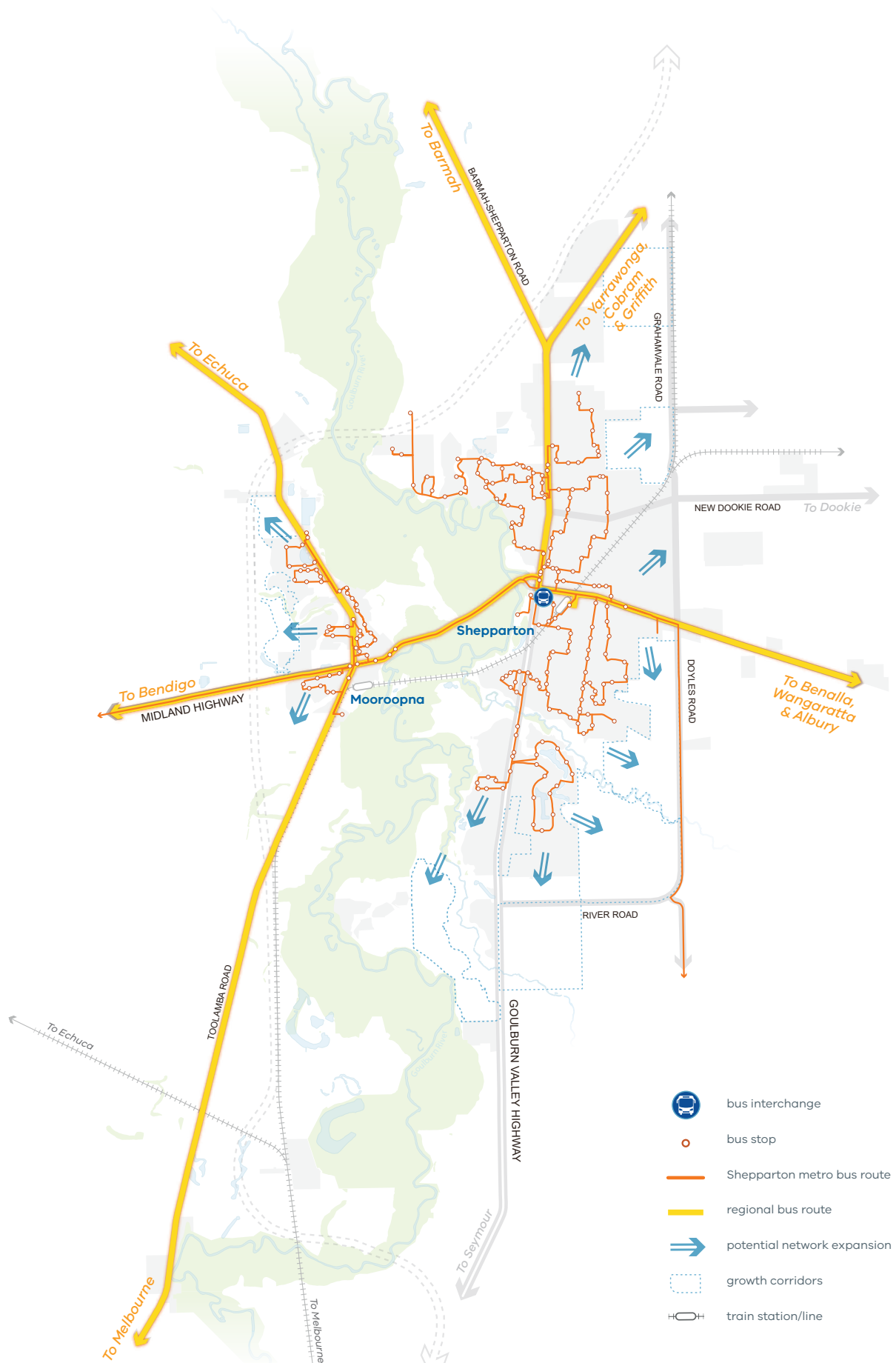
Strategy 4.1 Support investment in transport infrastructure

	Action	Timeframe	Responsibility
4.1.1	Advocate for upgrades to Shepparton Railway Station as identified in the <i>Shepparton Railway Precinct Master Plan</i> (May, 2017).	Ongoing	Council
4.1.2	Continue to work with the Department of Transport and Major Road Projects Victoria to advocate for funding for major road projects (as identified on Plan 7).	Ongoing	Council
4.1.3	Finalise the Traffic Impact Assessment Report (TIAR) for the Shepparton CBD Inner East Link Road (interim name) to divert traffic out of the CBD and respond to the transport needs associated with the Greater Shepparton College.	Immediate	Council, DET and DoT
4.1.4	Prepare a Movement and Place Strategy to understand the roles and challenges facing the transport system for all transport modes both now and into the future.	Short	Council and DoT

Strategy 4.2 Improve public transport connections and frequency

	Action	Timeframe	Responsibility
4.2.1	Advocate for improvements to the current bus network and inclusion of expansion areas identified in Plan 8 .	Short	Council
4.2.2	Advocate for a review of the bus timetabling in Shepparton and Mooroopna for more frequent services and coordination with train services.	Short	Council
4.2.3	Advocate for Stage 3 and continued improvements to the passenger rail line from Shepparton to Melbourne to achieve a service every hour each way.	Medium	Council
4.2.4	Advocate for Shepparton and Mooroopna to be included in the Myki ticketing system.	Medium	Council

Plan 8 - Bus network



-  bus interchange
-  bus stop
-  Shepparton metro bus route
-  regional bus route
-  potential network expansion
-  growth corridors
-  train station/line

Strategy 4.3 Direct community infrastructure to locations of most need.

	Action	Timeframe	Responsibility
4.3.1	Prepare a Community Infrastructure Plan including an audit of existing Community Infrastructure to identify gaps and infrastructure needs.	Short	Council
4.3.2	Prepare a business case for a community hub in the Shepparton CBD that includes a 'youth hub' component and other services to support the Health and Tertiary Education Hub.	Medium	Council



OUTCOME 5 - A City that is Greener & Embraces Water

Principles:



Shepparton and Mooroopna are in the Goulburn Broken catchment. The city is situated on the Goulburn River and the meeting of the Broken River and Seven Creeks. Many areas within the city are flood prone and are located on the river floodplain. However, it is not just the rivers that pose a risk of flooding to Shepparton and Mooroopna, many properties are also at risk from stormwater flooding.

Several flood studies have been prepared, the implementation of these will ensure development decisions will consider recent data on both overland and stormwater flooding risks.

Investment in water security for the region is underway. The Connections Project is a \$2 billion Project to modernise the irrigation network in the region. The project is generating water savings and has benefits for the farmers, environment and broader region.

The Goulburn Murray Irrigation District (GMID) Master Plan project will include an analysis of existing data regarding water availability and set a sustainable vision for the region. Strategy 1.2 of the Growth Plan outlines the importance of supporting this project for a sustainable agricultural sector.

Council has prepared the *Urban Forest Strategy 2017 – 2037* (2017) which sets a number of targets including increasing urban forest canopy across Greater Shepparton to 40% and reducing the number of vacant street tree sites across the city to zero.

The delivery of this strategy should be prioritised and integrated into decision-making processes to deliver a greener more liveable city for residents and attract visitors and new businesses.

RiverConnect is a joint initiative of Council and the GBCMA (in conjunction with several partner organisations) which aspires to see the Goulburn and Broken River systems recognised as the life and soul of the Shepparton and Mooroopna communities. The Yorta Yorta Nation Aboriginal Cooperative is a key partner in this project. This initiative should continue to be invested in and prioritised to ensure the river environment is protected and enjoyed to its full potential.

Drainage infrastructure should identify as an engineering asset as well as an open space opportunity. This design of drainage infrastructure should align with open space to contribute to liveability and sustainability outcomes. Guiding principles should be prepared and implemented in a local planning policy in the planning scheme to ensure this expectation is communicated upfront to developers to alleviate discussions at the planning permit stage.

The management of water resources was a key concern raised by stakeholders as part of the Growth Plan process. Integrated Water Management (IWM) considers all elements of water management, supply and disposal in a single system. A council IWM Plan could consider waterway health, stormwater harvesting, water sensitive urban design, water conservation and would support existing council strategies such as the Urban Forest Strategy. Considering Shepparton and Mooroopna's hot and dry climate, IWM will be an important principle in how the urban-area will remain resilient and green in the future.



Connections Project

The project is funded by the Victorian and Federal governments to generate water savings by creating a world leading delivery system that boosts irrigator productivity and fosters healthy waterways and wetlands. The majority of Goulburn-Murray Water (G-MW) irrigation infrastructure immediately surrounding Shepparton and Mooroopna has now been modernised as part of this project.

It is estimated that the project will deliver an average annual water saving of 429GL will be achieved and irrigation water use efficiency will be increased from 70% to at least 85%.

Objective 5 – To ensure investment in “greening” is at the forefront of decision making and sustainable water consumption is prioritised.

Strategy 5.1 Strengthen the city’s resilience to floods

	Action	Timeframe	Responsibility
5.1.1	Implement the <i>Shepparton & Mooroopna Flood Mapping and Flood Intelligence Project</i> (2019) and the <i>Shepparton East Overland Flow Urban Flood Study</i> (2017) in the Greater Shepparton Planning Scheme.	Short	Council and GBCMA

Strategy 5.2 Implement the Urban Forest Strategy to achieve a greener city

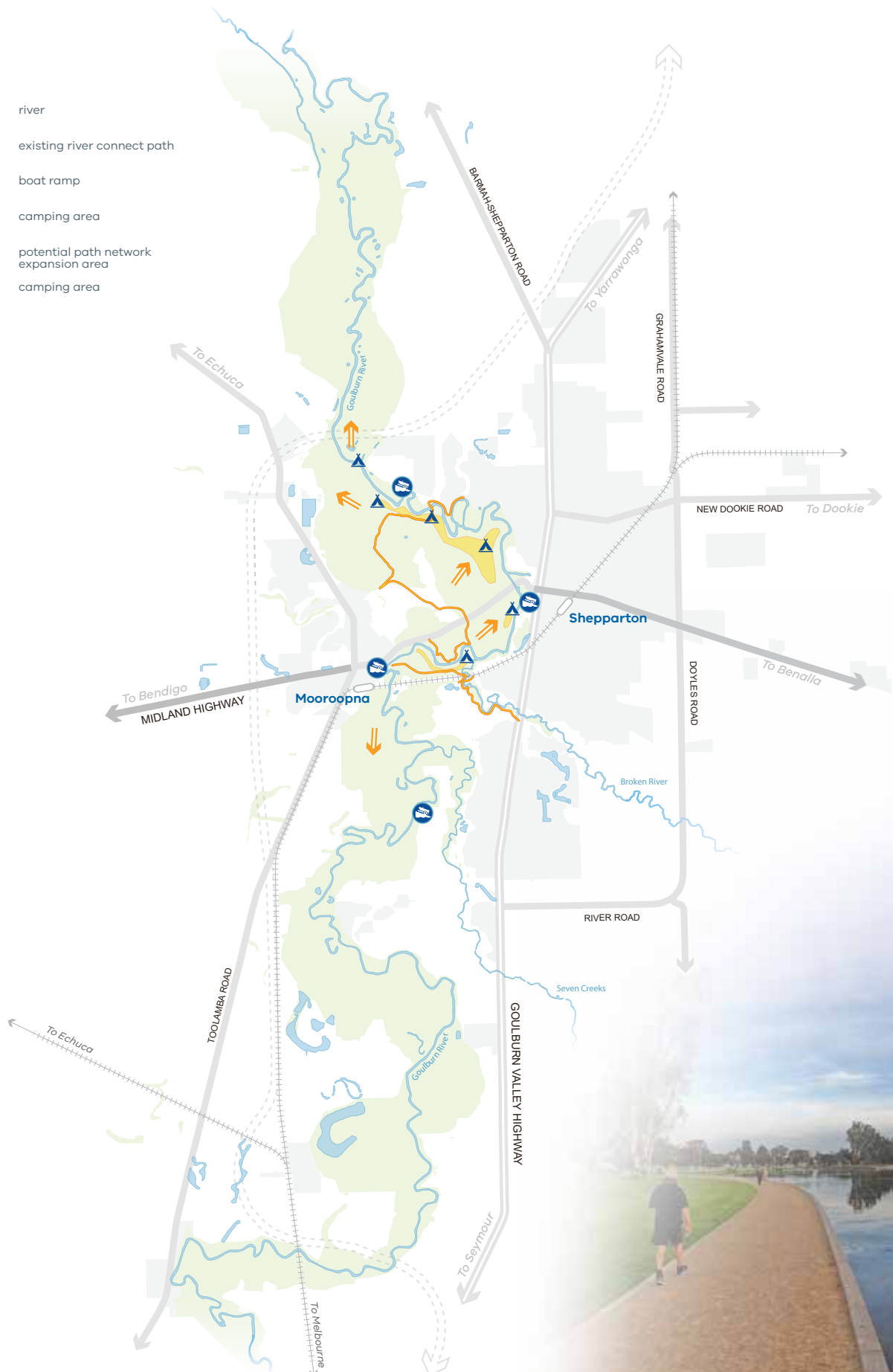
	Action	Timeframe	Responsibility
5.2.1	Continue to allocate budget to implement this strategy and advocate for grants that assist in achieving the identified actions.	Ongoing	Council
5.2.2	Allocate budget to plant new trees, replace missing and renew street trees particularly in the Shepparton and Mooroopna CBDs	Ongoing	Council

Strategy 5.3 Provide increased recreation opportunities along the Goulburn and Broken river corridors

	Action	Timeframe	Responsibility
5.3.1	Deliver the gaps in the proposed trail network identified in Plan 9 and explore engaging a trail building company to establish the Shepparton Regional Park as an off-road bike trail destination.	Medium	Council, GBCMA, DELWP and Parks Victoria
5.3.2	Develop a camping policy and subsequent marketing material to identify new and formalise existing camping locations (see Plan 9) to attract visitors.	Short	Council and GBCMA
5.3.3	Review current boat ramp locations with the intent of improving access, functionality and identification of new locations if required (see Plan 9).	Short	Council and GBCMA

Plan 9 - Embrace the river

-  river
-  existing river connect path
-  boat ramp
-  camping area
-  potential path network expansion area
-  camping area



Strategy 5.4 Improve the alignment of open space with drainage infrastructure

	Action	Timeframe	Responsibility
5.4.1	Develop and implement a local planning policy that provides guidance on aligning open space with drainage infrastructure to inform the design of council infrastructure and subdivision applications.	Medium	Council & GMW

Strategy 5.5 Strengthen Greater Shepparton’s approach to Integrated Water Management (IWM)

	Action	Timeframe	Responsibility
5.5.1	Seek funding from DELWP to prepare an Integrated Water Management Plan to establish a vision and goals to guide IWM initiatives across Greater Shepparton.	Medium	Council, DELWP, GMW & GBCMA



OUTCOME 6 - A City of Innovation and Resilience

Principles:



Outcome 3 of the Growth Plan outlines the importance of increased living opportunities to meet diverse housing needs in the Shepparton and Mooroopna CBDs. Ensuring development at increased densities (such as units and apartments) includes Environmentally Sustainable Design (ESD) principles will have benefits such as reducing running costs and improve comfort and health through thermal efficiency, orientation and natural lighting.

Several Victorian councils have included ESD policies in the Planning Policy Framework sections of their planning schemes. These policies have successfully provided a framework for consideration of sustainable design elements as part of the planning application process.

Council is partnering with eight other regional councils to deliver the ESD for subdivisions in regional Victoria. This project seeks to improve the consideration of ESD principles during the subdivision approval process.

Council also supports ESD in existing commercial buildings as an Environmental Upgrade Finance (EUF) participating council. This initiative should be promoted through existing economic development partnerships.

Greater Shepparton is well placed to play a more significant role as a leader in renewable energy generation. Large scale solar farms have been approved within Greater Shepparton and it is likely applications for this infrastructure will continue. Solar farms should be supported in locations consistent with Victorian government policy. The expansion of the solar energy sector has the potential to transform Greater Shepparton into a renewable energy baseload storage hub.

In addition to large scale solar farms, there are missed opportunities for Solar PV on rooftops for the residential and commercial sector. The Victorian Government Solar Homes program provides an opportunity to harness this technology.

Industry, freight and agriculture are key components of Shepparton and Mooroopna's economy. The city needs to be at the forefront of opportunities for innovation in these sectors to ensure these economic drivers are resilient to change and are at the forefront of national and global trends.

Investment in technological innovations for the diversification of transport energy sources should be explored. The Parliament of Victoria Inquiry into electric vehicles (May, 2018)⁶ identified that regional communities rely heavily on fuel. Alternative transport energy sources could provide the fuel security regional communities need. This should include considerations of energy sources such as electric and hydrogen fuel sources for transport energy.

The Central Victorian Greenhouse Alliance is partnering with a number of regional councils (including Greater Shepparton), the EV Council Australia and DELWP to develop a business case for providing a network of public electric vehicle charging infrastructure across the state.

The Goulburn Valley Waste and Resource Recovery Group has prepared an *Implementation Plan* (2017) as the key guiding document for waste and resource recovery for councils in the Goulburn Valley region. Agricultural production and associated industries present a challenge and an opportunity for sustainable waste management. Composting and waste to energy are opportunities for sustainable waste management associated with these industries.

The *Shepparton Climate Adaptation Plan* (December 2016) states that Shepparton and Mooroopna are likely to experience increased average temperatures in all seasons, continuing decrease in winter rainfall and harsher and longer fire seasons.

The Goulburn Broken Greenhouse Alliance (GBGA) and the Goulburn Broken Catchment Management Authority (GBCMA) have completed the Climate Smart Agricultural Development (CSAD) project. The CSAD examined the anticipated impacts of agricultural related climate change to 2050. This study included 17 commodities in the groups of Cropping, Forestry, Fruit, Pasture and Vegetable. The study modelled the crop response for current conditions and included crop biology, soils, terrain, irrigation and climate factors.

Individuals and industry groups will need to consider transition planning to ensure agricultural practices adapt to the impacts of climate change that are identified in the CSAD project.

⁶ Parliament of Victoria, May 2018, https://www.parliament.vic.gov.au/images/stories/committees/SCEI/Electric_Vehicles/EIC_58-13_Text_WEB.pdf

Objective 6 – To ensure adaptation to climate change and a robust economy for continued prosperity in times of change.

Strategy 6.1 Support Environmentally Sustainable Design (ESD) principles in new and existing buildings and subdivisions

	Action	Timeframe	Responsibility
6.1.1	Prepare an Environmentally Sustainable Design (ESD) policy and implement in the planning scheme.	Short	Council, Sustainability Victoria and DELWP
6.1.2	Continue to work with partner organisations to implement the Environmentally Sustainable Design (ESD) for Subdivisions project	Ongoing	Council
6.1.3	Promote Environmental Upgrade Finance (EUF) as an initiative supported by council through existing marketing and promotion avenues.	Ongoing	Council

Strategy 6.2 Support and store electricity generation using renewable sources

	Action	Timeframe	Responsibility
6.2.1	Require the installation of solar panels on all public buildings.	Ongoing	Council
6.2.2	Increase community use of Solar PV by promoting the ‘solar homes’ initiative.	Ongoing	Council and Solar Victoria
6.2.3	Support and encourage large scale solar energy farms in locations consistent with the guidance provided in the <i>Solar Energy Facilities Design and Development Guidelines</i> (July, 2019).	Ongoing	Council, GMW, GBCMA and DELWP
6.2.4	Establish Greater Shepparton as a renewable energy baseload storage hub.	Long	Council

Strategy 6.3 Create opportunities for Shepparton to be a leader in electric and hydrogen fuel sources for transport energy

	Action	Timeframe	Responsibility
6.3.1	Support the business case for the electric vehicle charge network for regional Victoria.	Short	Council, CVGA, GBGA, EV Council Australia and DELWP.
6.3.2	Explore the inclusion of hydrogen filling stations and electric vehicle charging stations in industrial areas, the GV Link site and key tourist destinations.	Long	Council and DoT
6.3.3	Investigate transitioning all local government vehicles to a zero emissions fleet and plant by using renewable fuel sources such as hydrogen or electric.	Long	Council and DoT

Case study:



Moreland City Council hydrogen refuelling station

The Victorian Government has committed \$1 million to help Moreland City Council implement a renewable hydrogen refuelling station to transition local government vehicles to a zero emissions fleet. The council has also partnered with Toyota Australia to trial two hydrogen fuel cell powered Mirais as part of its ongoing investigation of options to provide a zero-emissions transport fuel for its commercial vehicle fleet. The council is also investigating an initiative to develop a Renewable Hydrogen Refuelling Station on Council land and trial 'zero emissions' waste trucks.



Strategy 6.4 Strengthen the sustainable waste management industry

	Action	Timeframe	Responsibility
6.4.1	Increase the diversion of recoverable materials from landfills by identifying opportunities for sustainable waste management practices.	Short	Council and GVWRRG
6.4.2	Assess the potential of appropriate waste to energy investment in addressing the regions organic material for sustainable energy production.	Medium	Council and GVWRRG
6.4.3	Support opportunities to aggregate and/or consolidate organics to support investment for new or expanded facilities.	Long	Council and GVWRRG
6.4.4	Support a circular economy model for sustainable waste management that links businesses to facilitate innovative reuse and recycling initiatives.	Long	Council and GVWRRG

Case study:



The City of Kingston ASPIRE program – Circular waste management economy

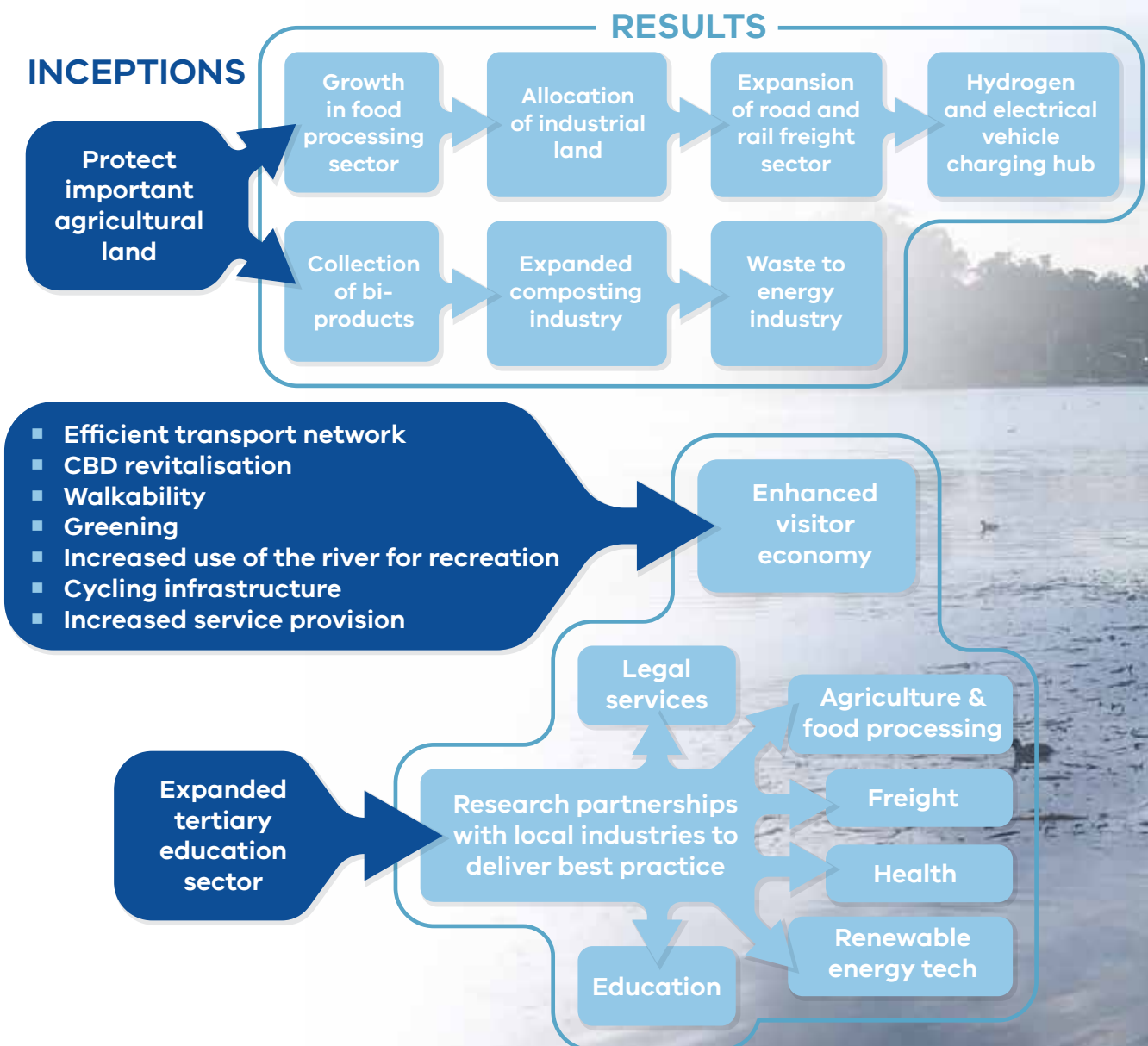
ASPIRE is an online waste "match-making" tool that has been developed in response to manufacturing companies providing feedback on waste disposal costs, particularly those associates with increasing landfill levies. The online service provides an opportunity for companies to exchange waste and provide alternatives to resource disposal.

Casafico, a sustainable building product supply company has benefited from the program by accessing a continuous stream of waste paper and polystyrene from the Wrapping Paper Company and Kingston Council. This has re-directed this waste from conventional recycling methods for re-use in the building sector.

Economic Resilience

The Growth Plan outlines a number of Actions to achieve the vision for Shepparton and Mooroopna. A number of the actions within the Growth Plan will contribute to the city having a robust and resilient economy ensuring employment opportunities and prosperity. These opportunities are captured in the economic resilience road maps in **Figure 7**.

Figure 7 Economic resilience road maps



IMPLEMENTING THE VISION

The Growth Plan identifies a number of actions to support implementation. The Growth Plan is for a long timeframe for which it is difficult to make precise growth projections. Therefore, sequencing of growth fronts should be continuously reviewed based on supply and demand analysis and equally on the ability to deliver needed infrastructure. Subject to approval by council, the delivery of proposed growth corridors can be brought forward if supported by appropriate assessments.

Other actions in the Growth Plan will be implemented by council programs and government partnerships

The Growth Plan should be reviewed every 5 years to track the progress of implementation and ensure delivery and investment decisions are accurately reflected.



