



# MURRAY BRIDGE STRUCTURE PLAN





**CONNOR  
HOLMES**



**CUNDALL**



**This report has been prepared by the following project team:**

<b>Project Leader:</b>	<b>Connor Holmes</b>
<b>Civil Engineering:</b>	<b>Australian Water Environments</b>
<b>Sustainability:</b>	<b>Cundall</b>
<b>Community &amp; Placemaking:</b>	<b>Village Well</b>
<b>Urban Design:</b>	<b>Taylor Burrell Barnett</b>

**With co-operation from Rural City of Murray Bridge**

**Disclaimer**

This Structure Plan represents the vision of the Rural City of Murray Bridge for growth over the next thirty years and is a guiding tool to inform the Council's forthcoming Section 30 Review and production of its Strategic Directions Report. Council acknowledges that in order for its vision to be realised, it needs to consider its organisational capacity to deliver the scope of the Structure Plan as well as gain the agreements of other key stakeholders such as the Minister for Planning who must consent to future planning processes. The ability of government agencies to deliver infrastructure, as well as funding from the private sector, will also be necessary to underpin growth. Accordingly, the Rural City of Murray Bridge expressly disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs people might incur as a result of relying upon information in this document as a basis for the purchase of land and making investment, development and/or business decisions.

The opinions, estimates and information given herein or otherwise in relation hereto are made by Connor Holmes in their best judgement, in good faith and as far as possible based on data or sources which are believed to be reliable. With the exception of the party to whom this document is specifically addressed, Connor Holmes, its directors, employees and agents expressly disclaim any liability and responsibility to any person whether a reader of this document or not in respect of anything and of the consequences of anything done or omitted to be done by any such person in reliance whether wholly or partially upon the whole or any part of the contents of this document. All information contained within this document is confidential. Unauthorised reproduction of this document without consent may warrant legal action.

**Copyright ©**

Connor Holmes 2012. All rights reserved. No part of this work may be reproduced or copied in any form or by any means (graphic, electronic or mechanical, including photocopying, recording, recording taping, or information retrieval systems) without the prior written permission of Connor Holmes.

<b>EXECUTIVE SUMMARY</b>	<b>3</b>	<b>06 POPULATION MODELLING</b>	<b>33</b>	<b>11 INDUSTRIAL LAND SUPPLY AND DEMAND</b>	<b>44</b>	<b>16 FUTURE INFRASTRUCTURE REQUIREMENTS</b>	<b>63</b>
<b>01 INTRODUCTION</b>	<b>4</b>	6.1 Murray Bridge Urban Growth Plan	33	11.1 Demand	44	16.1 Water and Wastewater	63
<b>02 BACKGROUND</b>	<b>5</b>	6.2 The 30 Year Plan for Greater Adelaide	33	11.2 Land Supply	44	16.2 Stormwater	64
<b>03 STUDY AREA IDENTIFICATION</b>	<b>6</b>	6.3 The Murray and Mallee Region Plan	33	11.3 Implications for Structure Plan	44	16.3 Electricity	66
3.1 Location	6	6.4 DPTI's Population Projections	34	<b>12 HUMAN SERVICES LAND SUPPLY AND DEMAND</b>	<b>45</b>	16.4 Human Services	67
<b>04 STRATEGIC CONTEXT</b>	<b>7</b>	6.5 Adopted Population Growth Scenario	34	12.1 Education	45	16.5 Implications for Structure Plan	67
4.1 State	7	6.6 Implications for Structure Plan	34	12.2 Health	46	<b>17 IMPLEMENTATION</b>	<b>68</b>
4.2 Regional Development Australia	11	<b>07 MODELLED DEMOGRAPHIC PROFILE</b>	<b>35</b>	12.3 Emergency Services	47	17.1 Planning Strategy	68
4.3 Council	12	7.1 Average Household Size	35	12.4 Community Services	48	17.2 Regional Implementation Strategy	68
4.4 Implications for Structure Plan	19	7.2 Age Profile	35	12.5 Open Space and Recreation	48	17.3 Council's Planning Framework	68
<b>05 STUDY AREA CHARACTERISTICS</b>	<b>21</b>	7.3 Household Income	35	12.6 Implications for Structure Plan	49	17.4 Strategic Directions Report	69
5.1 Topography	21	7.4 Education	35	<b>13 OPPORTUNITIES AND CONSTRAINTS</b>	<b>51</b>	17.5 Infrastructure Provision	70
5.2 Current Land Use Characteristics	21	7.5 Implications for Structure Plan	35	13.1 Opportunities	51	17.6 Consultation	72
5.3 Demographics	23	<b>08 RESIDENTIAL LAND SUPPLY AND DEMAND</b>	<b>37</b>	13.2 Constraints	52	17.7 Next Steps	73
5.4 Dwelling Approvals / Land Sales	24	8.1 Potential Growth Areas	37	<b>14 STRUCTURE PLAN OPTIONS &amp; RECOMMENDATIONS</b>	<b>53</b>		
5.5 Environment	24	8.2 Implications for Structure Plan	39	14.1 Targets	53		
5.6 Heritage	25	<b>09 RETAIL LAND SUPPLY AND DEMAND</b>	<b>40</b>	14.2 Existing Town Capacity	53		
5.7 Water	27	9.1 Current Retail Provision	40	14.3 Western/Southern Growth Capacity	54		
5.8 Sewer	28	9.2 Future Retail Floor Space Demand	41	14.4 Eastern Growth Capacity	55		
5.9 Stormwater	28	9.3 Future Retail Distribution	42	14.5 Achieving Targets	55		
5.10 Telecommunications	29	9.4 Implications for Structure Plan	42	<b>15 STRUCTURE PLAN</b>	<b>56</b>		
5.11 Gas Transmission Pipelines	29	<b>10 COMMERCIAL LAND SUPPLY AND DEMAND</b>	<b>43</b>	15.1 Purpose and Application	56		
5.12 Electricity	30	10.1 Demand	43	15.2 Detailed Plans	56		
5.13 Transport	30	10.2 Land Supply	43	15.3 Composite Structure Plan	60		
5.14 Implications for Structure Plan	31	10.3 Implications for Structure Plan	43				



The Structure Plan is a high level spatial document which designates growth areas to guide and accommodate population growth within Murray Bridge. The Structure Plan considers the infrastructure required to develop these growth areas in order to build a robust community.

The growth areas outlined within the Structure Plan require further detailed investigations in order to resolve infrastructure and human services provision such as local traffic, open space and community facility planning, et cetera. These detailed investigations will be undertaken through the Development Plan Amendment process which will seek to rezone the designated areas.

Whilst detailed investigations are required as part of the rezoning process, the Structure Plan is based on a range of investigations to determine the broad implications of, and recommended direction for, growth in Murray Bridge.

The Structure Plan provides the community, land owners, developers, and State and Local Government with a clear direction on where growth will occur.

The Rural City of Murray Bridge is currently undertaking a number of other strategic investigations in response to the anticipated growth as identified in the 30 Year Plan for Greater Adelaide and the desire to foster and promote sustainable development within the community. These include:

- Rural Communities Study;
- Community Plan;
- Murray Bridge Town Centre Master Plan;
- Public Realm Style Guide;
- Integrated Transport and Traffic Management Plan;
- Murray Bridge Bike Plan;
- Environmental Sustainability Management Plan;
- Integrated Water Management Plan;
- Sports and Recreation Plan; and
- Positive Ageing Strategy.

An impressive range of projects either mooted, in the pipeline, or approaching completion further boosts the optimism of the growth outlook for Murray Bridge. These include:

- Waterfront Redevelopment (including adjacent Rail Precinct);
- Murray Bridge Market Place Retail Development;
- Murraylands Powerhouse Education Precinct;
- Hindmarsh Road Bulky Goods Retail Precinct;
- Gifford Hill Project;
- Racecourse/Golf course redevelopment project;
- Monarto South Intermodal and Employment Precinct;
- North South Freight Corridor;
- Adelaide Freight Rail Bypass;
- Monarto Zoo expansion and redevelopment; and
- Callington Pipeline Project.

The Structure Plan presents an opportunity to promote an integrated and cohesive planning framework by linking these projects (and others) and ensuring that they are underpinned by the necessary social, economic, environmental and infrastructure policy and programs.

The study area includes land which is currently located outside of the existing township boundary/growth areas designated by the 30 Year Plan for Greater Adelaide and as such amendments to the Planning Strategy would be required to facilitate future urban development within those areas.

The population and dwelling growth targets to 2038, are:

- Population growth of 18,700;
- Dwelling growth of 8,400; and
- Job growth of 9,000.

The preferred growth scenario for Murray Bridge requires the creation of 280 net additional dwellings per annum on average. Therefore there should be a rolling stock of land capable of delivering at least 4,200 net additional dwellings. Further, this stock should be capable of delivering a diversity of product from a competitively large number of different ownerships.

The 3 tiers of government and the development sector need to work collaboratively in delivering the infrastructure required. This Structure Plan provides the necessary framework to commence collaboration between these stakeholders and to identify funding sources. The infrastructure requirements and locations proposed in this Structure Plan have not yet been agreed by Government.



This Structure Plan, recommends planning directions to achieve the objectives set out in the 30 Year Plan for Greater Adelaide and the Murray Mallee Region Plan.

In developing this Structure Plan, regard has been given to State Government, Regional Development Australia and Council planning documents and the State Government's Structure Planning guidelines.

Specific investigations were undertaken covering the following issues:

- the spatial context and location of the Study Area relative to the regional, district, neighbourhood and local centres and townships;
- the current township structure and population, including an analysis of relevant demographic data and trends;
- population and housing projections including the potential capacity of the area (dwellings / population) as informed by the 30 Year Plan for Greater Adelaide and the Murray Mallee Region Plan;
- the existing transport network (public and private), connectivity and linkages both within the Study Area and surrounding townships in the region;
- linkages to the South Eastern Freeway and, in particular, the role and function of the interchanges and surrounding environs;

- required transport improvements and augmentation (including thresholds for new and existing / upgraded road infrastructure) and review and investigation of the capacity for transport improvements and augmentation where required. These issues being informed by a separate Integrated Transport and Traffic Management Plan (ITTMP) being undertaken in parallel to this Structure Plan;
- investigation of existing infrastructure availability and capacity (including water, reclaimed water, sewer, power, gas, stormwater, telecommunications and broadband), and transport required infrastructure augmentation and capability;
- existing economic and commercial services and facilities and required economic services and facilities to support urban expansion;
- employment availability, accessibility and growth prospects;
- demand for retail floorspace including spatial requirements according to a hierarchy of mixed use activity centres to serve the needs of the development;
- existing social infrastructure provision and capacity in the locality and required social infrastructure services to support urban expansion;
- availability, nature and composition of land for urban expansion (opportunities and constraints) including:
  - development capability / predisposition;
  - land use conflicts and interface issues;
  - environmental issues (flora and fauna conservation and biodiversity including identification of any remnant and / or endangered native species);
  - topography; and
  - European and aboriginal heritage (including heritage sites and places).

- potential to provide a range of innovative housing types and densities including aged and affordable housing initiatives;
- existing relevant strategies, policies and controls and in the context of alignment with the South Australian Strategic Plan, the 30 Year Plan for Greater Adelaide, the Murray Mallee Region Plan and other relevant plans, strategies and reports; and
- aspirations of the Rural City of Murray Bridge, the community and key stakeholders.

Based on historical trends, a population growth rate of 1.8% and an additional dwelling target of 6,000 dwellings, as expressed by the 30 Year Plan for Greater Adelaide appears the most likely growth outcome. However in order to ensure that forward planning does not underestimate potential growth, the Structure Plan models for population growth averaging 2.3% per annum.

Table 1.1 provides population and dwelling growth targets at five year intervals based on the preferred growth scenario.

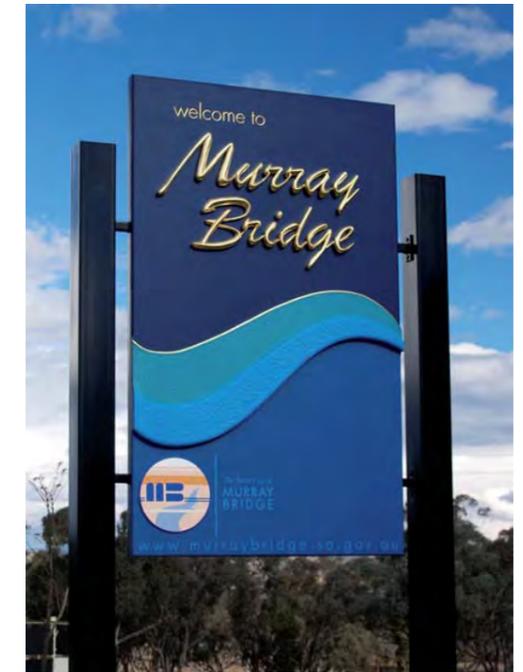
**Table 1.1: Preferred Population, Dwelling and Job Target Scenario**

Year	Total Population	Population Growth *	Dwelling Growth*	Job Growth **
2013	21,500	2,400	1,090	1,200
2018	24,000	4,900	2,200	2,500
2023	26,875	7,775	3,500	3,900
2028	30,100	11,000	4,950	5,500
2033	33,750	14,650	6,550	7,100
2038	37,800	18,700	8,400	9,000

\*Growth from 2008

\*\*Includes regional jobs, i.e. jobs in agriculture, tourism, Monarto and other townships

**Population targets are aspirational indicators used for strategic planning purposes and are not forecasts of the future. Population projections are intended to illustrate the consequences of selected assumptions on the size, age structure and geographic distribution of population and are often based on data/trends drawn from preceding years.**



Murray Bridge is poised for very significant growth. The State Government, through the 30 Year Plan for Greater Adelaide, has targeted the population of the Rural City to increase to around 24,000 over the next 15 years.

Given the solid local employment base and existing housing affordability in Murray Bridge, there are good reasons to anticipate strong growth.

The Rural City of Murray Bridge is currently undertaking a number of strategic investigations in response to the anticipated growth as identified in the 30 Year Plan for Greater Adelaide and the desire to foster and promote sustainable development within the community. These include:

- Rural Communities Study;
- Community Plan;
- Murray Bridge Town Centre Master Plan;
- Public Realm Style Guide;
- Integrated Transport and Traffic Management Plan;
- Murray Bridge Bike Plan;
- Environmental Sustainability Management Plan;
- Integrated Water Management Plan;
- Sports and Recreation Plan; and
- Positive Ageing Strategy.

The Structure Plan has been devised having regard to these investigations.

An impressive range of projects either mooted, in the pipeline, or approaching completion further boosts the optimism of the growth outlook for Murray Bridge. These include:

- Waterfront Redevelopment (including adjacent Rail Precinct);
- Murray Bridge Market Place Retail Development;
- Murraylands Powerhouse Education Precinct;
- Hindmarsh Road Bulky Goods Retail Precinct;
- Gifford Hill Project;
- Racecourse/Golf course redevelopment project;
- Monarto South Intermodal and Employment Precinct;
- North South Freight Corridor;

- Adelaide Freight Rail Bypass;
- Monarto Zoo expansion and redevelopment; and
- Callington Pipeline Project.

The Structure Plan presents an opportunity to promote an integrated and cohesive planning framework by linking these projects (and others) and ensuring that they are underpinned by the necessary social, economic, environmental and infrastructure policy and programs.

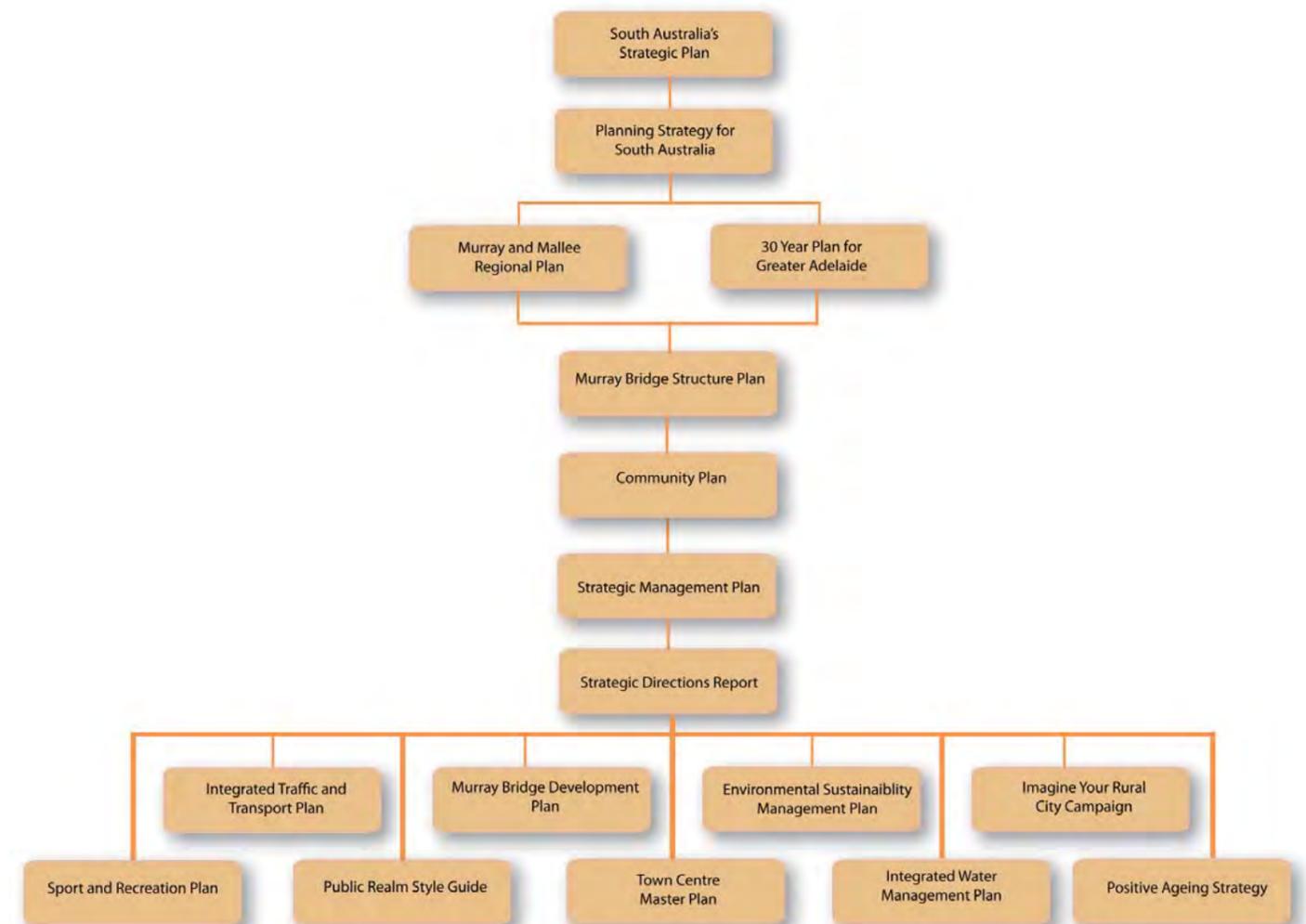
The Structure Plan provides an overall strategic context for the future of Murray Bridge and will be a catalyst for infrastructure and community planning.

The strategic context of the Structure Plan and relationship with the other studies is shown in Figure 2.1

Well-planned urban growth offers Murray Bridge the prospect to provide its current and future communities with enhanced economic, social, recreational and cultural opportunities. It also provides the potential to address infrastructure deficits and create a wider range of housing and employment opportunities. Based on these advantages, Council is adopting a proactive and facilitative role towards growth opportunities.

While the 2007 Urban Growth Plan has played a valuable role in guiding Council's support for key growth projects, a review, strengthening and broadening of the Plan is timely. There is also a need to review other key townships within the Council area to provide a framework for their future development, growth and integration with Murray Bridge.

**Figure 2.1: Strategic Context of Structure Plan**



## 3.1 Location

### Regional Location

Murray Bridge is located approximately 75 kilometres to the south-east of Adelaide (Figure 3.1) representing an alternative to other areas in the region such as Mount Barker which are earmarked for growth.

The Study Area (Figure 3.2) comprises:

- The 30 Year Plan for Greater Adelaide planned urban lands to 2038 as shown on Map E7 inclusive of urban growth areas; and
- Council's (2007) Urban Growth Plan boundary.

The spatial boundaries identified on the Study Area Plan are further explained as follows.

### Urban Growth Plan Boundary

The Rural City of Murray Bridge has adopted an Urban Growth Plan, as prepared by QED (July 2007). The Urban Growth Plan was commissioned to guide the release of land needed to meet demands for residential, commercial, industrial, retail and community facilities over the next twenty years. The Urban Growth Plan identifies an urban growth boundary which far exceeds the boundaries identified in the 30 Year Plan for Greater Adelaide.

### 30 Year Plan for Greater Adelaide

The 30 Year Plan for Greater Adelaide came into effect in February 2010. It identified planned urban lands to 2038. In doing so establishing a spatial boundary around Murray Bridge.

### Future Urban Growth Areas

As part of the planned urban lands to 2038, the area known as Gifford Hill was specifically identified in the 30 Year Plan for Greater Adelaide. The majority of the land was identified as a long term growth area (16-30 years) with the balance identified as 15 year supply.

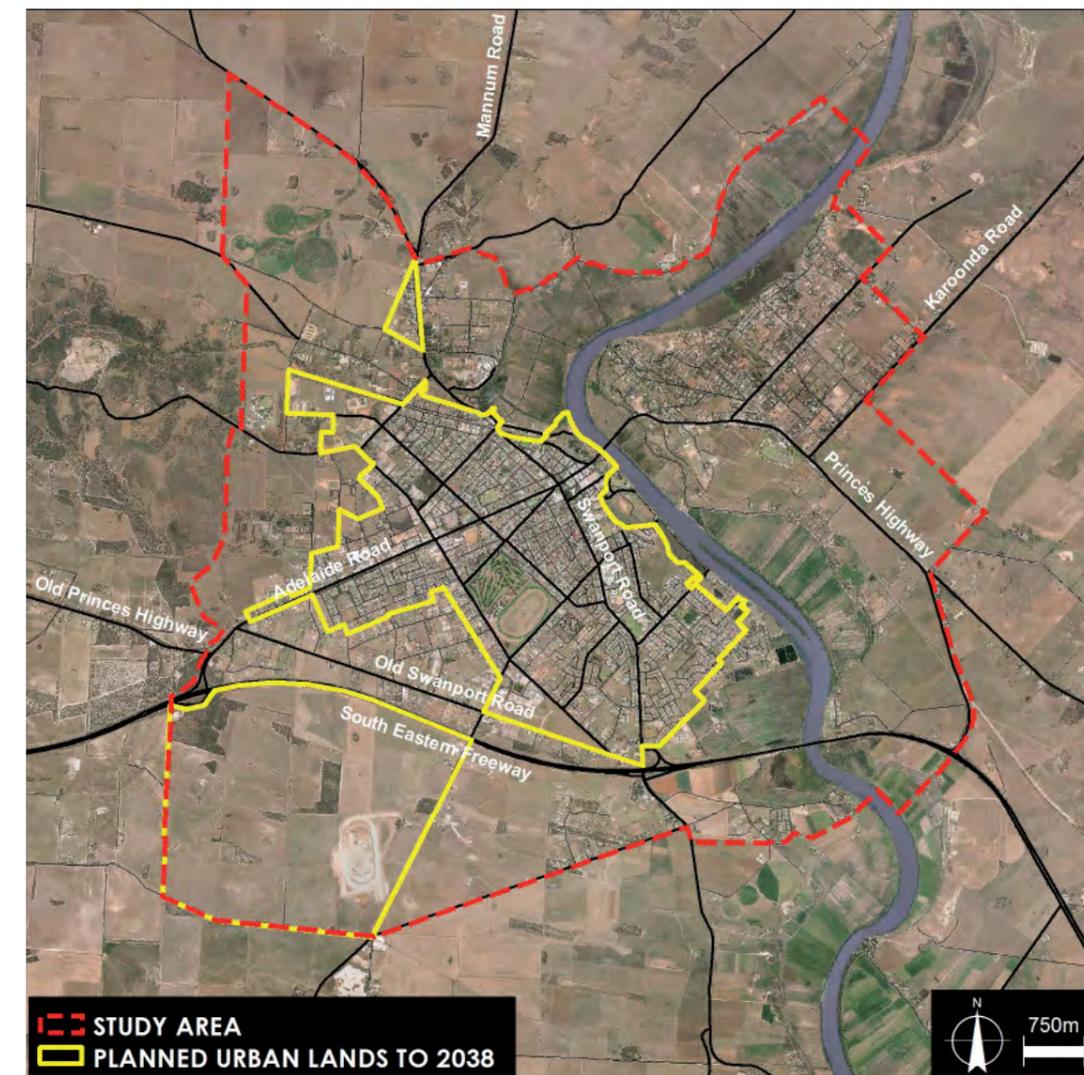
Notwithstanding these designations, the Gifford Hill area was the subject of the Murray Bridge Racecourse and Residential Development Plan Amendment (DPA), which was authorized on 24 June 2010. The DPA amended the Development Plan for the purposes of facilitating the development of a relocated racecourse and associated equine and residential estates. Other than an open space buffer and a Neighbourhood Centre Zone, all of Gifford Hill was rezoned for residential purposes.

More specifically, the DPA facilitates the establishment of approximately 3,500 residential allotments within Gifford Hill.

Figure 3.1: Regional Location Plan



Figure 3.2: Study Area Plan



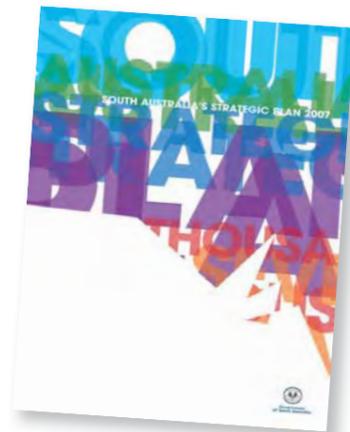
This section considers the relevant strategic framework and policy settings which will influence the Structure Plan. The strategic framework includes State, Regional and Local level policies.

Some of these documents identify population targets and projections.

**Population targets are aspirational indicators used for strategic planning purposes and are not forecasts of the future. Population projections are intended to illustrate the consequences of selected assumptions on the size, age structure and geographic distribution of population and are often based on data/trends drawn from preceding years.**

## 4.1 State

### 4.1.1 South Australia Strategic Plan



South Australia's Strategic Plan outlines a medium to long-term vision for the whole of South Australia. It has two important, complementary roles. Firstly, it provides a framework for the activities of the South Australian Government, business and the entire South Australian community. Secondly, it is a means for tracking progress state-wide, with the targets acting as points of reference that can be assessed periodically.

The Strategic Plan does not contain any specific reference to the Study Area. However the Plan does express themes which are relevant to the planning within the Study Area. The investigations recognize and support South Australia's Strategic Plan, and ensure future policy will assist in achieving key goals and targets.

The Strategic Plan sets out six objectives each with its own suite of targets. The relevant targets of particular relevance to these Structure Plan investigations are outlined as follows:

#### Target 45: Total population

Increase South Australia's population to 2 million by 2027 (baseline: 2003)

#### Target 46: Regional population levels

Increase regional populations, outside of Greater Adelaide, by 20 000 to 320 000 or more by 2020 (baseline: 2010)

#### Target 47: Jobs

Increase employment by 2% each year from 2010 to 2016 (baseline: 2010)

#### Target 56: Strategic infrastructure

Ensure the provision of key economic and social infrastructure accommodates population growth (baseline: 2010-11)

#### Target 73: Recycled stormwater

South Australia has the system capacity to harvest up to 35 GL of stormwater per annum by 2025 (baseline: 2009)

#### Target 74: Recycled wastewater

South Australia has the system capacity to recycle up to 50 GL of wastewater per annum by 2025 (baseline: 2009)

#### Target 75: Sustainable water use

South Australia's water resources are managed within sustainable limits by 2018 (baseline: 2003)

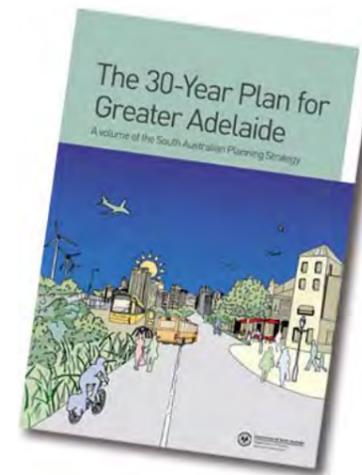
#### Target 76: River Murray – flows\*

Increase environmental flows in the River Murray by a minimum of 1,500 GL by 2018 (baseline: 2003)

#### Target 77: River Murray – salinity

South Australia maintains a positive balance on the Murray-Darling Basin Authority salinity register (baseline: 2008)

### 4.1.2 The 30 Year Plan for Greater Adelaide



The 30 Year Plan for Greater Adelaide: A volume of the SA Planning Strategy took effect in February 2010 and presents current State Government planning policy for development. It also indicates directions for future development to the community, the private sector and local government.

The 30 Year Plan for Greater Adelaide aims to:

- outline how the South Australian Government proposes to balance population and economic growth with the need to preserve the environment and protect the heritage, history and character of Greater Adelaide.
- seeks to create inclusive, vibrant and livable communities, while protecting the regional hinterlands and primary production lands and sustaining natural resources.
- assists the State Government, local government and the entire community in building resilience to the risks and impacts of climate change.
- provides context on a number of main themes including population characteristics, form of new development and employment.

The components of the 30 Year Plan for Greater Adelaide of most relevance to formulating a land use planning framework for Murray Bridge are outlined below.

In relation to expected changes to the size and composition of the population the 30 Year Plan for Greater Adelaide sets out the following:

- a total forecast population for Greater Adelaide of 1.85 million people by 2036 (the population is growing faster than was forecast in *South Australia's Strategic Plan (2004)* and the Prosperity Through People population policy (2004), which both forecast a target of 2 million people by 2050 for the entire state. This is now projected to be reached 23 years ahead of target, in 2027;)
- Greater Adelaide's population is older than the Australian average and the share of people aged over 65 is growing faster than the national average:
  - those aged over 65 will increase from 194,000 in 2006 to 407,000 in 2036, a 110 per cent increase
  - the proportion of aged people (over 65 years) in the population will increase from 18 per cent in 2006 to 22 per cent in 2036
  - the number of South Australians aged 85 years or more is projected to increase by 222 per cent by 2036, with those living in non-private accommodation projected to increase by more than 220 per cent from about 10,000 in 2006 to in excess of 31,000 in 2036;



- the three dominant household types in Greater Adelaide (couples with children, couples without children and lone-person households) will comprise about 84 per cent of total occupied private dwellings and of these:
  - lone-person households were the fastest-growing household type in the past decade and are projected to account for 33 per cent of all household types in Greater Adelaide by 2036;
  - lone-person households reflect the ageing of the population and changes in family relationships;
- changes in population dynamics has resulted in the need for more dwellings to accommodate the same number of people. In the 1950's to 1970's, when households were made up of large families, 300 extra homes were needed for every 1,000 extra people. Today, 420 homes are required for every 1,000 people. By 2036, 435 homes will be required for every 1,000 people.

To meet the demands of a larger population and household needs, the 30 Year Plan for Greater Adelaide outlines a vision for a 'new urban form' including:

- Concentrating new housing in existing areas:**
  - Township growth will be confined to larger regional towns where infrastructure and services can be provided. Growth will be contained for smaller townships and villages to protect their heritage and character.
- Locating new housing and new jobs in transport corridors:**
  - The bulk of new housing to be located in established areas around the existing public transport networks and transit corridors to create a transit-connected city;
- Creating vibrant mixed-use precincts**
  - A greater co-location of a greater mixture of building uses (e.g. street facing shops and services located under residential apartments, providing walkable neighbourhoods and easy access to services)
- Taking a new approach to Greenfields development**
  - New greenfield developments to contain a larger mixture of densities and housing types.

- Retaining the essential characteristics of rural towns**
  - Protect a sense of community as well as maintain the regions attraction for tourism and recreation.
- Achieving a diversity of dwelling types**
  - Achieve a greater mix of dwelling types to cater for the changing make-up of the population. These would range from single detached dwellings to low-rise attached accommodation, such as townhouses and villas, and medium-density housing, such as well designed three-to-five storey apartment blocks in appropriate locations.
- Water and energy efficiency**
  - Dramatic improvements in efficiency for new suburbs and building.
- Greenways and a network of open spaces**
  - A network of connected open spaces would characterise the major activity centres and transit corridors. These very distinct green buffers would improve amenity, have a cooling effect and provide a noise buffer between residential accommodation and transport thoroughfares.

The 30 Year Plan for Greater Adelaide is underpinned by 14 Principles. These are:

- Principle 1* A compact and carbon efficient city
- Principle 2* Housing diversity and choice
- Principle 3* Accessibility
- Principle 4* A transit-focused and connected city
- Principle 5* World-class design and vibrancy
- Principle 6* Social inclusion and fairness
- Principle 7* Heritage and character protection and enhancement
- Principle 8* Healthy, safe and connected communities
- Principle 9* Affordable Living
- Principle 10* Economic growth and competitiveness
- Principle 11* Climate change resilience

- Principle 12* Environmental protection, restoration and enhancement
- Principle 13* Natural Resources management
- Principle 14* Community engagement

The 30 Year Plan identifies that Murray Bridge is located within the Adelaide Hills and Murray Bridge Region. The population, dwellings and jobs growth targets for this region for the period 2009-2038 are outlined in Table 4.1 as follows.

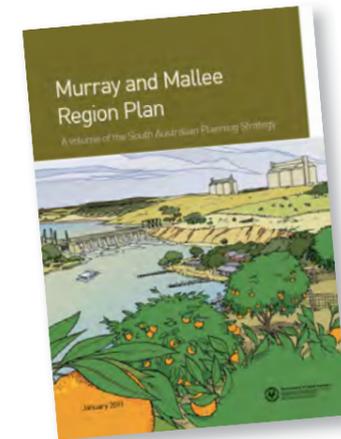
**Table 4.1: Targets for Adelaide Hills and Murray Bridge**

POPULATION TARGET	HOUSING	JOBS
29,000	13,000	13,000

Murray Bridge and surrounds are intended to contribute 13,400 people and 6,000 dwellings towards these regional targets.



### 4.1.3 Murray and Mallee Region Plan



The Murray and Mallee Region Plan: A volume of the South Australian Planning Strategy took effect in January 2011 and guides future land use and development in the region.

The Murray and Mallee Region Plan identifies Murray Bridge as a regional centre.

Following consultations with Councils, State Government agencies and regional development boards in 2007- 08, the Murray and Mallee Region Plan, contains the following four themes:

- environment and culture;
- economic development;
- population and settlements; and
- infrastructure and services provision.

Of particular note under the theme population and settlements are the following points:

- discourage residential development outside of townships;
- maintaining town character and heritage and promoting towns and settlements with distinctive built heritage and historical importance to the state; and
- ensuring an adequate supply of residential land is available for future development.

A total of 12 principles have been formulated in order to realise the vision for the Murray and Mallee region. The principles are:

- Principle 1* Recognise, protect and restore the region's environmental assets
- Principle 2* Create conditions for the region to become resilient to the impacts of climate change
- Principle 3* Protect people, property and the environment from exposure to hazards
- Principle 4* Identify and protect places of heritage and cultural significance, and desired town character
- Principle 5* Protect and build on the region's strategic infrastructure
- Principle 6* Retain and strengthen the economic potential of primary production land
- Principle 7* Reinforce the region as a preferred tourism destination
- Principle 8* Provide and protect serviced and well-sited industrial land to meet projected demand
- Principle 9* Focus commercial development in key centres and ensure it is well sited and designed
- Principle 10* Strategically plan and manage the growth of towns
- Principle 11* Design towns to provide safe, healthy, accessible and appealing environments
- Principle 12* Provide residential land for a supply of diverse, affordable and sustainable housing to meet the needs of current and future residents and visitors.

As outlined in Table 4.2 Murray Bridge represents the significant majority of projected growth in the Murray and Mallee region.

**Table 4.2: Comparison of Zoned Land (Hectares) for Murray and Mallee Region and Murray Bridge**

	Region	Murray Bridge
Residential Land	590	224
Deferred Urban	650	533
Rural Living	1,650	664
TOTAL	2,890	1,421

#### 4.1.4 South Australian Murray-Darling Basin Regional Natural Resource Management Plan

The South Australian Murray-Darling Basin Natural Resource Management (NRM) Plan targets and outcomes relevant to these investigations are outlined in Table 4.3 below.

**Table 4.3: NRM Targets**

RELEVANT NRM TARGETS	OUTCOMES
W2.3 Increase re-use of treated wastewater	MAT: 70% of treated wastewater generated in the Region to be reused by 2014
W2.6 Reduce adverse impacts of settlements on water resources	MAT: At least one major settlement (>2000 people) with neutral or beneficial effects on water assets by 2014
W3.3 Increase water delivered to the environment	MAT: By 2014, 50% of water-dependent ecosystems are delivered their environmental water requirement as identified by the relevant WAP or other policy
P2.3 By 2014, management of cultural sites and assets improved	RCT: Increase protection and preservation of Aboriginal culture by 80% by 2030
P3.1 Effective institutional arrangements in place for all major stakeholder groups by 2014	RCT: All landscape development and management to have a neutral or beneficial impact on natural resources by 2030
P3.2 By 2014, all State and Local Government, and Industry development plans and strategies align with the Regional NRM plan	As above
P3.3 By 2014, all development decisions are consistent with Natural Resource Management Goals	As above
L2.1 by 2014 achieve a 6% improvement in wind erosion protection for agricultural cropping land	RCT: The area of land affected by land degradation processes is reduced by 2030
L2.2 A 3% increase in the area of grazing land with soil surface cover	As above
L2.3 7,500 hectares of appropriate perennial vegetation (for management of dry land salinity) established in priority areas by 2014	As above
B1.1 Protect and manage an additional 10,000ha of existing priority remnant ecosystems by 2014	RCT: Native ecosystem extent increased to 53% of the region and native ecosystem condition improved across the Regional by 10% by 2030.
B1.2 Increase the extent of native ecosystems	MAT: The extent of native ecosystems is increased by 15,000 ha by 2014
B1.3 A 10% improvement in the condition of 25% of native ecosystems in the region by 2014	As above
B1.4 Improve community appreciation of native ecosystems and species by 30% by 2014	As above
B2.1 Coordinate the protection and enhancement of priority floodplains and wetlands	MAT: 75% of priority floodplains and wetlands actively managed as per management plans by 2014
B2.2 Adoption of sustainable grazing practices in water-dependent ecosystems by 2014	RCT: By 2030, water-dependent ecosystems in priority areas maintain ecological function, resilience and biodiversity
B2.4 Reduce extent of priority pest plants and animals in priority water-dependent ecosystems by 10% by 2014	As above
B3.1 Reduce the impact of critical threats to priority threatened species by 2014	As above
B3.2 Reduce the impact of critical threats on EPBC listed threatened ecosystems by 2014	RCT: No species or ecosystem moves to a higher risk category and 50% of species move to a lower risk category by 2030
A1 Reduce net greenhouse gas emissions	RCT: Reduce greenhouse gas emissions in the SA Murray-Darling Basin by 60% by 2050
A1.1 Voluntary renewable energy use of 20% and support for renewable energy generation in the region by 2012	RCT: Reduce greenhouse gas emissions in the SA Murray-Darling Basin by 60% by 2050
A1.2 Natural resource affecting industries adopting climate change sector agreements by 2014	As above
A1.3 Demonstrate leadership in energy use efficiency	MAT: By 2014 increase carbon efficiencies of SAMDB NRM Board vehicle fleet and buildings by 20% and 10% respectively
A1.4 Revegetation for future carbon (CO <sub>2</sub> -E) sequestration of 126,000t by 2014	As above
A2.1 25% of natural resource managers incorporating climate change adaptation into their forward planning or management by 2014	RCT: 100% of natural resource managers incorporating climate change adaptation in to their forward planning or management by 2014

The attainment of the water related targets are supported by existing policy in the Murray Bridge (RC) Development Plan that promote water sensitive urban design. There are also provisions that support the protection and enhancement of native vegetation.

#### 4.1.5 Strategic Infrastructure Plan for South Australia 2005/6 – 2014/15



The Strategic Infrastructure Plan for South Australia 2005/06 – 2014/15 is a coordinated long-term approach to infrastructure provision throughout the State. It provides an overarching framework for the planning and delivery of infrastructure by all government and private sector infrastructure providers. The Strategic Infrastructure Plan identifies strategic priorities for 14 infrastructure sectors such as transport, energy, health, and recreation and sport.

The Strategic Infrastructure Plan expresses policies and actions as outlined below which are relevant to the planning and development of broad hectare land.

#### Transport:

- coordinate the development of urban planning and transport systems to maximise the economic, social and environmental benefits.

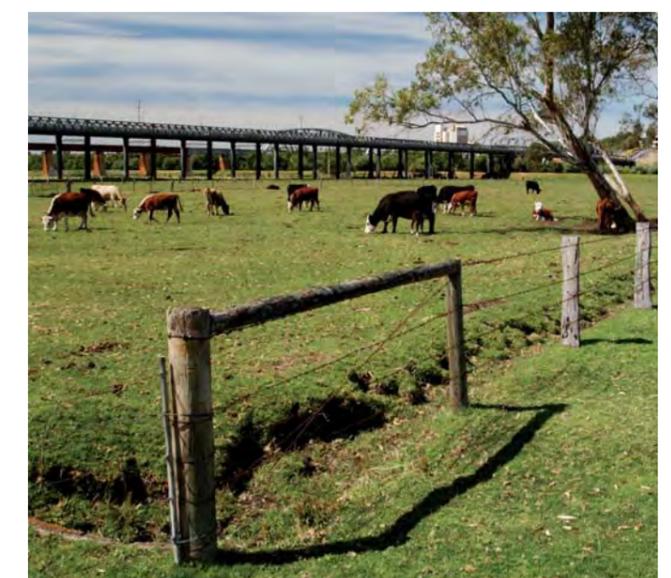
#### Land:

- give greater consideration to population data and changing demographics in residential land supply planning.

- ensure that planning for residential developments is more closely integrated with infrastructure and transport planning.
- ensure residential land supply is available when needed to meet market demand.

#### Community Services and Housing:

- encourage higher-density residential development in appropriate urban areas through planning for land use and infrastructure augmentation.
- promote energy efficiency and environmental sustainability in new residential developments.



## 4.1.6 Housing Plan for South Australia



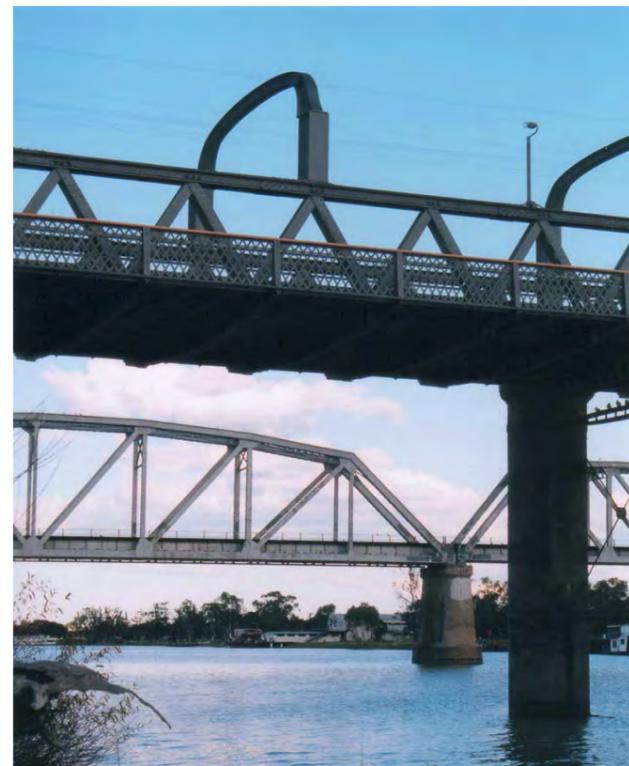
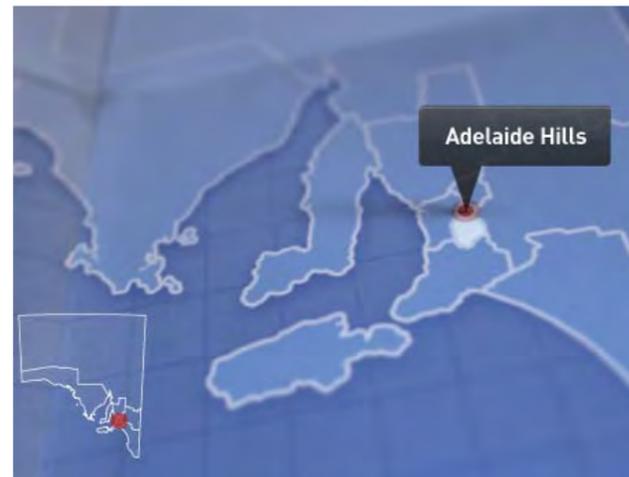
The Housing Plan contains five main objectives and key actions in relation to affordable housing, high needs housing, neighbourhood renewal and other associated areas of importance to South Australians.

Key principles and actions of the Housing Plan relevant to the Structure Plan include:

- expanding the supply of affordable housing by implementing a target of 10% affordable and 5% high needs housing in all significant new housing developments. Work with industry, local government and the community to achieve this target;
- working with the DPTI to develop planning mechanisms to support affordable housing provision, including:
  - amending development plans to accommodate affordable housing;
  - developing guidelines for design and planning modules for affordable housing.
- halving the number of South Australians experiencing housing stress within 10 years;
- increasing South Australia's population to two million by 2050.

The growth envisaged to be accommodated within Murray Bridge provides an opportunity to support relevant aspects of the Housing Plan.

Consideration should be given to local circumstances prevailing in the area that may influence choices for high needs housing (in particular) to ensure easy access to a range of community services and facilities and public transport.



## 4.1.7 HELSP Report

The HELSP is a key instrument for achieving the 30 Year Plan's objective to improve the management of land supply for residential, industrial, retail and commercial purposes. It also provides a spatial guide to assist local governments to align their Regional Implementation Strategies with the Plan.

The program's role is to ensure that there is sufficient land capacity and opportunity to meet the annual housing and employment targets set out in the Plan, and that capacity is spread across regions to avoid market volatility. The HELSP is updated annually.

The HELSP identifies the following strategic responses in respect to Murray Bridge:

- Adelaide Hills and Murray Bridge:
  - Most residential development in this region occurs in the towns of Mount Barker and Murray Bridge. Mount Barker is one of the fastest-growing regional centres in the state;
  - Significant land rezoning, particularly in Mount Barker, is required to meet the Plan's 15-year target;
  - As a priority, rezone land at Mount Barker and Murray Bridge, and plan for the necessary infrastructure.
- Adelaide Hills and Murray Bridge:
  - Although these regions are not major suppliers of general industry land, they are important for service industry and resource-based production (value-adding for the primary sector);
  - A service industry presence needs to be maintained in the Adelaide Hills area. The Murray Bridge/Monarto area has potential for the location of industrial activity associated with primary industry resource processing and transport, storage and logistics operations.
  - In the Adelaide Hills region, ensure industrial land is identified when rezoning land for urban development. Provisions should be made to cater for local service industry and primary production processing.
  - In the Murray Bridge/Monarto South areas encourage private land to market through projects that stimulate the local economy.

## 4.1.8 Murray Darling Basin Plan

There has long been widespread recognition of the need to maintain the Murray-Darling Basin as a healthy, working river system, for all Australians, now and into the future. A key feature of the proposed Basin Plan (which may also be called the 'draft Basin Plan') is the recommendation that the health of the Basin be improved by setting a long-term environmentally sustainable level of take of water from its rivers of 10,873 gigalitres per year (GL/y). This is the amount of water that can be used for irrigation, agriculture, drinking and so forth (known as 'consumptive use') on average. The environmentally sustainable level of take will ensure that there is enough water left in the river system to meet environmental needs.



## 4.2 Regional Development Australia

### 4.2.1 Regional Development Australia, Murraylands and Riverland Regional Road Map 2011-2013

The Regional Development Australia Road Map (RDA) provides an overview of the current situation and emerging conditions within the Murraylands and Riverland Region.

The RDA Murraylands & Riverland is an area of 36,720 square kilometres in the central eastern part of South Australia covering the River Murray and adjacent Murray Mallee to the Victorian border.

Most of the townships in the region are small, with Murray Bridge the largest regional centre.

The current population of the region is estimated at 69,543 (37,120 in the Murraylands and 33,165 in the Riverland and is expected to grow as a result of projected population growth in South Australia. The Murray Bridge area will be the major beneficiary of this growth (30,000 new residents) and planning is currently underway to ensure built and social infrastructure keeps pace with population. Communities within the region are also keen to capitalise on population growth, and strategies are in place to attract 'tree-changers' to both riverside and dryland townships.

#### Key priorities

The key strengths, challenges and opportunities of the region are encompassed in the regional priorities, which are:

#### Sustainable environmental management

The key issue facing the region is how to manage with less water. Climate variability has been a reality addressed by farmers in the region since settlement, creating resilient, innovative people and practices that will continue to be a strength as climatic and economic uncertainty continue. The Murray Darling Basin Plan will have a significant impact on the regional economy and in anticipation of the

expected outcomes of that plan, a range of opportunities are being explored to improve environmental sustainability and economic diversification, including food production and manufacture, biofuels, rehabilitation of degraded natural systems, renewable energies, efficient water management practices and non-agricultural tertiary industries.

#### Innovation in food and beverage production

Economic diversification has already created new industries in food and beverage manufacturing, including \$420m from livestock production, fine wool replacing volume wool production, and establishment of new horticulture industries in dryland areas using artesian water. The State Government has identified the need for the food industry to collaborate to distribute and export and build infrastructure, manage water resources more effectively and manage rising input costs. Investment in food processing is making an increasing contribution to the regional economy, with EconSearch estimating that a 10% increase in food processing will result in \$24.1m of increased revenue and 170 new jobs. The development of a skilled workforce is critical to the success of this goal, as well as creating opportunities in tourism, digital economy and health and improved transport infrastructure.

#### Tourism

Tourism is an important industry across the region, generating a direct spend of \$197m per annum, with the Riverland producing 54% of the revenue. The majority of visitors are from Adelaide and approximately half stay in their own or friends accommodation (typically river shacks), many use caravans or camp, and the remainder stay in serviced accommodation.

An undersupply of appropriate serviced accommodation is restricting tourism growth in the region despite world class tourist destinations (e.g. Monarto Zoological Park, Banrock Station, conservation parks and reserves, and the proposed Tailem Bend Motorsport Park). Additional supporting activities, hospitality and accommodation and co-ordinated marketing are needed to build this industry.

#### Digital economy

The promise of high speed broadband has the potential to revolutionise business, education and population centres in regional Australia. Currently the Murraylands & Riverland region has comparatively low school completion rates, participation in non-agricultural education and training is lagging other rural regions, and micro business dominates the economy. The rollout of the National Broadband Network can address these issues, as well as providing improved health services, greater choice of education and employment, and attracting new populations of tree changers and semi-retired professionals working from home.

#### Regional health

Health services within the region are more difficult to access than in the city. At the same time, the region has higher incidents of mental illness (exacerbated by the cessation of Exceptional Circumstances payments outside of the River corridor and of the Rural Solutions Drought Counselling Service), poor Aboriginal health (the highest level of 'years of life lost' outside of remote South Australia), and high rates of obesity, smoking, substance abuse and psychological distress. The region has a lower proportion of health workers than the average for rural South Australia, and retention of health workers is an on-going issue.

#### Transport Infrastructure

Future economic growth will require efficient transport links and it is a priority to upgrade local linking freight routes to improve the efficiency of freight handling and transfer, road safety, and the level of service to the major highway links.

Growth in the livestock industry in the Mid North region may lead to an additional overdimension freight route from Port Augusta through Murray Bridge (the Eastern Bypass). A proposal for a heavy vehicle corridor from Loxton to Adelaide is being considered, a cross-regional airport study is underway to facilitate the Mildura expansion, and the Northlink rail freight bypass project is under development.

Industry clusters should be encouraged, particularly in mining, primary production, aquaculture value-adding processing and storage activities in strategic locations such as freight transport nodes to maximise transport efficiencies and support industry development. Transport related industries have scope for major development at industry and commercial zones with ease of access to the South Eastern Freeway, Dukes Highway and Princes Highway (Monarto, Murray Bridge, Tailem Bend, Meningie and Tintinara).

#### Transport

In 2008 the Monarto Common Purpose Group (RDA Murraylands Riverland, RDA Adelaide Hills, the Rural City of Murray Bridge, Alexandrina Council and the District Council of Mount Barker) undertook a study to promote and advance investment and infrastructure development at the Monarto Commercial Precinct focusing on the development of an Intermodal Transport Hub and Airport at Monarto South and associated supporting industries, for the Metropolitan Adelaide Industrial Land Strategy to be extended to include the Monarto Precinct. Other opportunities for Monarto include the establishment of an east/west freight route linking the South Eastern Freeway (at Monarto) to the Sturt Highway and the mid north, thus reducing heavy vehicle freight in metropolitan Adelaide and connecting the wine regions of the Barossa, Clare Valley, Riverland and Fleurieu.

In October 2010, the Housing and employment Land Supply Program (HELSP) replaced the Metropolitan Industrial Land Strategy. It is acknowledged that the vision for an airport at Monarto is not a government priority in HELSP. The Murray and Mallee Region Plan cites Murray Bridge, and not Monarto, as the locality for consideration of general aviation/air service upgrades. However, the Monarto Enterprise Zone Projects Group (replacing the Monarto Common Purpose Group) views Monarto as an opportunity to create an integrated transport hub that includes aviation.

## 4.3 Council

### 4.3.1 Rural City of Murray Bridge – Strategic Plan 2011-2015



Council's Strategic Plan sets out a vision for the Council area. The Strategic Plan includes guiding principles and strategic priorities for the next four years, which state how Council proposes to achieve the vision.

One key consideration for Council in the next twenty years will be to prepare for and manage growth. This growth will take the form of new and expanded industry and housing which in turn will attract more retail, business and community investment to the area.

Council's Strategic Plan contains the following relevant goals and objectives.

### Economic

A developing economic base and increased employment supported by strong urban and rural business enterprises and a growing population.

- Objective 1.1** Attract new enterprises and increase support for existing commercial, retail, construction and manufacturing, primary industry and tourism enterprises.
- Objective 1.2** Improve regional and local infrastructure.
- Objective 1.3** Develop vibrant and sustainable business and education precincts.

### Environment

A sustainable natural and built environment that meets current and future community needs.

- Objective 2.2** Improve the quality and diversity of the built environment.

### Social

A healthy and safe community enjoying an affordable high quality of life together with vibrant and connected communities celebrating diversity and heritage through recreation, sport, arts and culture.

- Objective 3.5** Maintain support for the establishment of appropriate land use and transport options that achieve community sustainability.

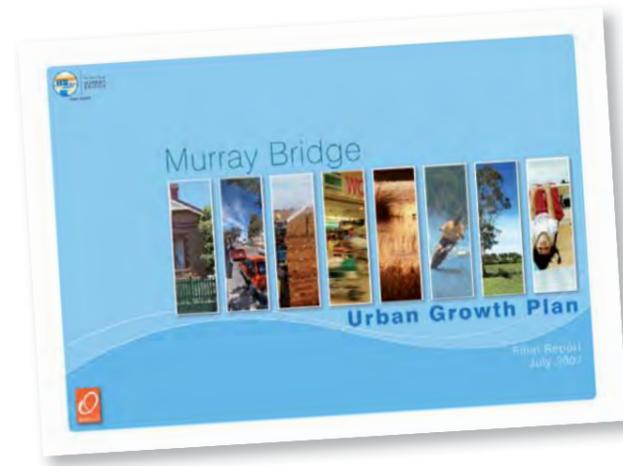
### Governance

Leadership with community engagement to ensure the effective use of our physical, financial and human resources.

- Objective 4.1** Improve community and stakeholder engagement.



## 4.3.2 Murray Bridge Urban Growth Plan – QED – July 2007



The purpose and intent of the Urban Growth Plan can be readily determined from the following extracts from the Executive Summary:

*The level of growth that could be attracted to Murray Bridge is significant, and requires careful planning and infrastructure provision. There is a clear opportunity and indeed a need to deliver innovation in the procurement and use of infrastructure, particularly in the reuse of water. Murray Bridge should be a City which maximises the potential of its natural environment and the skills and enthusiasm of its diverse population.*

*Murray Bridge can be a benchmark of sustainable growth to other Cities in Australia and the world where access to water is a critical issue.*

*Murray Bridge has the potential to develop into a key Regional City, potentially as the Second City in South Australia, with a population of up to 100,000 people and state of the art services, infrastructure and environmental planning.*

The Urban Growth Plan was formulated based on 10 Urban Growth Principles.

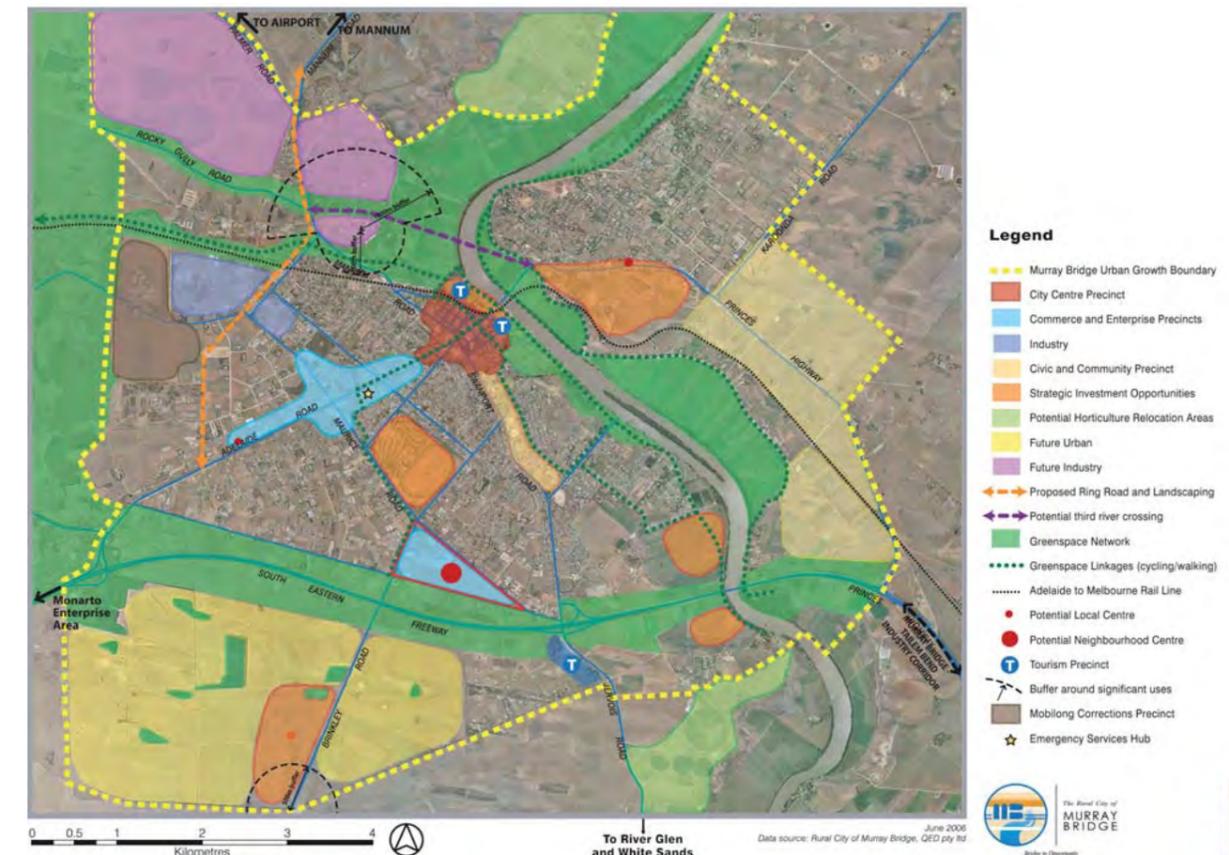
- maintain and enhance the River Murray Corridor as a natural open space asset;
- maintain and enhance 'green' corridors, open spaces and natural features;
- provide a full range of services, facilities and infrastructure to promote long term growth and investment;
- support the City Centre and adjacent waterfront as the regional focal point for shopping, dining, entertainment, services and as a gateway to the town for visitors;
- support co-ordinated, quality, urban expansion of Murray Bridge;
- support co-ordinated residential infill particularly in close proximity to service and facilities;
- create sustainable, quality communities with housing choice and affordability;
- provide a transport network that accommodates current and future needs;
- facilitate development of key places within Murray Bridge to provide long term community value; and
- utilise best-practice Ecological Sustainable Development principles.

A Concept Plan was prepared built upon the Urban Growth Principles. The Concept Plan identifies a series of important precincts and networks within the City.

A Land Use Plan was also prepared, proposing a mix of residential infill, residential expansion within existing zoned land and the staged release of a further 1,400 hectares of land for greenfields residential development. The Land Use Plan allows for approximately 11,000 new dwellings with further opportunities for rural living.

The Concept Plan is reproduced as Figure 4.1.

Figure 4.1: Murray Bridge Urban Growth Plan (2008)



Source: Murray Bridge Urban Growth 2007, pg 74



### 4.3.3 Integrated Water Resources Management Plan – Australian Water Resources – July 2008-2011

The purpose of the Integrated Water Resources Management Plan (IWRM) was to provide Council with a strategic direction and guidance for investing in water management actions that:

- conserve water;
- protect water quality;
- minimise risk of flooding;
- protect ecosystem health and provide water for the environment; and
- support the sustainable growth of Murray Bridge.

The IWRM identified that there is opportunity to further develop the utilization of rainwater, stormwater and wastewater in Murray Bridge which would reduce the pressure on the River Murray. The challenges to developing these resources include provision of adequate storage and treatment. This is particularly relevant given the predominant summer demand for water and winter requirements for storage.

A key opportunity exists in relation to wastewater reuse. The majority of Murray Bridge is serviced by a sewer network which is owned and operated by SA Water. The treated wastewater is currently pumped to a constructed wetland system at the Murray Bridge Arm Training Area. The water in the wetland is contracted to the Department of Defence and PIRSA for use.



Opportunities exist in Murray Bridge for increasing the community use of treated wastewater from available sources including:

- the existing and future expanded sewer system;
  - sewer mining; and
  - application to SA Water for access to treated wastewater.
- the non-sewered areas of the town
  - community scale WWTPs to service a designated area.
- the large daily volume from industrial sources (such as wastewater available from T&R Pastoral).

Key actions recommended by the IWRM which are of particular relevance to the Structure Plan process include:

- *Action 3: Negotiations with T&R Pastoral regarding opportunities for utilisation of treated wastewater.*
- *Action 6: Water harvesting and reuse opportunities should be investigated at the showgrounds due to the high water consumption and potential utilization as a demonstration site for best practice water management.*
- *Action 7: Expansion of the detention basin adjacent the cemetery to incorporate retention capacity to enable utilization of stormwater for irrigation purposes.*

The Rural City of Murray Bridge is currently in the process of developing an updated Integrated Water Management Plan for Murray Bridge which considers:

- the water resource requirements for all growth areas; and
- policy and infrastructure requirements to deliver sustainable management of urban water resources.

### 4.3.4 Stormwater Management Plan – Tonkin Engineering – May 2007

The Stormwater Management Plan was prepared in accordance with (DPTI) guidelines and addressed issues in regard to flood management, water quality, water harvesting and environmental enhancement associated with stormwater infrastructure.

The area investigated included all land zoned for urban/ rural living purposes and spanned both sides of the River Murray, and in general, the River, as the receiving waterway for all stormwater generated within the City.

The Stormwater Management Plan noted numerous depressions distributed throughout Murray Bridge which present an engineering challenge in achieving satisfactory drainage performance (flood protection).

The Stormwater Management Plan also highlighted that overtime the City has developed a stormwater drainage network that is comprised of a combination of underground gravity drains and large detention basins within reserves that are drained by pump stations or bores.

In general, the Stormwater Management Plan identifies that there is little drainage infrastructure currently provided to serve development on the eastern side of the Murray River.

The Stormwater Management Plan also identified that existing planning zones allow for development in areas that are currently undeveloped or utilized for other purposes such as horticultural use. Recently observed growth in development has demonstrated that there is a significant capacity for further development and subsequent increase in stormwater flows and volumes that will need to be managed.

The Stormwater Management Plan recommended a series of drainage upgrade works (54 projects) throughout the investigation area. A number of the recommended projects involve detention basins and wetlands, with locations nominated based on topography and catchment.

The extent of works proposed has an indicative cost of \$17.0m.



## 4.3.5 Open Space and Recreation Research and Planning Study – Suter Planners– May 2010

This Study was prepared noting a projected population of 30,000 persons by 2025 which will increase the demand for open space, sport and recreation facilities.

The study provides recommendations and strategic directions in terms of:

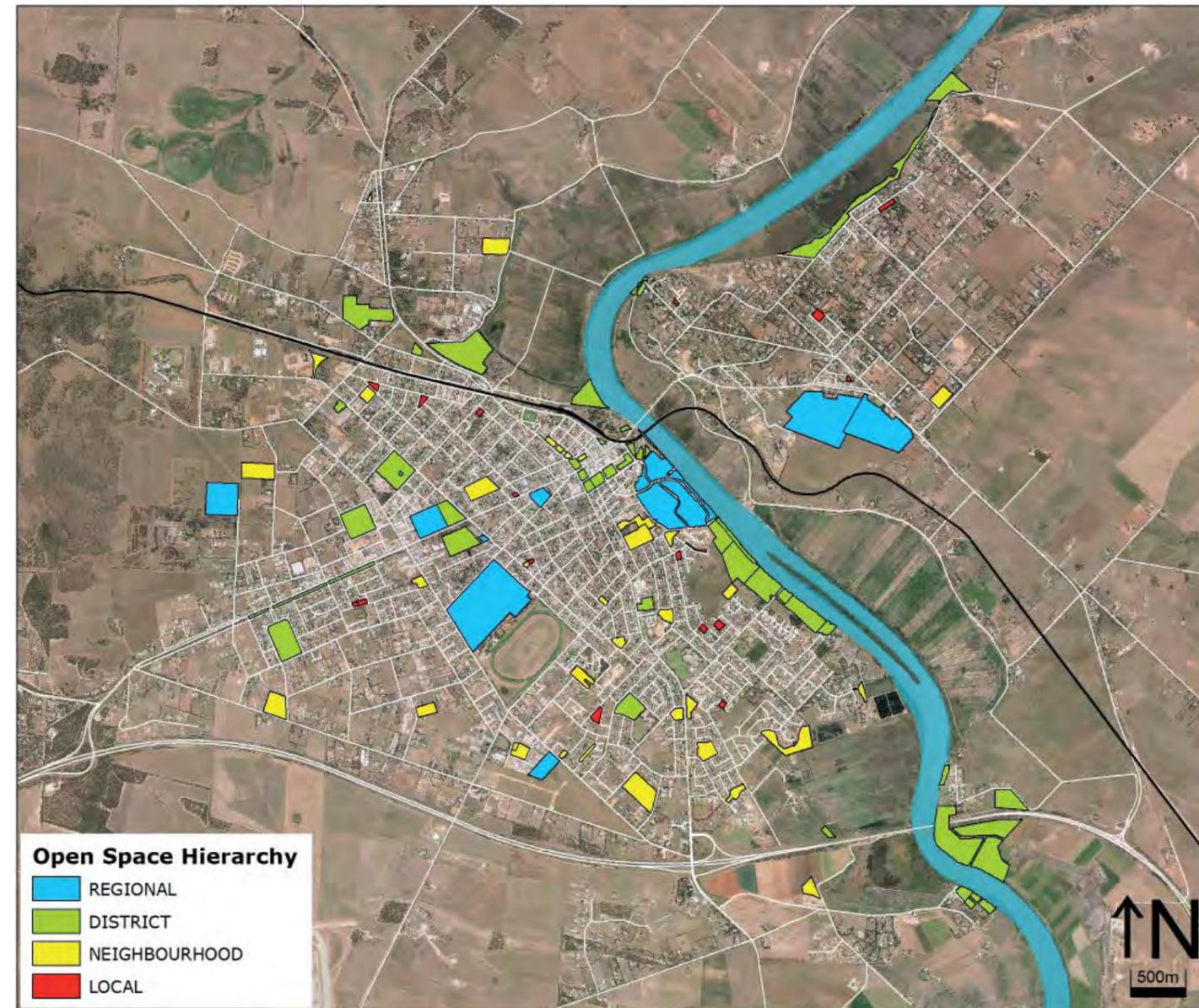
- all types of open space;
- facilities linked to open space;
- indoor sporting facilities; and
- aquatic and fitness facilities.

A hierarchy of open space networks was also recommended, which is reproduced as Figure 4.2.

The Structure Plan's population target exceeds the population figures used in the Open Space Study. Furthermore, this study focused substantially on Murray Bridge and in particular on the feasibility of a large, multi-function indoor facility being established. The work gave limited consideration to the whole Rural City of Murray Bridge and the recreational needs within the proposed growth areas and made no reference to the Gifford Hill development and its impact.

Given these deficiencies the Rural City of Murray Bridge is in the process of developing an updated Sports and Recreation Plan and Open Space Plan which will have greater regard for the direction of the Murray Bridge Structure Plan and will provide more guidance regarding the distribution and amenity of sporting and recreational facilities servicing existing and developing neighbourhoods.

**Figure 4.2: Recommended Open Space Hierarchy (Suter)**



### 4.3.6 Town Centre Master Plan – GHD - 2012

GHD are in the process of developing a Town Centre Master Plan and Urban Design Framework.

As part of this work, a site analysis was undertaken having regard to existing zoning, access arrangements, heritage factors and existing land use disposition. Eight guiding principles were nominated to inform the Master Plan. These were:

1. Encourage sustainable economic growth;
2. Reinforce a focus on the regional town centre;
3. Provide Quality Places and Spaces;
4. Strengthen Connections to River Murray;
5. Enhance the Public Open Space Network;
6. Conserve and Utilise Cultural Assets;
7. Achieve a Sustainable Regional Town Centre;
8. Improve Accessibility

The Master Plan will recommend specific precincts to manage the revitalisation and retention of Murray Bridge's regional centre function.



### 4.3.7 Integrated Transport and Traffic Management Plan – PB - 2011

Parsons Brinckerhoff prepared the Integrated Transport and Traffic Management Plan (ITTMP).

The ITTMP seeks to determine the future road transport infrastructure requirements for Murray Bridge at a strategic level, and development of practical and efficient road hierarchy with sufficient capacity to meet anticipated future growth within Murray Bridge.

The ITTMP takes into account the strategic context of Murray Bridge and the projected growth scenario used to inform this Structure Plan. The ITTMP also considers:

- the nature of the existing road network including heavy vehicle, public transport, cycling, pedestrian routes and existing parking provisions;
- the implications of future growth, including traffic generation and distribution;
- a freeway interchange analysis;
- future public transport demands;
- infrastructure implications; and
- cost estimates.



### 4.3.8 Murray Bridge Place Making Report – Village Well– 2011

Village Well were engaged by the Rural City of Murray Bridge, Burke Urban and Regional Development Australia to engage key stakeholders in the Rural City of Murray Bridge in order to create a Place Making Strategy. Three reports were prepared as a consequence of this commission. These included:

#### Lay of the Land

This report provided an analysis of the Place including the physical and social background and the values and context for the Place Making Strategy.

#### Community Values

Captures the 'wisdom of the community' and translates the wisdom into a practical guide for Council and stakeholders to better understand the need and the aspirations of the community.

#### Place Making Report

The findings of the Lay of the Land and Community Values Reports are relevant to the preparation of the Structure Plan. The Vision Statement and Place Principles within the Place Making Report are drawn from consultation and are the foundation for a set of strategies and actions to deliver a vision. It is important to note that only some of the strategies and actions can be considered by the Structure Plan with many others more appurtenant to other Council strategies including the Strategic Management Plan.

Derived from this work was the following vision for Murray Bridge

***Murray Bridge is a River Town and regional heart. A vibrant destination regional centre, supporting both the local and broader community needs. A beautiful and prosperous Main Street and activated river.***



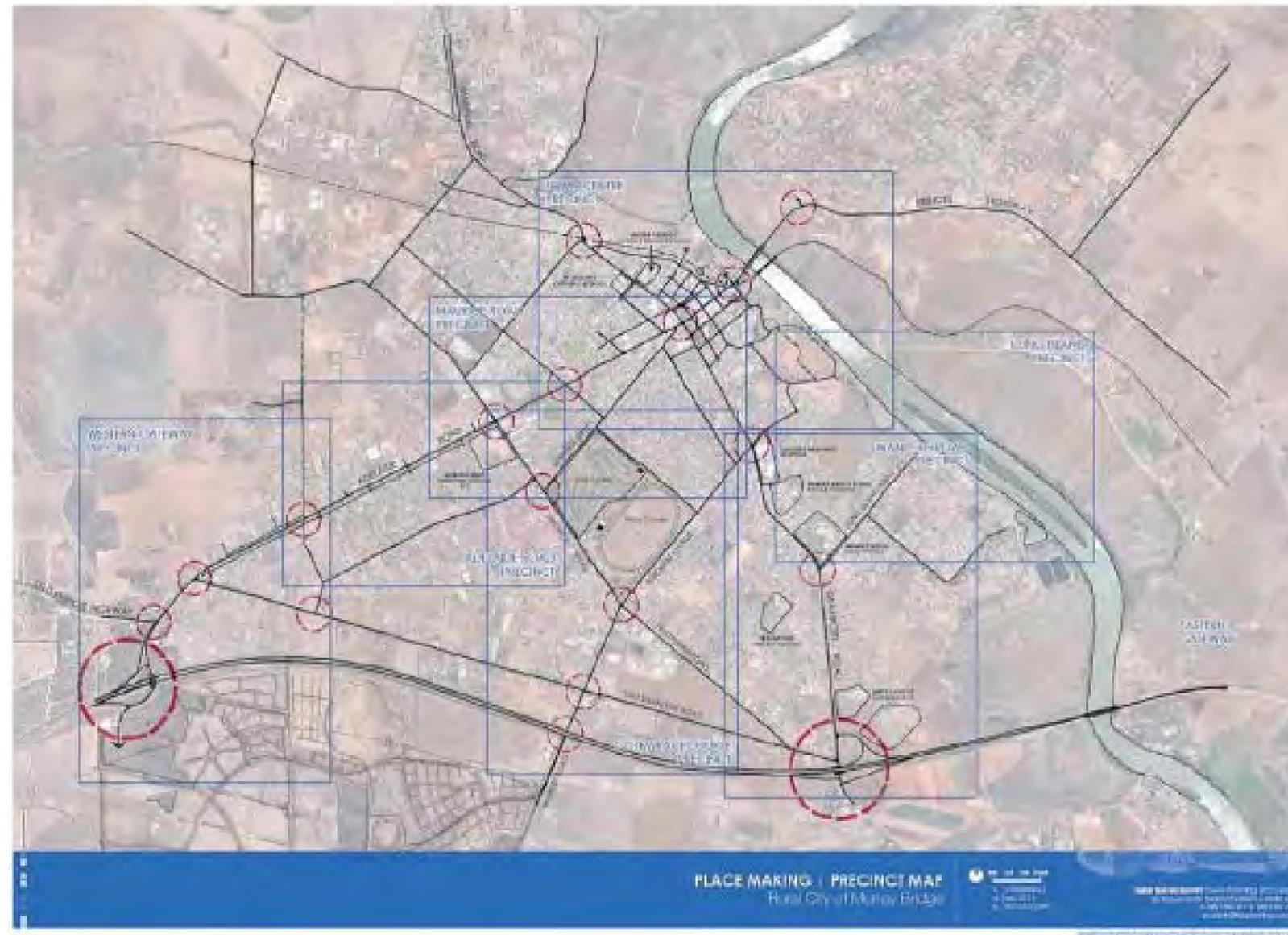


### 4.3.9 Precinct Planning

Precinct planning involves the preparation of detailed concept designs for particular priority areas as a basis for programming local infrastructure investment, public realm improvements and community involvement. Precinct plans also provide a framework for influencing private sector development activity (albeit one that cannot usually be taken into account as part of the development assessment process).

The placemaking work undertaken in 2011 by Village Well and Taylor Burrell Barnett for Council (with Burke Urban) includes a series of concept sketches for key precincts and provides a valuable basis for ongoing precinct planning activity. Figure 4.3 illustrates the broad location of, and linkages between, the seven precinct plans proposed by Taylor Burrell Barnett.

Figure 4.3: Placemaking Precinct Map



Source: Taylor Burrell Barnett

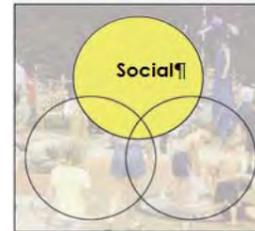
### 4.3.10 Smart Growth Principles

Best practice urban design principles have been considered and applied in the preparation of this Structure Plan. The following two sub-sections describe the key elements of Smart Growth (United States) and also the key aspects of urban design as outlined by the Urban Design Compendium (United Kingdom).

The principles of Smart-Growth are evident in older parts of our cities. These suburbs were designed before most people had access to a car to carry out simple daily tasks, such as shopping for milk and bread, going to school or the train station, playing in a park.

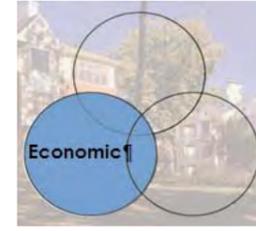


### Social Principles



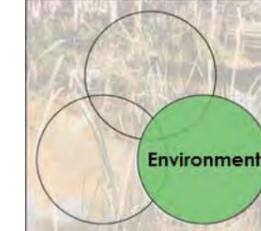
- Creating an urban focus for the wider community;
- Creating a sense of community and belonging;
- Fostering social interaction;
- Creating connections to the past and site history;
- Creating a clear and comprehensible street movement system which allows for choice of routes;
- Promoting health through making walking, cycling and outdoor recreation easier and more accessible;
- Wide housing range allowing people to move within the area and providing choice beyond standard detached housing;
- Incorporating extensive and diverse parkland areas that create a strong sense of place, a community focus and allow for a range of leisure and recreational opportunities; and
- Parking and street design to calm traffic and protect pedestrians, creating 'streets not roads'.

### Economic Principles



- Providing a strong retail hierarchy;
- Providing a wide range of retail opportunities;
- Providing proper mixed-use town and village centres which are real and attractive foci for the community;
- Providing development which complements existing areas;
- Paying for infrastructure and conservation through appropriate levels of development;
- Social equity underpinning the Structure Plan;
- Creating housing types that are marketable and viable; and
- Promoting a flexible range of housing types to allow for a variety of uses, including opportunities for home based work.

### Environmental Principles



- Creating connections to the external environment, particularly water corridors;
- Conserving and protecting biodiversity and remnant bushland of quality within the context of creating livable neighbourhoods;
- Incorporating water sensitive urban design and water management solutions that add value to the community;
- Creating human habitats that promote healthy lifestyles; and
- Urban structuring / layout and housing design that promotes environmentally sensitive and green building design.

The key aspects of urban design as outlined by the Urban Design Compendium are shown in Figure 4.4.

**Figure 4.4: Key Aspects of Urban Design**

<b>Places for People</b>
For Places to be well-used and well-loved, they must be safe, comfortable, varied and attractive. They also need to be distinctive, and offer variety, choice and fun. Vibrant places offer opportunities for meeting people, playing in the street and watching the world go by.
<b>Enrich the Existing</b>
New development should enrich the qualities of existing urban places. This means encouraging a distinctive response that arises from and complements its setting. This applies at every scale – the region, the city, the town, the neighbourhood, and the street.
<b>Make Connections</b>
Places need to be easy to get to and be integrated physically and visually with their surroundings. This requires attention to how to get around by foot, bicycle, public transport and the car – and in that order.
<b>Work with the Landscape</b>
Places that strike a balance between the natural and man made environment and utilise each site's intrinsic resources – the climate, land form, landscape and ecology-to maximise energy conservation and amenity.
<b>Mix Uses and Forms</b>
Stimulating, enjoyable and convenient places meet a variety of demands from the wildest possible range of users, amenities and social groups. They also weave together different building forms, uses, tenures and densities.
<b>Manage the Investment</b>
For projects to be developable and well cared for they must be economically viable, well managed and maintained. This means understanding the market considerations of developers, ensuring long term commitment from the community and the local authority, defining appropriate delivery mechanisms and seeing this is part of the design process.
<b>Design for Change</b>
New development needs to be flexible enough to respond to future changes in use, lifestyle and demography. This means designing for energy and resource efficiency; creating flexibility in the use of property, public spaces and the service infrastructure and introducing new approaches to transportation, traffic management and parking.

### 4.3.11 Stormwater Management Strategy

Wallbridge and Gilbert have recently prepared a draft Stormwater Management Strategy for the Rural City of Murray Bridge. This is related to the existing town boundary and not the study area relevant to this study. The objective of this study was to determine the best stormwater management strategy accounting for:

- Use and rationalisation of existing infrastructure;
- Supply and demand analysis;
- Current stormwater management plan;
- Water independence strategy for Murray Bridge;
- Known development activity;
- Current capital works program; and
- Available government funding.

The strategy identified the existing stormwater detention basins and pumping mains. It also identified the potential yields of the existing catchments.

Possible options for consideration included the provision of new pump-mains, existing basins which will require additional capacity and new basins. Also considered was the possible future supply of recycled water in conjunction with the District Council of Mount Barker.

Supporting this strategy is the recent announcement of a \$7.115m grant approval to Council under the National Urban Water and Desalination Plan – Stormwater Harvesting and Reuse Projects.



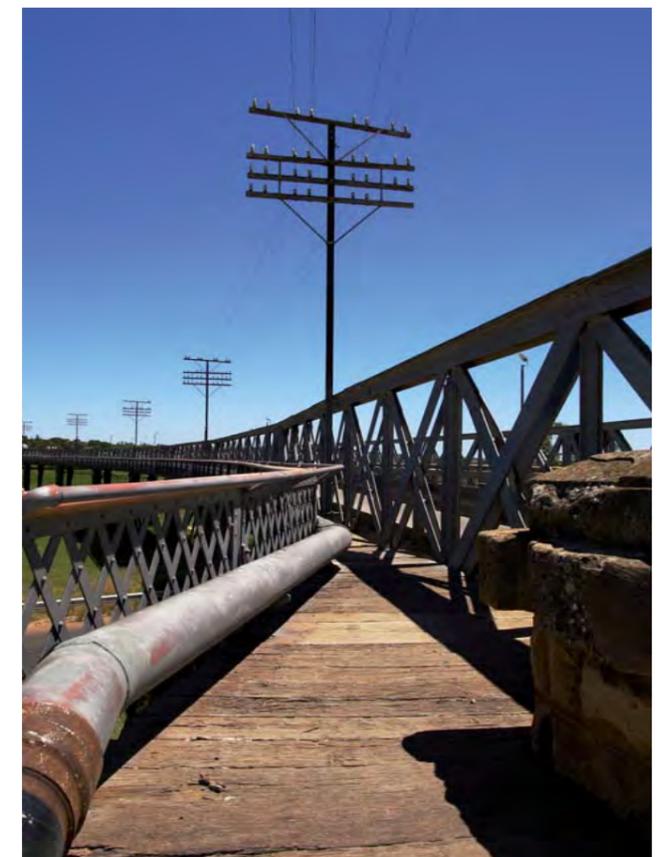
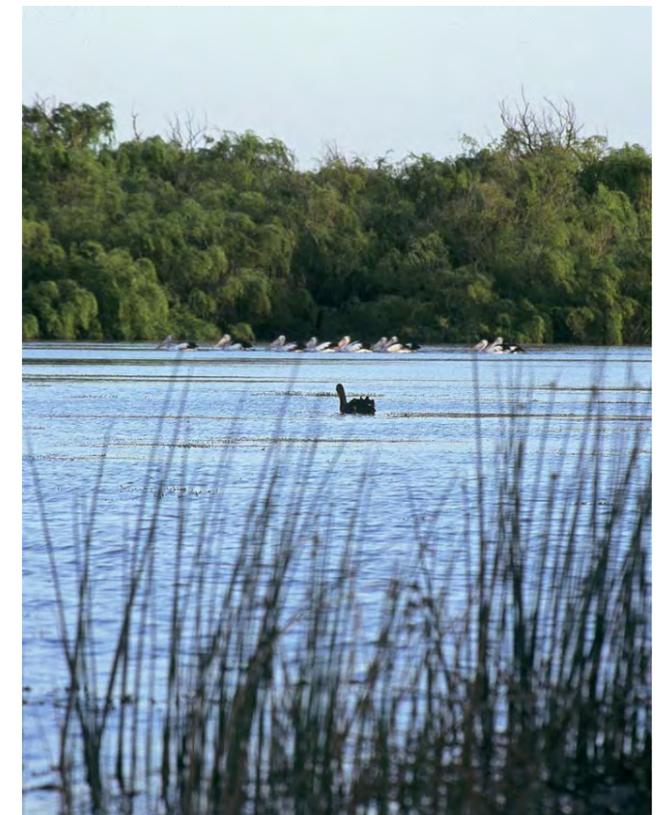
## 4.4 Implications for Structure Plan

Key issues arising from these strategic investigations include:

- The State Strategic Plan establishes population and job growth targets for both Greater Adelaide and Regional South Australia;
- The study area includes land which is located outside of the existing township boundary/growth areas designated by the 30 Year Plan for Greater Adelaide and as such amendments to the Planning Strategy would be required to facilitate future urban development within those areas;
- The Murray Mallee Region Plan indicates that Murray Bridge will accommodate the significant majority of growth for the region;
- The Rural City of Murray Bridge has a clear strategic policy platform supporting sustainable growth;
- The use of treated wastewater and stormwater reuse is a major opportunity to promote sustainable urban development;



- Whilst an open space hierarchy has been recommended to Council (Suter Planning), revisions to that hierarchy/strategy will be required pending the future growth areas arising from this Structure Plan process. It is possible that additional neighbourhood level open space may be required for some growth areas and other areas rationalised/consolidated, depending on their scale and spatial relationship and connections to existing open space;
- The 30 Year Plan for Greater Adelaide anticipates a new urban form which includes higher dwelling densities in appropriate locations;
- The ageing of the population and other social changes will lead to a significant increase in lone person households thereby changing demands in respect to dwelling form; and
- Maintaining town character is an important strategic objective.
- Revitalisation and maintaining primacy of the Regional Town Centre;
- Reinforcing a distinct road transport hierarchy which balances infrastructure maintenance, urban character and amenity, and accessibility.



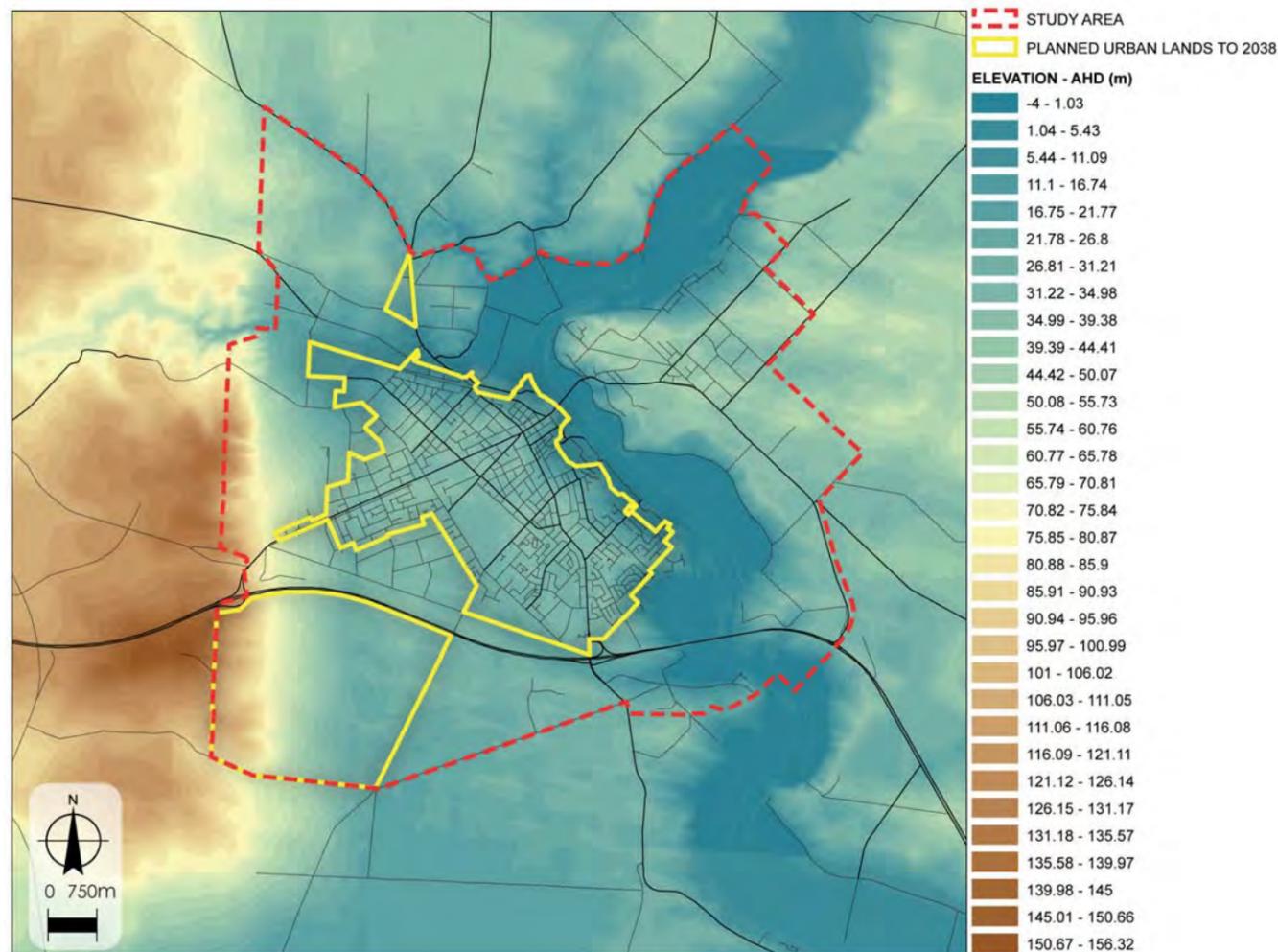


## 5.1 Topography

The topography (Figure 5.1) of the Study Area varies considerably ranging from the elevated White Hill escarpment to the west, the generally flat form of the existing urban area to the low lying dairy flats located on the eastern side of the River Murray. The Town Centre slopes down to the River Murray, generally providing an elevated interface.

There is a lack of development which takes advantage of the views over the River Murray and in particular the area adjoining the Rail Precinct and land along the eastern side of the River above the dairy flats.

**Figure 5.1: Topography**



## 5.2 Current Land Use Characteristics

The majority of the Study Area is used for urban purposes, particularly that portion of the area identified as planned urban lands. The balance of land, typically located at the fringe of the existing township, is used for a variety of non-urban uses such as horticulture and industry.

The Murray Bridge town centre located on the western side of the River Murray, between Railway Terrace, Charles Street, Mary Terrace and Florence Street serves as the main administrative core.

Community and civic facilities have clustered around the town centre area. These include shops, Civic Centre Office, Post Office, Library, Court and Police Station.

Schools are concentrated around an education precinct on Swanport Road and Mannum Road. Educational facilities include Murray Bridge Primary, (North and South) Schools, High School, Fraser Park Primary, Unity College, St. Josephs and the Murray Bridge TAFE. The Murray Bridge Hospital and ambulance station is also located on Swanport Road.

In addition there are a number of existing kindergartens and four child care centres within Murray Bridge.

Residential development has typically grown in a number of forms and location. These include:

- single storey dwellings on town allotments with an average size of around 800 square metres – 1,000 square metres generally within the ‘inner urban’ area. These dwellings are connected to town sewerage and water services;
- larger rural living blocks on the eastern and western periphery of 1 and 2 hectares in area or more. The majority of these types of rural living dwellings have been constructed on the eastern side of the River Murray where the land offers high amenity and river views. Dwellings in this area require on site sewage treatment; and
- Housing SA dwellings which have been concentrated in an area bounded by Swanport Road and Hindmarsh Road. Housing SA has indicated that it does not envisage any large scale additional investment in this area in the medium to long term. The opportunity exists to redevelop and revitalise housing and to achieve affordable housing for the community.

Shopping within Murray Bridge is concentrated in the town centre area in four main locations:

- Bridge Street;
- Woolworths Market Place;
- Murray Bridge Green; and
- Coles (Mannum Road).

Collectively it is estimated that there is around 27,000 square metres retail floor space within Murray Bridge. It is likely that economic and population growth will generate significant demand for retail floor space in the convenience, comparison and bulky goods sectors.

In addition there are a range of ‘service trade’ premises located along Adelaide Road. These premises sell a range of products for the service trades and agricultural sectors as well as items such as boats, garden equipment and car sales / repairs.

The Town Centre and service trades retailing areas form distinct precincts serving different retail needs and markets. In addition there are small retail clusters providing top up local shopping at Mitchell Avenue on the east side and further south on Swanport Road.

Murray Bridge is at the centre of a major agricultural district which supports irrigated horticulture and dairying along the River Murray and cropping and intensive animal keeping throughout rural areas. Industry, including a range of primary and secondary industries is clustered around Murray Bridge, Monarto and Taillem Bend.



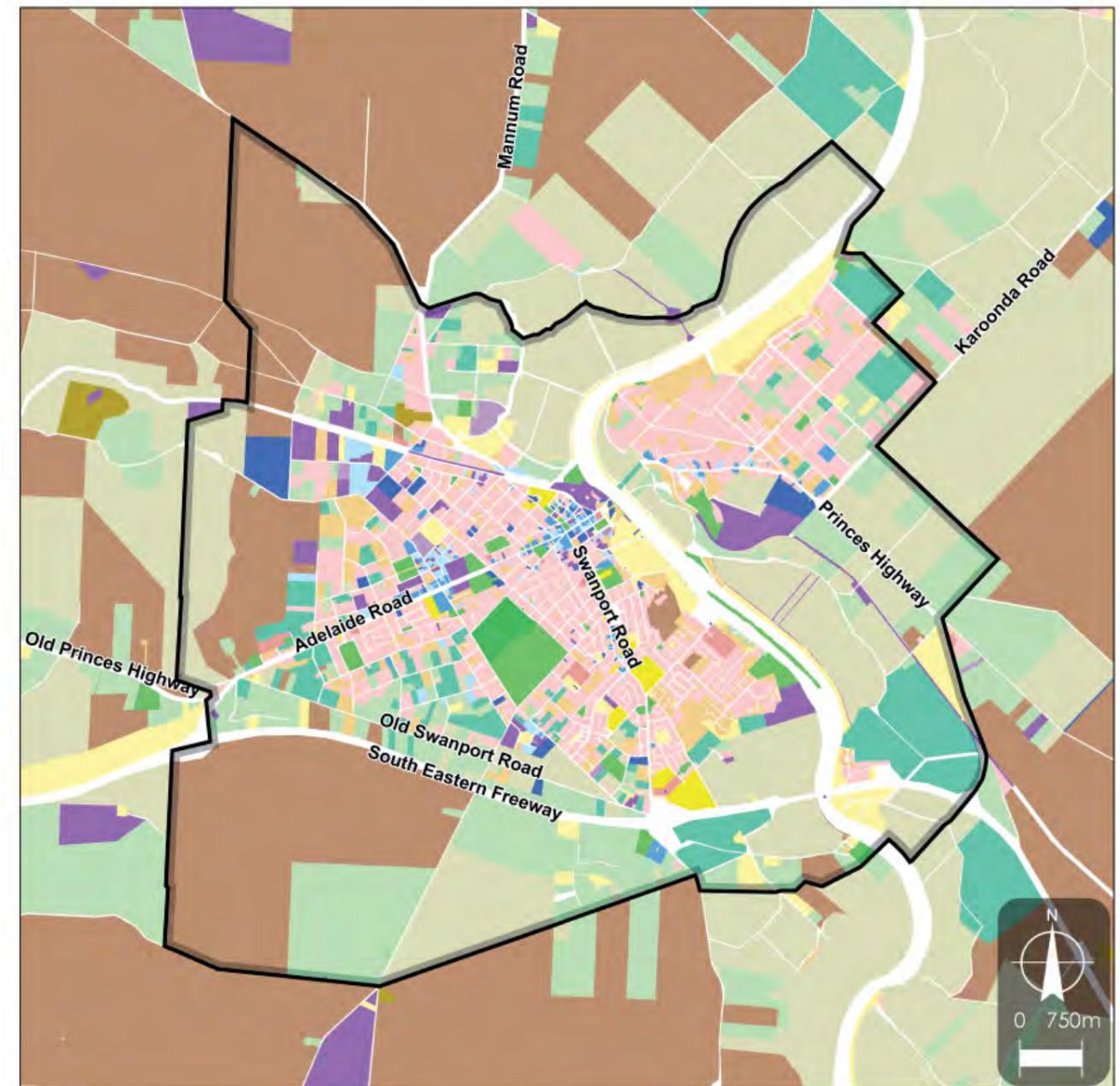
Industrial land within Murray Bridge is located around the northern edge and adjacent to Adelaide Road, Murraylands Enterprise Estate, Hindmarsh Road, Ridley Precinct and the East side. This incorporates a range of general and light industrial uses. Premium livestock processor and exporter T&R Pastoral is the largest single employer in Murray Bridge, employing over 1,000 people (including a significant number of migrant workers) and is located on Mannum Road. There are a number of large primary industry facilities on the edge of the urban area.

The various land uses are identified on the Key Land Uses Plan (Figure 5.2).

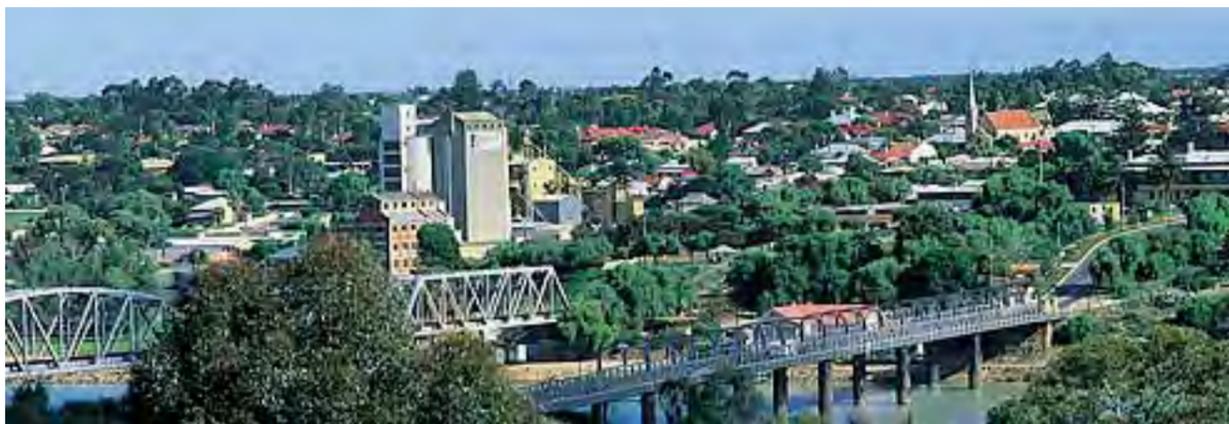
Opportunities exist on the eastern side of the river and along the riverfront to further enhance or contribute to the mix of land uses. For example a number of strategic opportunities exist on the eastern side of the River Murray which could act as the key catalysts to enhance or contribute to the mix of land uses.

These include, residential growth to take advantage of the views over the river and township, rejuvenating the Princes Highway to enhance the eastern gateway into the township, and developing the riverfront for a range of tourist, community and/or recreation land uses to improve the townships relationship with the river.

Figure 5.2: Key Land Uses Plan



- |  |                   |  |                         |  |                      |
|--|-------------------|--|-------------------------|--|----------------------|
|  | AGRICULTURE       |  | RECREATION              |  | RURAL RESIDENTIAL    |
|  | COMMERCIAL        |  | HORTICULTURE            |  | VACANT RESIDENTIAL   |
|  | RETAIL COMMERCIAL |  | LIVESTOCK               |  | VACANT               |
|  | EDUCATION         |  | MINE / QUARRY           |  | PUBLIC INSTITUTION   |
|  | FOOD INDUSTRY     |  | NON-PRIVATE RESIDENTIAL |  | UTILITIES / INDUSTRY |
|  | GOLF COURSE       |  | RESIDENTIAL             |  | STUDY AREA           |

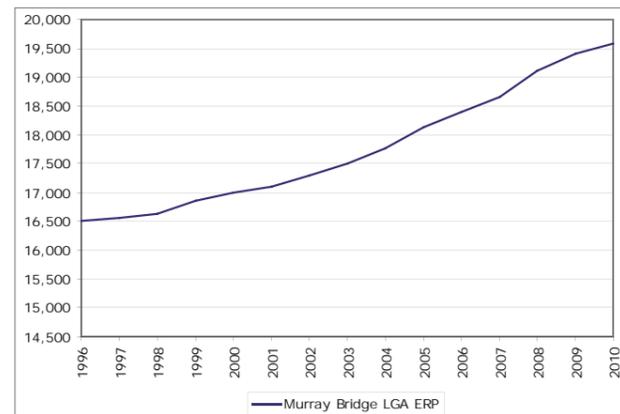


## 5.3 Demographics

### 5.3.1 Historical Population Growth

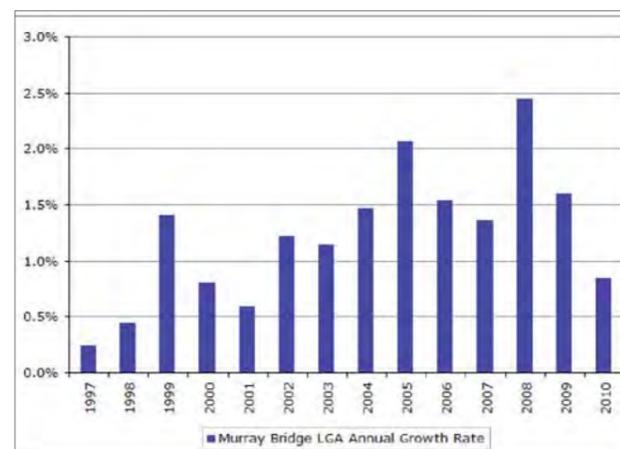
Australian Bureau of Statistics (ABS) provides annual Estimated Resident Population (ERP) data. ERP for Murray Bridge Council area for the years 1996-2010 inclusive is shown in Figure 5.3.

**Figure 5.3: Population Growth Murray Bridge LGA 1996-2010**



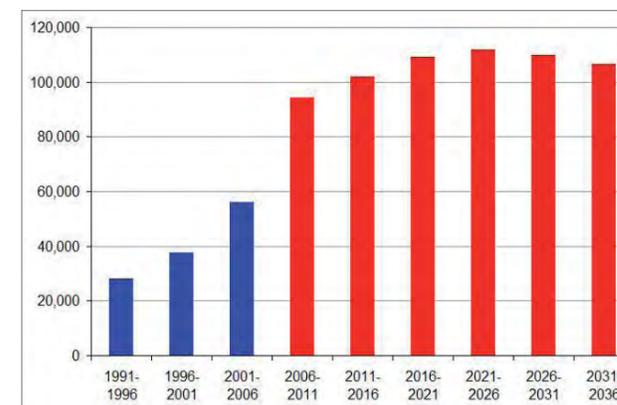
As shown in Figure 5.4 population, growth rates have varied over time but have been considerably higher in recent years compared with growth in the late 1990's. The average annual growth rate of the Council area over the last five years was 1.6% per annum. This represents a strong growth outcome relative to the State growth rate of 1.2% per annum over this period.

**Figure 5.4: Population Growth Rate Murray Bridge LGA 1997-2010**



Population growth in South Australia has been strong over recent years and expectations of continued strong growth underpin the policies and targets contained in the 30 Year Plan for Greater Adelaide. Population growth in recent years has reflected improved fertility levels and high levels of net overseas migration.

**Figure 5.5: Historical and Projected Population Growth South Australia**



Source: 1991-2006 ABS Estimated Resident Population (Catalogue No. 3101.0); 2006-2036 DPLG '30 Year Plan' Projection Series

The Department of Planning Transport and Infrastructure (DPTI) is currently in the process of preparing new population projections for South Australia. These projections are currently not available for small areas. The medium series is close to the 'high scenario' projection series which underpins the 30 Year Plan for Greater Adelaide. These projections are shown in Figure 5.5 and are high relative to historical population growth.

The number of dwellings required to accommodate this population growth is strongly influenced by household size and formation trends across the whole population. The size of households has been falling fairly steadily for decades and, in doing so, has fuelled dwelling construction activity. Both DPTI and the ABS predict a continued decline in household sizes over the coming years. However, it should be noted that current average household sizes in the Murray Mallee region is larger than Greater Adelaide overall. Within newly developed suburbs, household size is typically larger again.

Household size reflects household type, such as lone person, couple and family households.

Couple families with children remain the dominant household type in Greater Adelaide, though the proportion of households in this category declined significantly over the ten year period from 1996 to 2006. This change in household formation is linked to delayed marriage and childbirth, increased divorce rates and increased one-parent families. During the same period, the proportion of couple, lone person and one parent families increased.

Household formation projections used in the development of the 30 Year Plan for Greater Adelaide anticipate that recent trends will continue. Couple and lone person households are projected to experience very strong growth over the next 30 years.

Age is a key factor in household formation, with older persons having a high propensity to live in lone person or couple households. Age structure projections developed by DPTI anticipate that the population of South Australia will continue to age and project the median age to be 40.8 years in 2036. The Baby Boomer generation will play a significant role in the ageing of the population.

### 5.3.2 Key Demographic Characteristics

At the 2006 Census, the population of Murray Bridge had the following key demographic characteristics:

- an average household size of 2.4 persons, the same as metropolitan Adelaide;
- a median age of 39 years, compared with 38 years in metropolitan Adelaide;
- a smaller proportion of young adults (20-34 years) and higher proportion of children under 15 years and 50+ year olds, compared with metropolitan Adelaide;
- a median household income level representing 73% of the metropolitan Adelaide median;
- a lower rate of workforce participation (55.6%) compared with metropolitan Adelaide (59.2%); and
- a slightly higher rate of unemployment (6.6%) compared with metropolitan Adelaide (5.3%).





The mapped mallee heath and shrubland communities do not have a conservation rating. However, if the associations described by the desktop mapping and literature review were in good condition with an intact understorey they could support individual understorey species that have conservation significance. These could include, for example, *Acacia menzeli*, *Acacia montana*, *Leptomeria aphylla*, *Olearia pannosa*, *Olearia ramulosa* and *Prostranthera eurybioides*.

Council is in the process of drafting an Environmental Sustainability Management Plan to ensure Council activities manage natural resources for future generations.

### 5.5.2 Potential Contamination

A desktop assessment was undertaken to identify potentially contaminating land uses within each region using Planning SA's (now know as DPTI) 2009 land use cadastre, the intensive agricultural industries shape file identifying intensive land uses and aerial photography provided by Council.

The following potentially contaminating land uses have been identified within and/or adjacent the Murray Bridge township:

- Abattoir;
- Agriculture and horticulture (general broad acre and irrigation);
- Market gardens;
- Piggeries;
- Poultry farming;
- Compositing;
- Industrial (various types) eg: metal yards, metal fabrication, automotive and boat repairs;
- Landfill; and
- Railways.

Site history investigations have not been conducted at the structure planning stage. Any future DPA's that incorporate sites that are or have been affected by potentially contaminating uses will need to include investigations that accord with the advice in Advisory notice Planning 20 Site Contamination to determine whether the land is fit, or capable of being remediated,

for the intended purpose. Accordingly, the proposed Areas of the Structure Plan are indicative only and guide for informing the forthcoming Strategic Directions Report. The Section 30 Review will determine the Areas (in the 0-5yr High Priority range) of the Structure Plan that are likely to be subject to specialist advice.

## 5.6 Heritage

The Murray Bridge Development Plan contains Council-wide provisions on heritage conservation, and provides guidance for development that may impinge on the heritage values including:

- land division which could affect the setting of designated heritage places;
- the development of land adjoining heritage places, and
- development that directly affects a heritage place.

Given the scope of these investigations is to potentially change the nature of the landscape from rural to urban, some care will be needed in respect to those places located within or immediately adjacent to the growth areas and particularly where the rural setting contributes to the historical context.

Existing Local and State Heritage Places are identified in Table 5.1 and 5.2 respectively. They are also spatially identified in Figure 5.9.



**Table 5.1: State Heritage Places**

Property Address	Description and/or Extent of Listed Place
Bridge Street CALLINGTON	Bridge over the Bremer River, Callington [Metal Truss]
Bridge Street CALLINGTON	Dwelling (former Callington Flour Mill)
Thiele Road MONARTO SOUTH	Former Monarto Council Chambers
2km NE of Pallamana MONARTO VIA CALLINGTON	Salt Creek Railway Bridge [Concrete Girder]
MONARTO VIA CALLINGTON	Chimney [Cornish], Preamimma Mine Area
MONARTO VIA CALLINGTON	Former Monarto Presbyterian Church & Graveyard
Fifth Street MURRAY BRIDGE	Murray Bridge Hotel
Jaensch Road MURRAY BRIDGE	Thalia Homestead
Mannum Road MURRAY BRIDGE	Liebelt's Cottage (former Dwelling)
Murray Drive MURRAY BRIDGE	Dwelling ('Glen Lossie')
Princes Highway MURRAY BRIDGE	Murray Bridge Road Bridge [Metal Truss]
Railway Terrace MURRAY BRIDGE	Round House (former Murray Bridge Works Superintendent's Home)
Railway Terrace MURRAY BRIDGE	Murray Bridge Railway Station & Refreshment Rooms
31 Swanport Road MURRAY BRIDGE	Christ Church (Lutheran)
MURRAY BRIDGE	Murray Bridge Railway Bridge [Metal Truss]
MURRAY BRIDGE	Murray Bridge Wharf & Hand Crane
South Eastern Freeway SWANPORT VIA MURRAY BRIDGE	Granite Outcrop (Swanport Whaleback) Geological Site
Tolmer Street WELLINGTON VIA TAILLEM BEND	Eating House (former Wellington East Police Station & Courthouse)
WELLINGTON VIA TAILLEM BEND	Former Wellington Ferry Road & Stone Wall
Jervois Road WOODS POINT VIA MURRAY BRIDGE	Silage Silo

Note: this table was last updated on 2 December 2010

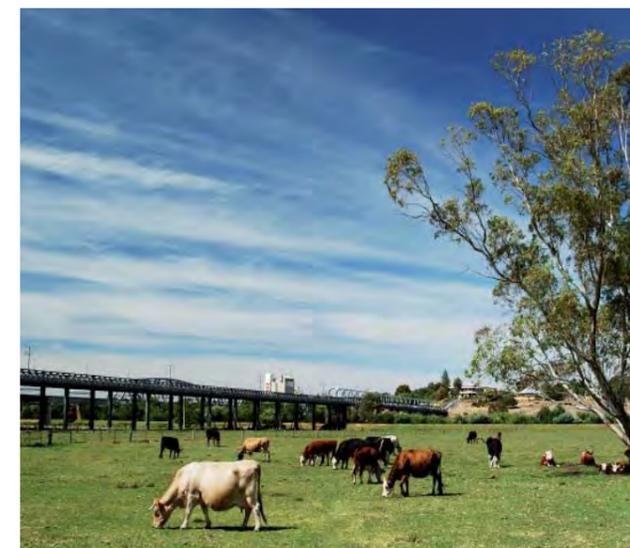
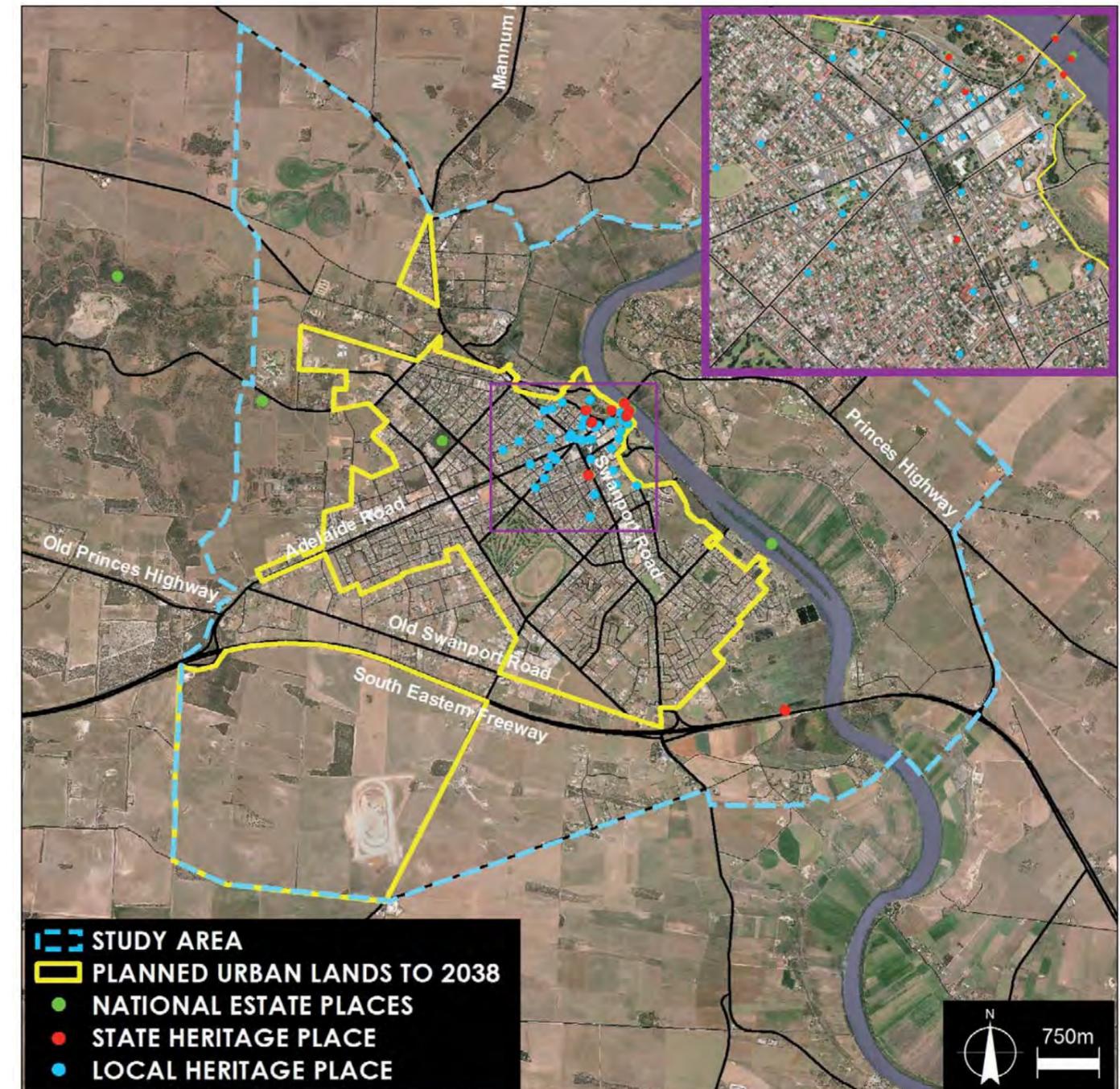


Table 5.2: Local Heritage Places

Property Address	Description and/or Extent of Listed Place
Adelaide Road MURRAY BRIDGE	Scout Hall & Monument
72 Adelaide Road MURRAY BRIDGE	Sister Bock's Hospital & Plum Trees (2); a large early 20 <sup>th</sup> century, double fronted villa
Alice Terrace (Le Messurier Oval) MURRAY BRIDGE 20-26 Beatty Terrace MURRAY BRIDGE	Grandstand & Change rooms
2-6 Bridge Street MURRAY BRIDGE	First Murray Bridge High School & Trees (03). The trees are Moreton Bay Fig tree, Pepper tree and Cork tree
13-17 Bridge Street MURRAY BRIDGE	Bridgeport Hotel; Elements to be retained – Original large two-storey Victorian Hotel section, including original rear single – storey storeroom and later two storey Victorian extensions
60-66 Bridge Street MURRAY BRIDGE	Former Town Hall & Municipal Offices; imposing two storey building with a clock tower added in 1953, (excluding cream brick rear extension)
17-19 Clara Street MURRAY BRIDGE	Former Cinema
East Terrace Cnr Bridge Street, road reserve MURRAY BRIDGE	Murraylands Baptist Church; small symmetrical church
East Terrace Cnr Bridge Street, road reserve MURRAY BRIDGE	Row of Canary Island Palm Trees (4)
Fifth Street Fifth Street Park MURRAY BRIDGE	Californian Fan Palm Trees (2)
Flavel Terrace Cnr Standen Street MURRAY BRIDGE	Golden Cypress Trees (3)
31 Florence Street MURRAY BRIDGE	Lutheran Church & Concordia Hall
1/1 Fourth Street MURRAY BRIDGE	Salvation Arm Citadel
21 Jaensch Road MURRAY BRIDGE	Residence, 'Bridgeview'
26 Joseph Street MURRAY BRIDGE	Residence
Mannum Road Cnr Fifth Street, Diamond Park MURRAY BRIDGE	Single Pepper Tree
Mannum Road Cnr Bridge Street MURRAY BRIDGE	Norfolk Island Pine Trees (2)
Mannum Road Cnr Park Terrace MURRAY BRIDGE	Holy Redeemer Catholic Church; a large church, in the gothic style.
6-8 Mannum Road MURRAY BRIDGE	St John The Baptist Anglican Church
5-7 Mary Terrace MURRAY BRIDGE	Residence
37 Mary Terrace MURRAY BRIDGE	Flour Mill; four storeyed brick structure
29 McHenry Street MURRAY BRIDGE	Shop/Dwelling; a single storey, double fronted villa with a projecting gable ended shop front
Park Terrace MURRAY BRIDGE	Murray Bridge Junior Primary School
17 Rachel Street MURRAY BRIDGE	Residence & Palm Tree
Railway Reserve MURRAY BRIDGE	Railway & Wharf Precinct
8 Railway Terrace MURRAY BRIDGE	Shop; Elements to be retained – two storey Façade
28-40 Railway Terrace MURRAY BRIDGE	Pepper Tree
4-6 Seventh Street MURRAY BRIDGE	Georges Building; two storey shop/warehouse constructed from local stone
6-14 Sixth Street & 19-25 Bridge Street MURRAY BRIDGE	Ruges Beehive Corner; Two Storey building, comprising a private hotel at first floor and shops at ground floor
1-3/16-18 Sixth Street MURRAY BRIDGE	Shops; Elements to be retained – two storey building and original single storey section at the rear of the building

Figure 5.9: Local and State Heritage Places



Note: This table was last updated on 5 June 2009.

The South Australian Aboriginal Heritage Act 1988 provides broad protection for Aboriginal sites by making it an offence to damage or disturb an Aboriginal site without authorisation from the Minister for Aboriginal Affairs and Reconciliation. An Aboriginal site is defined as a site that is significant to Aboriginal tradition, archaeology, anthropology and history. Should an Aboriginal site be discovered at a development site, the proponent must report the discovery to the Minister as soon as practical.

A desk-top assessment of the Indigenous cultural heritage has been undertaken to inform these investigations. In addition, advice has been obtained from the State Government's Aboriginal Affairs and Reconciliation Division which administers the Register of Aboriginal Sites and Objects.

The Ngarrindjeri Regional Authority (NRA) has prepared the Ngarrindjeri Murrundi Management Plan No. 1 – Pomberuk Le:wunanangk to clearly articulate the cultural and spiritual importance of this land to the Ngarrindjeri people.

The Plan will also guide the future management and development of the land in spirit of cooperation and partnership with all levels of government.

The land has strong and unique spiritual and cultural significance to the Ngarrindjeri people as the last permanent Ngarrindjeri camp along the River Murray in Murray Bridge. The NRA has identified this area as a potential site of joint development.

The Plan is based on an analysis and synthesis of the research contained in this report. It is also based on the direct input and guidance of the Ngarrindjeri Regional Authority, via various meetings and discussions over recent years and in more detail in recent months.

The Plan provides a balance between protecting and enhancing (and educating about) the Ngarrindjeri spiritual and cultural values in relation to the land and the broader region – it also provides a proactive and refreshing approach to embracing change and development opportunities over the land, provided this is undertaken in a manner of respect, sympathy, cooperation and partnership.

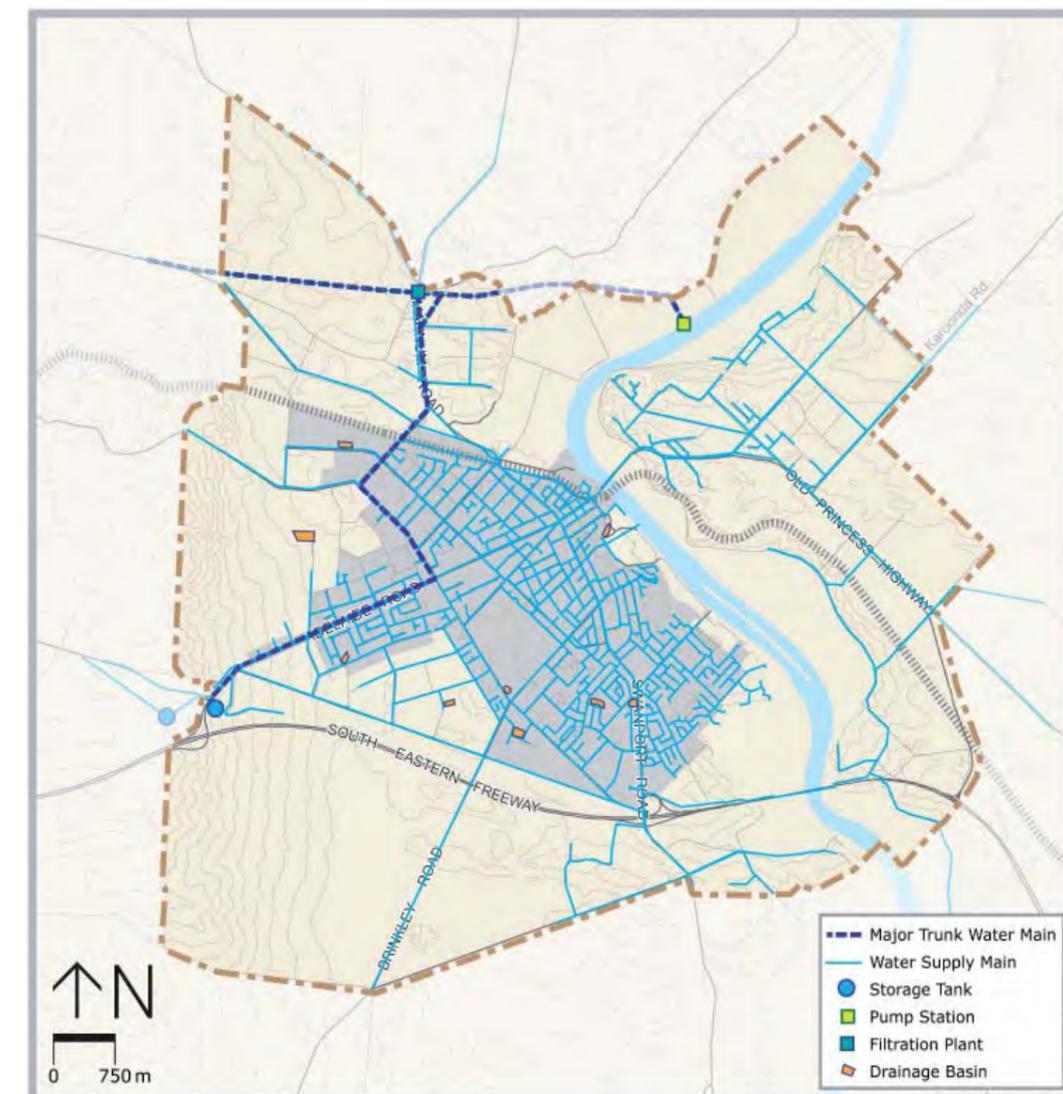


## 5.7 Water

The township and adjacent irrigated rural areas are supplied with River Murray water from a 900mm diameter off-take main from the Murray Bridge - Onkaparinga pipeline located at Murray Bridge North.

Options for augmenting the Murray Bridge water supply network may include additional elevated tanks and will be assessed on commercial merit. Existing water supply infrastructure is shown on Figure 5.10.

Figure 5.10: Water Supply Infrastructure



## 5.8 Sewer

The Murray Bridge Wastewater Treatment Plant (WTP) is located on the floodplain at the southern end of Murray Bridge. The Murray Bridge WWTP has a capacity of approximately 1000ML per annum or 2.7ML per day. The re-location of the existing WTP is currently being investigated and there are no approvals or guarantees to relocate the plant at this point in time.

The current wastewater network only services the central part of Murray Bridge. There are no wastewater services provided by SA Water on the eastern side of the river and there are currently no plans to provide wastewater services to this area.

The western and southern portion of the town and Murray Bridge east are currently serviced by an individual allotment septic tank system, however SA Water have initiated planning for future sewer reticulation.

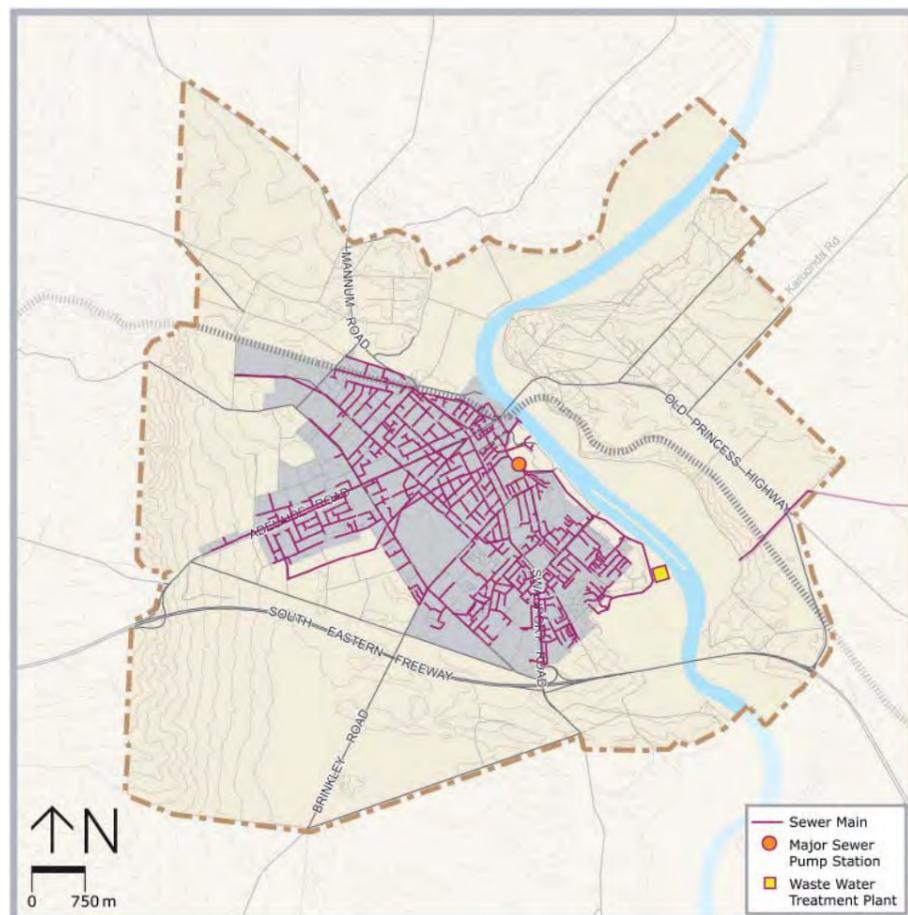
No services are currently available in the proposed Gifford Hill Estate area south of the South Eastern Freeway. The mechanisms for supplying sewer/wastewater treatment and disposal systems to the Gifford Hill Estate is currently being investigated.

The existing collection network suffers from blockages and overflows and is at or near capacity with only 5 years population growth capacity remaining in the network.

T&R Pastoral also generates up to 750ML/a day of wastewater, which is irrigated off site.

Existing sewer infrastructure is shown in Figure 5.11.

**Figure 5.11: Sewer Infrastructure**



## 5.9 Stormwater

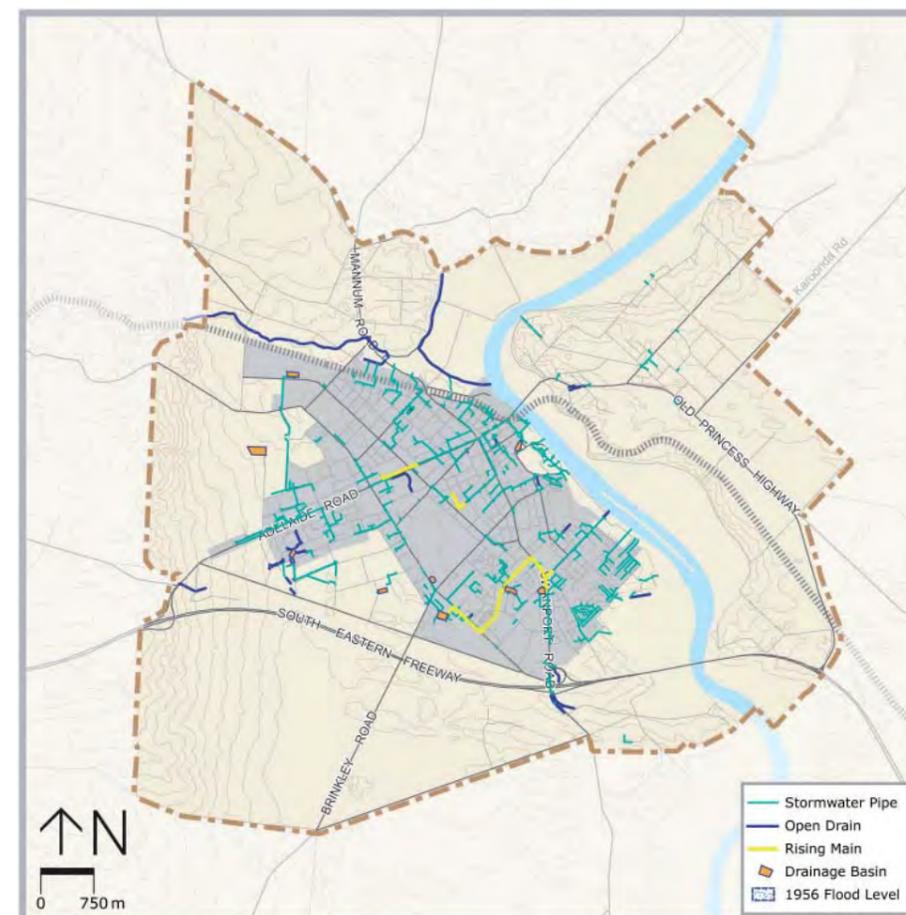
The existing stormwater network within the township has variable capacity, some with less than a 1 in 2 year ARI capacity. Localised flooding is common.

A stormwater management plan has been prepared for the areas within the current urban growth boundary to inform the upgrading of stormwater and provision of detention basins and wetlands.

A stormwater management plan has also been prepared for the proposed Gifford Hill Estate which includes provision for a future wetland and detention system to service the development and low lying areas north of the South Eastern Freeway.

Existing stormwater infrastructure is shown in Figure 5.12.

**Figure 5.12: Stormwater Infrastructure**



## 5.10 Telecommunications

The majority of the township east and west of the River Murray is reticulated with copper cable in a pipe network that could relatively easily be upgraded to handle additional demand of any redevelopment up to the 30,000 population. There is also some limited penetration of fibre optic infrastructure to provide CAN electronics and services to mobiles and large business premises.

It should be noted that in some of the older established and more distant areas (eg outside street lighting areas) the network is provided with solid cable and not easily augmented to provide additional capacity.

The majority of these areas have broadband availability however some local areas may have issues with old style electronic equipment that does not or has limited broadband capability.

These areas have good mobile coverage from the Telstra 3G network.

Existing telecommunications/electricity/gas infrastructure is shown on Figure 5.13.

## 5.11 Gas Transmission Pipelines

Gas transmission pipelines are licensed under the Petroleum and Geothermal Energy Act 2000 which is enforced by the Energy Resources Division of the Department of Manufacturing, Innovation, Trade, Resources and Energy (DMITRE).

### 5.11.1 Riverland Pipeline

A section of the Riverland Pipeline (Pipeline Licence 6) is located within the Rural City of Murray Bridge and is operated by the APA Group on behalf of Envestra Ltd. Within the Study Area, growth Area 7 and the built up areas of Murray Bridge include sections of this transmission pipeline.

Management of this pipeline is governed by AS2885 – Pipelines Gas and Liquid Petroleum. This standard exists to ensure protection of the pipeline, which in turn ensures the safety of the community, protection of the environment and security of (gas) supply to users.

AS2885 requires the pipeline licensee to ensure that the pipeline is designed to be compatible with the surrounding land use and that all risks are managed to an acceptable level. To comply with this requirement, the licensee needs to consider the land use within the “measurement distance” of the pipeline, being 135m for the Riverland Pipeline.

The pipeline operator will need to be consulted in relation any development within the measurement distance of the transmission pipelines. In some instances, a safety management study involving the pipeline licensee and the developer, will need to be undertaken to assess and appropriately manage the risks to the pipeline from the development, for example the installation and maintenance of services in close proximity to the pipeline.

In the event that the pipeline traverses private property an easement of 25m is required to enable access for monitoring and maintenance.

Future planning policy, including the constraint overlay in the Development Plan, will need to consider AS2885.

### 5.11.2 Port Campbell to Adelaide Pipeline

South East Australia Gas Pty Ltd (SEA Gas) operates the high pressure natural gas transmission pipeline system that transports natural gas from Port Campbell and Iona in Victoria to markets in South Australia and Victoria.

The Port Campbell to Adelaide Pipeline (PCA) is the main pipeline in the SEA Gas pipeline system. The length of the PCA is approximately 680km, stretching from Minerva in South West Victoria to Pelican Point in South Australia. For approximately half of this length (between the compressor stations at Miakite and Coomandook) the PCA consists of twin 14” diameter (DN 350) pipes with the remainder being single 18” diameter (DN 450) pipe.

The firm capacity of the PCA is fully contracted.

In the event that the pipeline traverses private property an easement of 25m is required to enable access for monitoring and maintenance. Management of this pipeline is governed by AS2885 – Pipelines Gas and Liquid Petroleum.

A pipeline safety management study will be required as part of any development within the vicinity of the pipeline to determine the physical and procedural controls required to be implemented to ensure that requirements of AS2885 are met.

The PCA generally requires a 640m clearance to residential development. If deemed appropriate within the 640m clearance following a pipeline safety management study, residential development would need to be limited in height to two storeys. Sensitive developments such as schools, hospitals, child care facilities or nursing homes should not be considered within the pipeline measurement distance. Service/infrastructure crossings of the pipe would need to be limited.

At this time SEA Gas has advised that there is no planned increase in the capacity of the pipeline or upgrade proposed. There is no requirement to set aside additional land (either road reserve or easement) for any pipeline upgrade.

Whilst management of the pipeline is governed by AS2885 reference to the pipeline, the clearance distance and the need to exclude sensitive land uses should be incorporated into the policy framework. The constraint overlay in the Development Plan should also reflect the location of the pipeline.

Figure 5.13: Telecommunications/Electricity/Gas Infrastructure



## 5.12 Electricity

The existing Envestra transmission main servicing Murray Bridge has capacity to service an additional 2,000 households after which a second transmission main would be required.

There are currently two electrical substations located at Murray Bridge North and Murray Bridge South and a 33KV overhead feeder loop servicing Murray Bridge. These substations and the 33KV overhead feeder loop are fed from the Electranet network via a major zone sub-station at Mobilong.

The 33KV overhead network also extends to two existing substations at Monarto South and Woods Point (Jervois).

The existing ETSA network is adequately serving the township. However two new substations would be required at Murray Bridge West and Murray Bridge East, south of the South East Freeway together with new 33KV connecting loops and upgrade of existing 33KV lines, to service the Gifford Hill Estate and township expansion.

Augmentation of an existing substations would be required if the 30,000 population is exceeded.



## 5.13 Transport

Parsons Brinckerhoff has prepared the Murray Bridge Integrated Transport and Traffic Management Plan (ITTMP). The aim of the ITTMP is to focus on the road network requirements for Murray Bridge, thereby providing input into the Structure Plan and Town Centre Master Plan.

At a high level, the ITTMP identified the following key issues:

- The need for more sustainable development and reduced vehicle reliance;
- The desire to reduce the impact of heavy vehicle movements through the township, giving balance to the valuable role of heavy transport connections within and beyond Murray Bridge;
- The lack of a defined road hierarchy for the township;
- The lack of adequate cycling provisions;
- The need (or otherwise) for additional freeway access to cater for future residential development; and
- The relatively poor level of existing public transport provisions, both within the township and to and from metropolitan Adelaide.

### 5.13.1 Road Hierarchy

The ITTMP has identified that there is presently no formally documented road hierarchy within Murray Bridge. The Structure Plan provides an opportunity to address this situation. The ITTMP has undertaken a review of the existing road network in order to identify an existing hierarchy. From this review the following existing hierarchy has been identified:

#### Arterial Roads: (DPTI)

- South Eastern Freeway;
- Adelaide Road;
- Bridge Street;
- Princes Highway;
- Swanport Road;
- Mannum Road;
- Jervois Road

#### Arterial Roads: (Council)

- Hindmarsh Road/Maurice Road/Cypress Terrace;
- Brinkley Road; and
- Old Swanport Road.

All of the above roads, with the exception of Bridge Street, cater for B-double movements.

#### Council Maintained Collector Roads:

- Thomas Street;
- Hill Street;
- Charles Street;
- Railway Terrace;
- Seventh Street;
- South terrace;
- Mary Terrace;
- Standen Street;
- Mulgundawah Road;

- Monash Terrace;
- Homburg Drive;
- Darling Avenue;
- Long Island Road;
- Roper Road;
- Ridge Road; and
- Mitchell Street.

Figure 5.14 shows the assumed road heirarchy for Murray Bridge

### 5.13.2 Road Function

There are numerous heavy vehicle routes within Murray Bridge. The ITTMP identifies that the existing routes over cater for actual demand and note the conflict between these routes and residential amenity. In particular, Over Dimensional routes pass directly through the township. Accordingly there is an apparent benefit in consolidating such routes.

Figure 5.14: Assumed Road Hierarchy

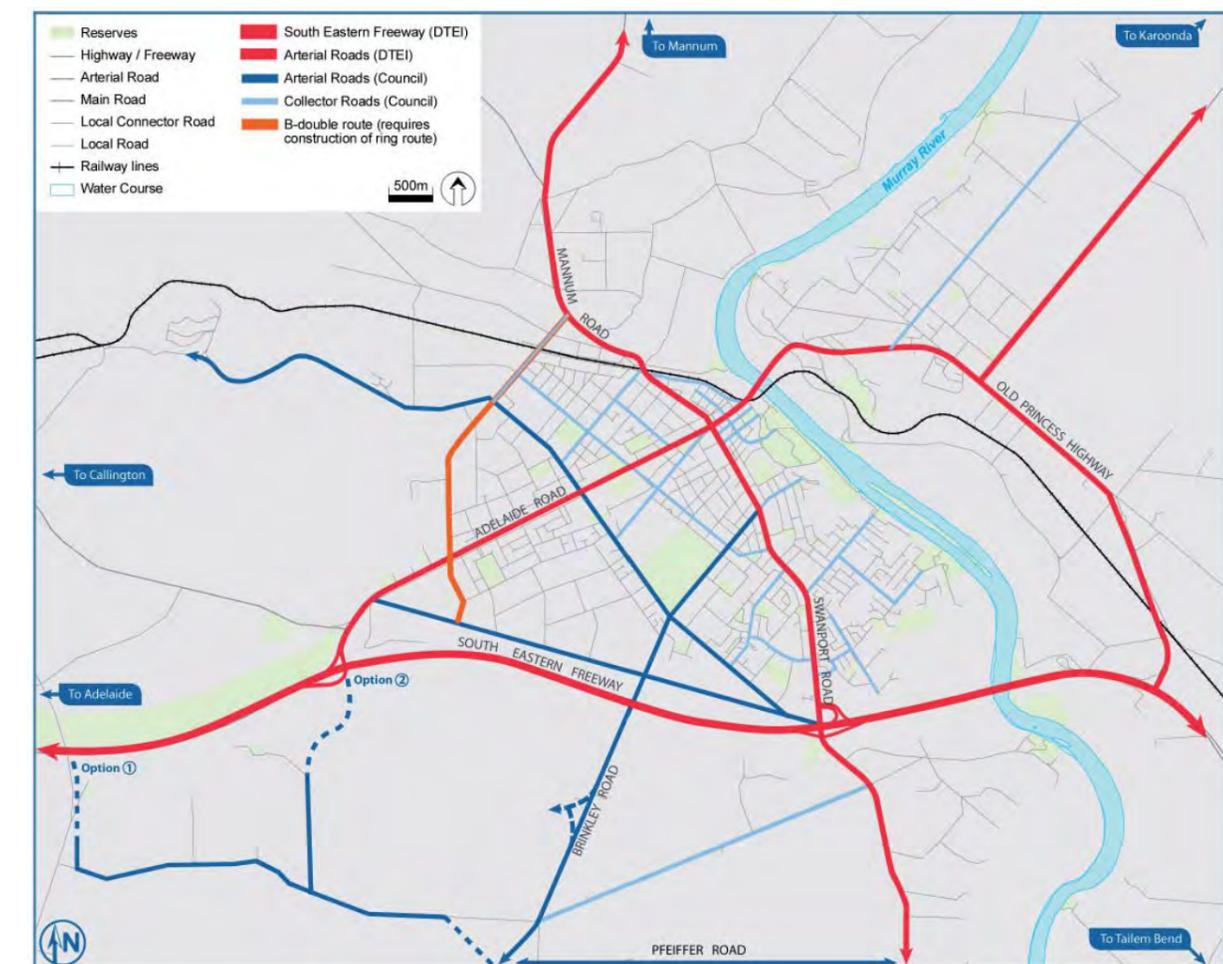


Figure has been sourced from PB's ITTMP 80% draft report for the Rural City of Murray Bridge, dated 14 February 2012

### 5.13.3 Public Transport

Two passenger bus services are operational within Murray Bridge, as detailed in Table 5.3:

Existing fixed-route terminus bus stops within the Study Area are located at the Visitor information Centre, South Terrace and the Murray Bridge Railway Station.

The ITTMP identified that there are currently 61,379 trips taken daily by existing households within Murray Bridge, of which only 685 public transport trips are taken. Demand for public transport for trips is likely to increase in correlation with real projected urban growth.

It is understood that the State Government is likely to improve public transport connectivity between Murray Bridge, Mount Barker and Adelaide. The ITTMP recommends a slow migration from the current peak and interpeak Dial-a-Ride service to a regular and consistent bus service within the medium term.

**Table 5.3: Murray Bridge Bus Services**

Bus Service	Frequency	Locations
Hail-a-ride service (fixed route)	Once per day during Morning AM peak time (Monday to Friday)	Principally connecting southern school areas to Town Centre Door to door connection within the boundaries of the township
Dial-a-ride service	Monday to Friday (9am – 5pm) 2 hour advance booking system	
Regional Services – LinkSA (additional services by VLine/Premier Stateline/Firefly/Greyhound)	7 daily services, Monday to Friday	Murray Bridge to Adelaide (additional services to surrounding rural towns) 'Park and Ride' at Railway State
Medical Bus	Monday to Friday	Door to door connection within the boundaries of the township

### 5.13.4 Key Linkages

The ITTMP identifies the following key road linkages:

- South eastern freeway;
- Mannum Road;
- Flagstaff Road;
- Jervois Road;
- Brinkley Road;
- Princes highway; and
- Karoonda Road.

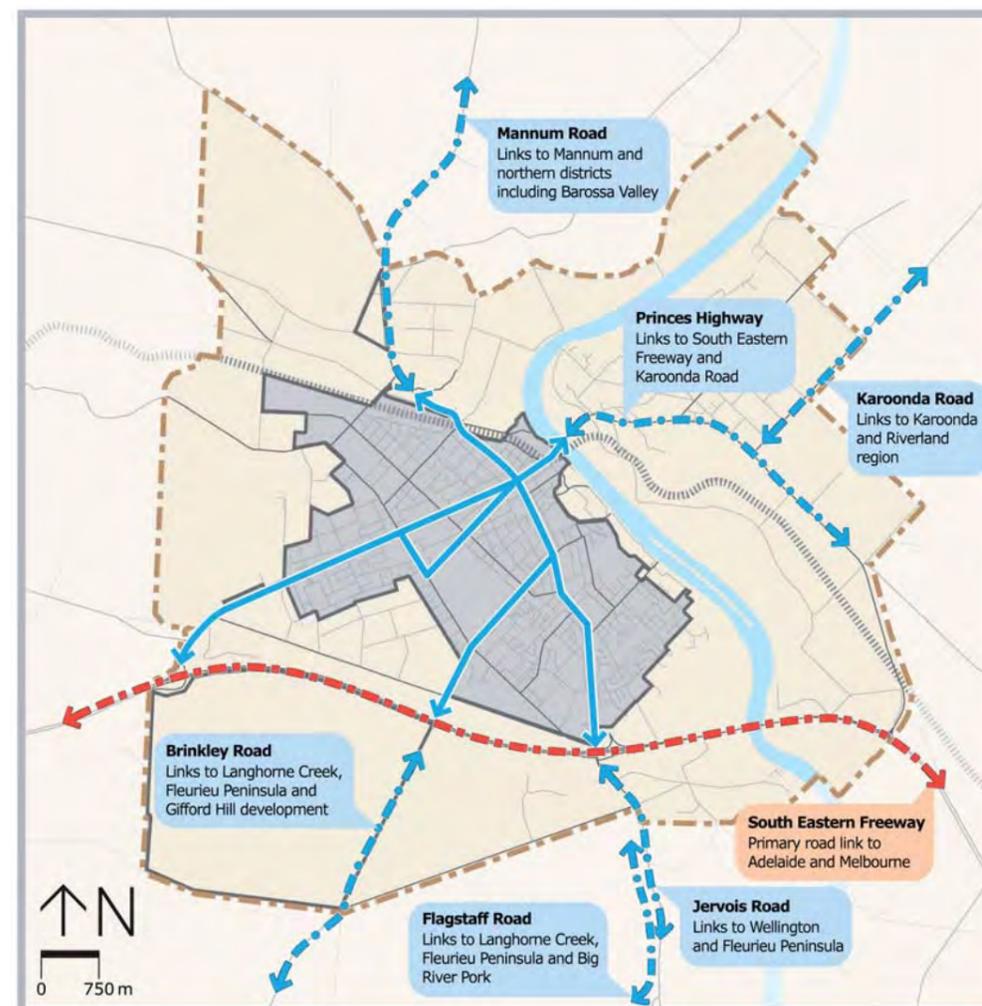
Figure 5.15 shows the location of the key road linkages.

### 5.13.5 Key Opportunities

The ITTMP identified the following key opportunities, subject to further investigations and approval of DPTI:

- potential to consider an alternate OD route, essentially diverting from the Monarto interchange through to Mannum Road;
- potential to redirect B-double movements from the Swanport Road/Mannum Road link to Old Swanport Road, Agricultural Drive to Adelaide Road, along Bremer Road through to Cypress Terrace; and
- potential to redirect B-double movements from Brinkley Road to Flagstaff Road.

**Figure 5.15: Key Road Linkages**



## 5.14 Implications for Structure Plan

Key issues arising from these contextual investigations include:

- freight movements through the existing urban areas are a major factor in respect to amenity and potential infill development and represent a key challenge;
- there is no designated/formalised road hierarchy;
- scope exists to reinforce key linkages both to regional areas and the town centre.
- final decisions in respect to the location of a new wastewater treatment plant will impact on the viability of developing certain locations within the study area, given the cost of establishing connections to the new infrastructure;
- interfaces with Gas Transmission Pipelines need to be considered and managed;
- stormwater management needs to be considered and addressed;
- service infrastructure provision and location with influence to the viability to developing potential growth areas;
- the existing township boundary/growth area is focused to the west of the river, notwithstanding a significant country living area to the east of the river;
- the majority of the study area is already urbanized, other than several self-evident broadhectare growth areas which spatially form potential logical extensions of the existing township. These areas are generally situated to the north and south;
- the southern broadhectare areas are intuitively best suited for housing given the topography and recent rezoning at Gifford Hill, where infrastructure and other supporting services will ultimately be established and thereby form a southern hub;
- changing household size and composition will influence the form and density of housing likely to be demanded;
- a number of opportunities exist along the River particularly on the eastern side;
- heritage and environmental factors do not present a significant constraint to the potential growth areas; and
- all of the potential growth areas will require augmentation to infrastructure.



There are a number of published population projections that have relevance for Murray Bridge. Specifically, these projections are included in the following documents:

- Murray Bridge Urban Growth Plan (2007);
- The 30 Year Plan for Greater Adelaide (2010);
- The Murray and Mallee Region Plan (2010); and
- DPTI's Population Projections for South Australia and Statistical Divisions 2006-2036 (2010).

These documents provide projections for different timeframes and different areas, specifically the Murray Bridge urban centre, the Murray Bridge Council Area and the Murray and Mallee Region.

The projections to be adopted as part of this Structure Plan are outlined in Section 6.4.

## 6.1 Murray Bridge Urban Growth Plan

The Murray Bridge Urban Growth Plan states that Murray Bridge has the potential to develop into a key Regional City with a population of up to 100,000 in the long term.

Three sets of population projections to 2026 are presented in this report, with a 'high growth' scenario, based on an average annual growth rate of 4% per annum, adopted for the Urban Growth Plan.

Population projections are shown in Table 6.1. Note that these projections apply to Murray Bridge Urban Centre only.

**Table 6.1: Urban Growth Plan Population Projections (Urban Centre)**

Growth Scenario	Population 2026
Low	22,700
Medium	25,500
<b>High</b>	<b>30,000</b>

Additional dwellings required under each of the above scenarios are shown in Table 6.2.

**Table 6.2: Additional Dwellings based in Urban Growth Plan**

Growth Scenario	Dwellings 2026
Low	3,200-4,000
Medium	4,400-5,300
<b>High</b>	<b>6,400-7,500</b>



## 6.2 The 30 Year Plan for Greater Adelaide

The 30 Year Plan for Greater Adelaide population targets are shown in Table 6.3 and represent an average annual growth rate of around 1.8%, less than half of the growth rate anticipated in the Urban Growth Plan High Scenario.

**Table 6.3: 30 Year Plan for Greater Adelaide Population Projections (Council Wide)**

	Population 2038
Targeted Growth	13,400
Total Population*	32,508

\*based on 2008 ERP

Targeted dwelling growth for the Murray Bridge Council area is 6,000 dwellings to 2038.

## 6.3 The Murray and Mallee Region Plan

The Murray and Mallee Region Plan provides population projections for the region based on growth required to maintain 2008 population share within regional South Australia. On this basis, population projections have been developed as shown in table 6.4. These projections represent an average annual growth rate of around 1% region wide.

The Region Plan does not disaggregate these projections into Council areas, though it could be reasonably expected that Murray Bridge will attract a large share of growth based on historical growth patterns in the Region.

The Region Plan provides a comparison of dwelling requirements to accommodate targeted population requirement based on different average household sizes. These estimates range between 9,717 and 12,956 dwellings.



## 6.4 Department of Planning Transport & Infrastructure's Population Projections

DPTI released (cabinet approved) population projections in December 2010 and at the time of publishing were only available at Statistical Division level, but will be disaggregated into Council areas in the near future.

Three projection series are provided, the 'medium series' is considered by DPTI to be the most likely growth outcome. Projections for the Murray Lands Region (aka Murray and Mallee Region) are provided in Table 6.4.

**Table 6.4: DPTI Population Projections (region wide)**

Growth Scenario	Population 2036
Low	68,531
<b>Medium</b>	<b>76,768</b>
High	86,433

It is apparent that the DPTI projections are substantially lower than the projections presented in the Murray and Mallee Region Plan (also a DPTI publication). The low series represents a negative growth outcome, the medium and high series represent average annual growth rates of approximately 0.32% and 0.75% respectively.



## 6.5 Adopted Population Growth Scenario

Based on historical trends, the 30 Year Plan for Greater Adelaide rate of population growth (1.8%) and additional dwelling target (6000) appears the most likely growth outcome. However in order to ensure that forward planning does not underestimate potential growth, the Structure Plan models for population growth averaging 2.3% per annum. The consequence of this higher rate of growth is shown by Figure 6.1.

**Figure 6.1: Comparison of Population Growth Scenarios**

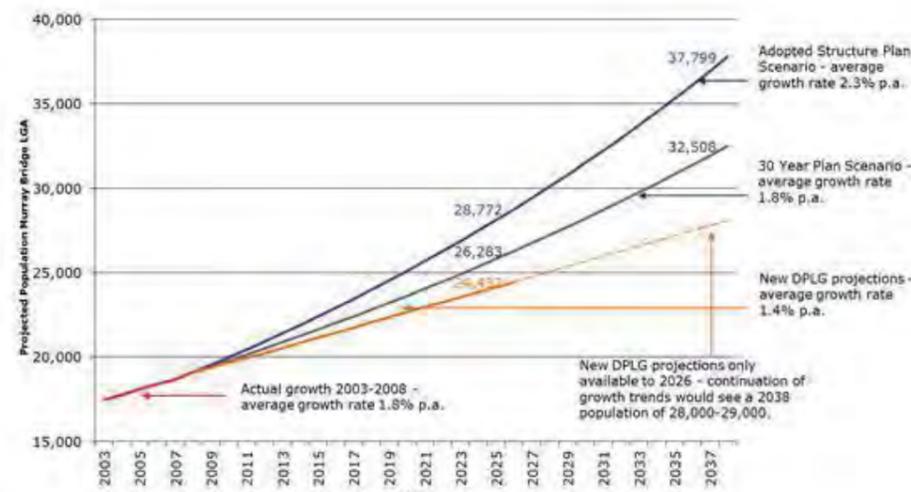


Table 6.5 provides population and dwelling growth targets at five year intervals based on the preferred growth scenario.

**Table 6.5: Preferred Population, Dwelling and Job Target Scenario**

Year	Total Population	Population Growth *	Dwelling Growth*	Job Growth **
2013	21,500	2,400	1,090	1,200
2018	24,000	4,900	2,200	2,500
2023	26,875	7,775	3,500	3,900
2028	30,100	11,000	4,950	5,500
2033	33,750	14,650	6,550	7,100
2038	37,800	18,700	8,400	9,000

\*Growth from 2008

\*\*Includes regional jobs, i.e. jobs in agriculture, tourism, Monarto and other townships



**Population targets are aspirational indicators used for strategic planning purposes and are not forecasts of the future. Population projections are intended to illustrate the consequences of selected assumptions on the size, age structure and geographic distribution of population and are often based on data/trends drawn from preceding years.**



## 6.6 Implications for Structure Plan

- The 30 Year Plan for Greater Adelaide population targets represent an average annual growth rate of around 1.8%, less than half of the growth rate anticipated in the Urban Growth Plan High Scenario;
- The Murray and Mallee Region Plan targets represent an average annual growth rate of only 1% region wide;
- The DPTI projections are substantially lower than the targets presented in the Murray and Mallee Region Plan (also a DPLG publication) representing a negative growth forecast;
- Historical trends represent strong growth (1.6% per annum over the last 5 years);
- In order to ensure that forward planning does not underestimate potential growth or indeed continued strong growth in line with historical trends, the Structure Plan adopts an average population growth rate of 2.3% per annum (i.e a 30 Year Plan for Greater Adelaide growth rate of 1.8% plus an additional 0.5%); and
- Under the preferred scenario, Murray Bridge could effectively double its current population with an additional 8,400 dwellings and 9,000 jobs required.

Key issues arising from this population modelling include:

- Options and implications in terms of future urban form and spatial location of growth areas;
- Infrastructure capacity and need to augment services; and
- Future planning for infrastructure providers including Council and state agencies.

This section provides the following demographic projections for Murray Bridge at 2038:

- Household size;
- Age profile;
- Household income; and
- Education profile.

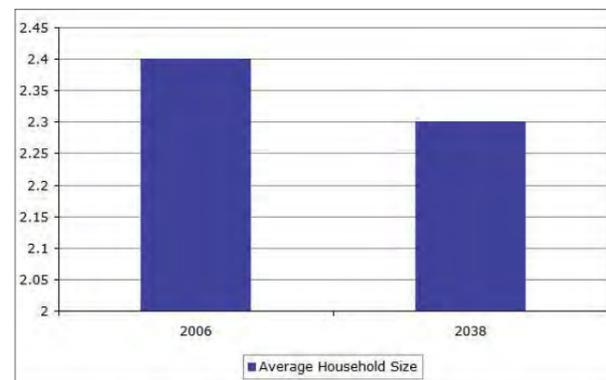
The projections are based on the growth rates identified in Section 6.4.

## 7.1 Average Household Size

At the 2006 Census, Murray Bridge had an average household size of 2.4 persons, the same average size as households in Metropolitan Adelaide. The targets provided in the 30 Year Plan for Greater Adelaide indicate that average household size within Murray Bridge will fall over the next 30 Years.

Household size decline has been experienced by many Australian communities over recent decades as a result of population ageing, lower fertility levels and other demographic trends. Within Murray Bridge, average household size fell from 2.5 in 1996 to 2.4 in 2006 and is projected to further decline to 2.3 in 2038.

**Figure 7.1: Modelled Average Household Size**

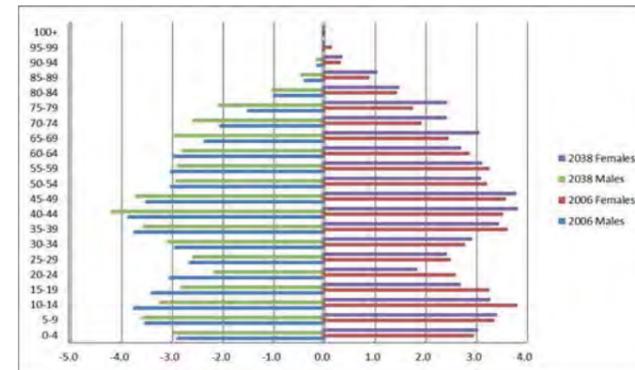


It should be noted that household size will not be uniform across Murray Bridge, there will be areas that attract a high proportion of family households and have a correspondingly higher average household size. This is likely to be the case in new growth areas in the early years of development. Similarly, population ageing within the existing community may result in areas with a substantially lower average household size.

## 7.2 Age Profile

The modelled age profile of Murray Bridge at 2038 compared to the existing age profile (2006) is shown in Figure 7.2.

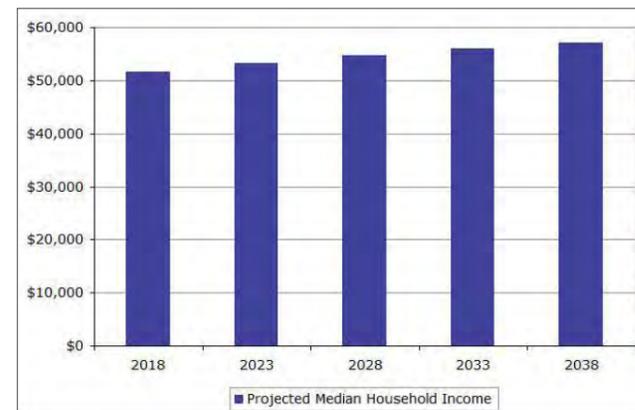
**Figure 7.2: Modelled Age Profile 2038**



## 7.3 Household Income

Currently median household income in Murray Bridge is relatively low at around 73% of the metropolitan median. New urban areas, such as Gifford Hill are expected to attract households with higher income levels. Although residential land and housing within Murray Bridge is relatively affordable, those households in the early years of their housing careers will require a substantial income to service a mortgage. Over time, it is projected that population growth in Murray Bridge will result in a gradual increase in median household income levels as shown in Figure 7.3.

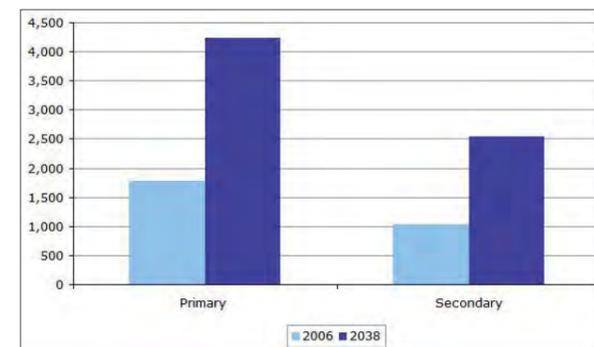
**Figure 7.3: Modelled Median Household Income**



## 7.4 Education

The projected school age population of Murray Bridge is based on the projected age profile. The number of school students projected to reside within Murray Bridge in 2038 is compared with 2006 Census data in Figure 7.4. It is clear that the number of both primary and secondary school students is projected to increase significantly by 2038.

**Figure 7.4: Modelled Total School Enrolments**



The number and type of schools required within Murray Bridge will be influenced by the number of students who attend government and non-government schools. At the 2006 Census, around half of Murray Bridge's primary students attended government schools and around 68% of secondary schools attended government schools. This is not a typical pattern, generally there is a stronger propensity for secondary school students to attend non-government schools.

It is suggested that future expansion of school options within Murray Bridge may have a significant impact on the proportion of students attending government and non-government schools.



## 7.5 Implications for Structure Plan

Key issues arising from this demographic modelling include:

- Future housing demands, including need to plan for lone person households and aged persons accommodation, ideally accessible to all essential services;
- Future demands on human services based on the population and household profile; and
- The proximity of future growth areas to the likely location of future human services.





The 30 Year Plan for Greater Adelaide designates 'planned urban lands' for Murray Bridge. From this, residential land supply can be achieved in the following general manner:

- infill of undeveloped/underutilised sites within the established residential area; and/or
- greenfield development (essentially Gifford Hill).

## 8.1 Potential Growth Areas

### 8.1.1 Housing Density and Affordability

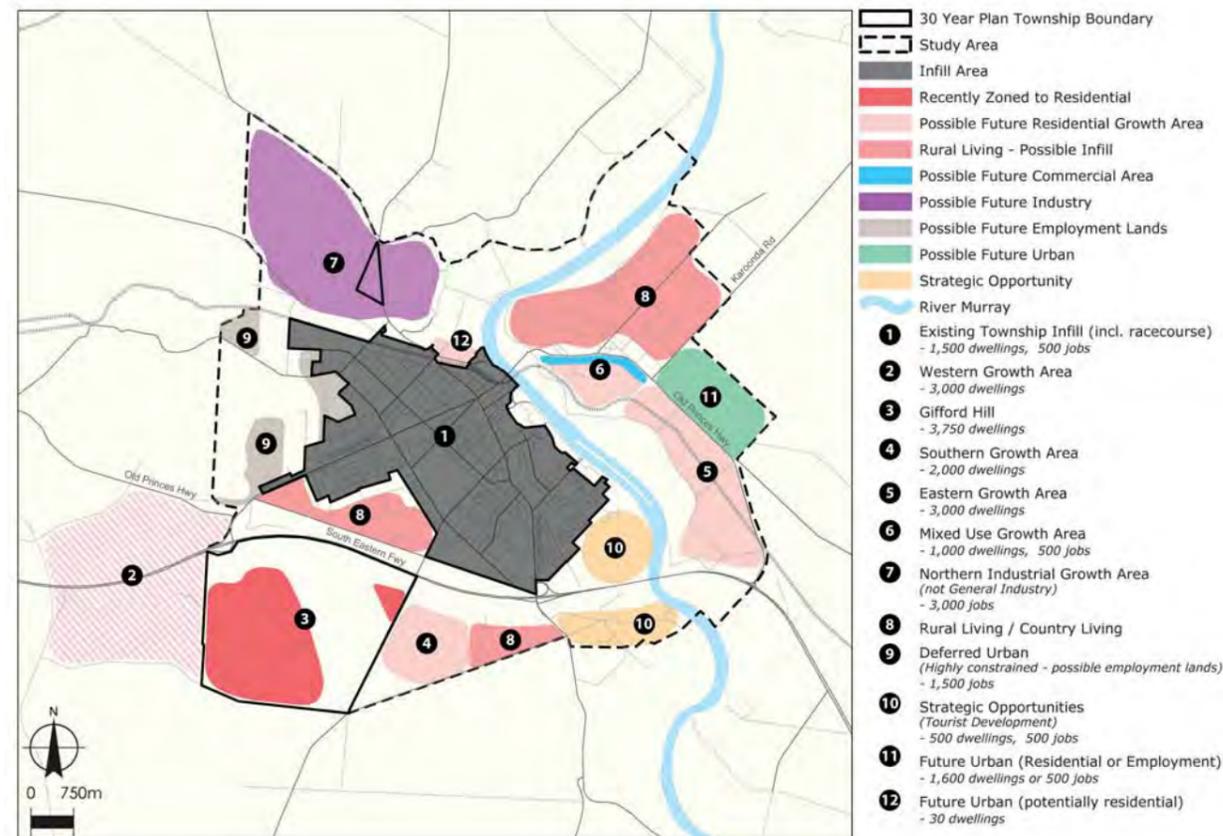
The 30 Year Plan for Greater Adelaide and the Housing Plan for South Australia endeavour to improve housing diversity and affordability. The Rural City of Murray Bridge Development Plan includes affordable housing targets of a minimum of 15 per cent within the Residential Zone.

The Murray Bridge Structure Plan includes population growth targets. Catering for these population targets requires analysis of the potential demographic profile. Understanding the demographic profile including continued demand for family households, high levels of low income households and an increasing aged population require diversity within the housing stock to cater for a range of housing interests. Ensuring diversity within the housing stock will be a key mechanism for ensuring housing affordability for the Murray Bridge population. The Murray Bridge Structure Plan identifies a range of infill and growth area scenarios designed to offer greater diversity within the housing stock thus catering for the population's housing needs.

A high level analysis suggests that a dwelling target of 8,400 dwellings under the medium scenario will be difficult to achieve within the existing planned urban lands boundary. This analysis includes consideration of fragmented land ownership, market choice and land economics. As such, for the purposes of these investigations, additional potential growth areas have been identified, together with potential yields.

Potential growth precincts have been identified in Figure 8.1.

**Figure 8.1: Potential Growth Precincts**



### 8.1.2 Infill (Precinct 1)

Analysis of potential infill opportunities within the residential zone has been undertaken. This analysis includes the existing Racecourse site.

The following opportunities have been investigated:

- vacant residential allotments (under 800 square metres);
- vacant residential land (over 800 square metres);
- existing dwellings that are likely to be re-subdivided/redeveloped (sites 800-1,600 square metres); and
- existing dwellings on large, underutilised sites (over 1,600 square metres).

#### Vacant Residential Allotments

There are approximately 550 vacant residential allotments within the existing Residential Zone. Vacant allotments are the most likely to be taken up over the next 30 Years. Conservatively assuming that 90% of these allotments are taken up, this would provide 495 dwellings. It is more likely that only 50% would be taken up providing only 225 dwellings.

#### Vacant Residential Land

There is approximately 62.7 hectares of vacant land within the Residential Zone (excluding individual allotments under 800 square metres and sites occupied by parks and education institutes). Assuming an average yield of 10 dwellings per hectare, this land could accommodate around 627 dwellings. It is unlikely that all of this land will be made available by land owners for residential development over the next 30 years. Conservatively assuming that 70% is taken up, this would provide 439 dwellings. It is more likely that only 50% would be taken up providing only 313 dwellings.

#### Re-development/Re-subdivision Potential

Sites with the following characteristics have been considered to have potential for re-development/re-subdivision:

- minimum site area of 800 square metres (informed by Development Plan policies), maximum site area of 1,600 square metres (larger sites considered separately);

- no heritage listing; and
- no strata or community title.

300 sites with these characteristics were identified with an average size of 1,066 square metres. Based on minimum site areas required under the Development Plan, these sites could potentially yield between 600 to 900 dwellings – depending on the type of development. Taking into account existing dwellings (which may be retained or demolished), net additional dwellings would be between 300 to 600 dwellings.

There is a high level of uncertainty surrounding land owner decisions on these sites. It has been assumed that 50% of these opportunities could be taken up over the next 30 years – providing between 150 to 300 dwellings.

#### Large Dwelling Sites

There are a number of underutilised dwelling sites (over 1,600 square metres) in the Residential Zone. Note that 'underutilised' refers to residential development potential only. These sites may be productively occupied by agriculture/horticulture, etc.

48 large sites have been identified, with a total land area of 21.2 hectares. Based on an average yield of 10 dwellings per hectare, this land could accommodate around 212 dwellings. Allowing for existing dwellings, this could provide 164 net additional dwellings. Conservatively assuming that 70% is taken up, this would provide 115 dwellings. It is more likely that only 50% would be taken up providing only 82 dwellings.

If all of the identified infill opportunities were maximised and brought to market, the total yield could be around 1,950 dwellings. It is considered highly unlikely that this yield will be achieved for reasons including the following:

- fragmented ownership;
- the use of some of the identified land for non-residential purposes; and
- the probability that some land owners will choose to retain existing low-value dwellings on sites with further development potential.

Based on the conservative assumptions it is considered most likely that the identified infill opportunities will yield around 1,500 dwellings. More likely, the identified infill opportunities will yield around 1,000 dwellings. For the purposes of modelling, the Structure Plan adopts a conservative approach which assumes that the identified infill opportunities will yield around 1,500 dwellings.

Advantages:

- efficient use of land; and
- proximity to full range of services.

Impediments:

- yield likely to be inhibited by an extensive range of factors;
- intervention required to promote and encourage redevelopment (ie place making strategies); and
- high level of uncertainty surrounding individual land owner decisions.

### 8.1.3 Western Growth Area (Precinct 2)

May yield 3,000<sup>1</sup> dwellings. The growth area is not considered within the context of the Structure Plan's 30 year timeframe. If future analysis reveals that the land demand in Murray Bridge over the next years has been uncommonly high, then there may be a case to re-consider this area for growth.

Advantages:

- contiguous with Gifford Hill (albeit to west);
- sufficient size to be master planned; and
- possible future Pope Road interchange.

Impediments:

- distance / connectivity to Town Centre;
- located external to Study Area.

### 8.1.4 Southern Growth Area (Precinct 4)

May yield 2,000<sup>2</sup> dwellings

Advantages:

- contiguous with Gifford Hill;
- reasonable connectivity to Town Centre via Brinkley Road;
- sufficient size to be master planned; and
- adjacent to rural living.

Impediments:

- will require augmentation to existing services.

### 8.1.5 Eastern Growth Area (Precinct 5)

May yield 3,000<sup>2</sup> dwellings

Advantages:

- reasonable connectivity to Town Centre;
- sufficient size to be master planned;
- opportunity to regenerate Old Princess Highway and surrounding area;
- opportunity to integrate with additional employment lands;
- flow on benefits to Town Centre / Main Street via inputs to movement economy; and
- 're-centres' the town centre.

Impediments:

- service infrastructure;
- poor existing character; and
- require staging (north to south).

### 8.1.6 Mixed Use Growth Area (Precinct 6)

May yield 1,000 dwellings and 500 jobs<sup>3</sup>

Advantages:

- reasonable connectivity to Town Centre;
- Sufficient size to be master planned;
- opportunity to regenerate Old Princess Highway and surrounding area; and
- flow on benefits to Town Centre / Main Street via inputs to movement economy.

Impediments:

- service infrastructure; and
- one sided catchment;

### 8.1.7 Northern Industrial (Precinct 7)

May yield 3,000 jobs<sup>4</sup>

Advantages:

- adjoining rail line infrastructure;
- sufficient size to be master planned;
- proximity to T and R; and
- situated outside main activity centre.

Impediments:

- service infrastructure;
- requires staging; and
- adjacent seagas pipeline.

### 8.1.8 Rural Living (Precinct 8)

Will be investigated for residential and/or country living but the yield has not been estimated given the impediments and any development is likely to be slowly realised.

Advantages:

- land generally contiguous with existing township boundary.

Impediments:

- fragmented ownership;
- difficult to co-ordinate redevelopment – requires intervention and incentives;

- some rural living areas should be maintained to provide market choice; and
- need to consider a range of factors such as site contamination history, stormwater management, interface issues with major roads and the impacts from the adjacent General Industry Zone located to the east.

### 8.1.9 Deferred Urban (Precinct 9)

May yield 1,500 jobs<sup>4</sup>

Advantages:

- contiguous to township; and
- possible employment lands.

Impediments:

- adjacent mobilong;
- adjacent seagas pipeline;
- adjacent possible bypass route; and
- residential potential limited.

### 8.1.10 Strategic Sites (Precinct 10)

May yield 500 dwellings and 500 jobs<sup>5</sup>

Advantages:

- connects the two rural living zones and corrects the anomaly of the existing rural living estate in the Primary Production Zone.
- gateway location; and
- service niche market/tourism.

Impediments:

- proximity to Town Centre; and
- a range of considerations/investigations will need to be undertaken, including noise attenuation measures associated with Freeway noise, potential for contamination, traffic implications (inc Swanport Road interchange), co-ordination of land amongst landowners to achieve the strategic outcome, primary production interface and climate change impacts on the 1956 flood level.

<sup>1</sup> Assumes 25% for infrastructure, 12.5% for open space, buffers to noise sources and/or non-residential land uses and average allotment size comparable to Gifford Hill

<sup>2</sup> Assumes 25% for infrastructure, 12.5% for open space, buffers to noise sources and/or non-residential land uses and average allotment size comparable to Gifford Hill

<sup>3</sup> Assumes 40% site coverage of total area, 2.5 employees per 100m<sup>2</sup> of floor area, 25% for infrastructure, 12.5% for open space, buffers to noise sources and/or non-residential land uses and average dwellign allotment size 300m<sup>2</sup>

<sup>4</sup> Assumes 25% for infrastructure, 25% site coverage, buffers to existing residential land uses and seagas pipeline and 1 employee per 100m<sup>2</sup> of floor area

<sup>5</sup> Assumes 25% for infrastructure, average allotment size of 300m<sup>2</sup> and > 12.5% for open space

## 8.1.11 Possible Future Urban (Eastern Site) (Precinct 11)

Advantages:

- Old Princes Highway frontage; and
- flexibility in terms of future urban use.

Impediments:

- proximity to Town Centre.

Following an initial sieve analysis Site 2 was dismissed as being a viable option due to its distance from the town centre.

## 8.1.12 Possible New Residential (Precinct 12)

May yield 30 dwellings

Advantages:

- panoramic views;
- opportunity for a unique, sustainable housing enclave; and
- adjacent to the existing Regional Town Centre.

Impediments:

- rail interface;
- within the vicinity of Light Industry and General Industry (T&R meat processing facility);
- flooding/stormwater management;
- potential for contamination; and
- will need to consider the forthcoming MBOSS.

## 8.2 Implications for Structure Plan

Key issues arising from these strategic investigations include:

- growth areas are likely to be required given the limitations of infill in accommodating the modelled growth;
- the majority of potential growth areas are generally suitable for urban development (subject to infrastructure upgrades);
- the locations to the west of the river are the most logical in terms of connectivity and integration with existing/planned infrastructure; and
- the area to the east of the river provides strategic development opportunities (speedway site) plus regeneration opportunity, whilst also enabling the existing town centre to be re-centred.



The provision of ample, suitable land and development opportunities for non-residential land uses, including retail, office and industrial land is critical to the successful growth of Murray Bridge. Currently, Murray Bridge has an employment sufficiency rate in excess of 100%, meaning that there is a job in Murray Bridge for every employed person that resides in the Local Government Area. Labour markets are complex, and not all of the jobs available in the LGA are held by residents. Nevertheless, the availability of employment is considered one of Murray Bridge's strongest competitive advantages over other locations, such as Mount Barker. The Structure Plan must, therefore, provide opportunities for new businesses to establish within Murray Bridge to ensure this advantage is maintained.

## 9.1 Current Retail Provision

The majority of existing retail is located within the Murray Bridge Town Centre, with a range of smaller centres and retail premises located outside of this zone, including along Adelaide Road and Swanport Road. Most floor space located outside the Town Centre represents out-of-centre development. Retail uses along Adelaide Road are accommodated within a Light Industry Zone and generally involve larger-scale retail showrooms/service trade premises with a few specialty shops. Retail facilities along Swanport Road are accommodated within a range of centre types including Local Centre and Residential Zones. These facilities are generally specialty and convenience shops, with one IGA (440 square metres) located adjacent the Murray Bridge South Primary School.

Within the Town Centre, there are four key retail precincts within the Town Centre at present, specifically:

- Main Street and environs (19,785 square metres retail floor space)- Bridge St/Adelaide Road – the 'main street' comprising fast food outlets and specialty shops; and surrounding side Streets – including Sixth Street, Seventh Street – primarily specialty shops.
- The Woolworths centre on Sixth Street, offering 17,833 square metres retail floor space, comprising a Woolworths (4,262 square metres), DDS (5,500 square metres), two mini-majors (totalling 2,515 square metres) and 44 specialty shops (totalling 5,556 square metres).
- Murray Bridge Green (8,194 square metres retail floor space)- comprising Woolworths, Country Target and specialty shops; and
- Coles (2,018 square metres retail floor space)- comprising Coles and specialty shops.

Retail floor space within Murray Bridge Town Centre as identified in Planning SA's (now known as DPTI) Retail Database, which was last updated in 2007, is summarised in Table 9.1 and shown by Figure 9.1.

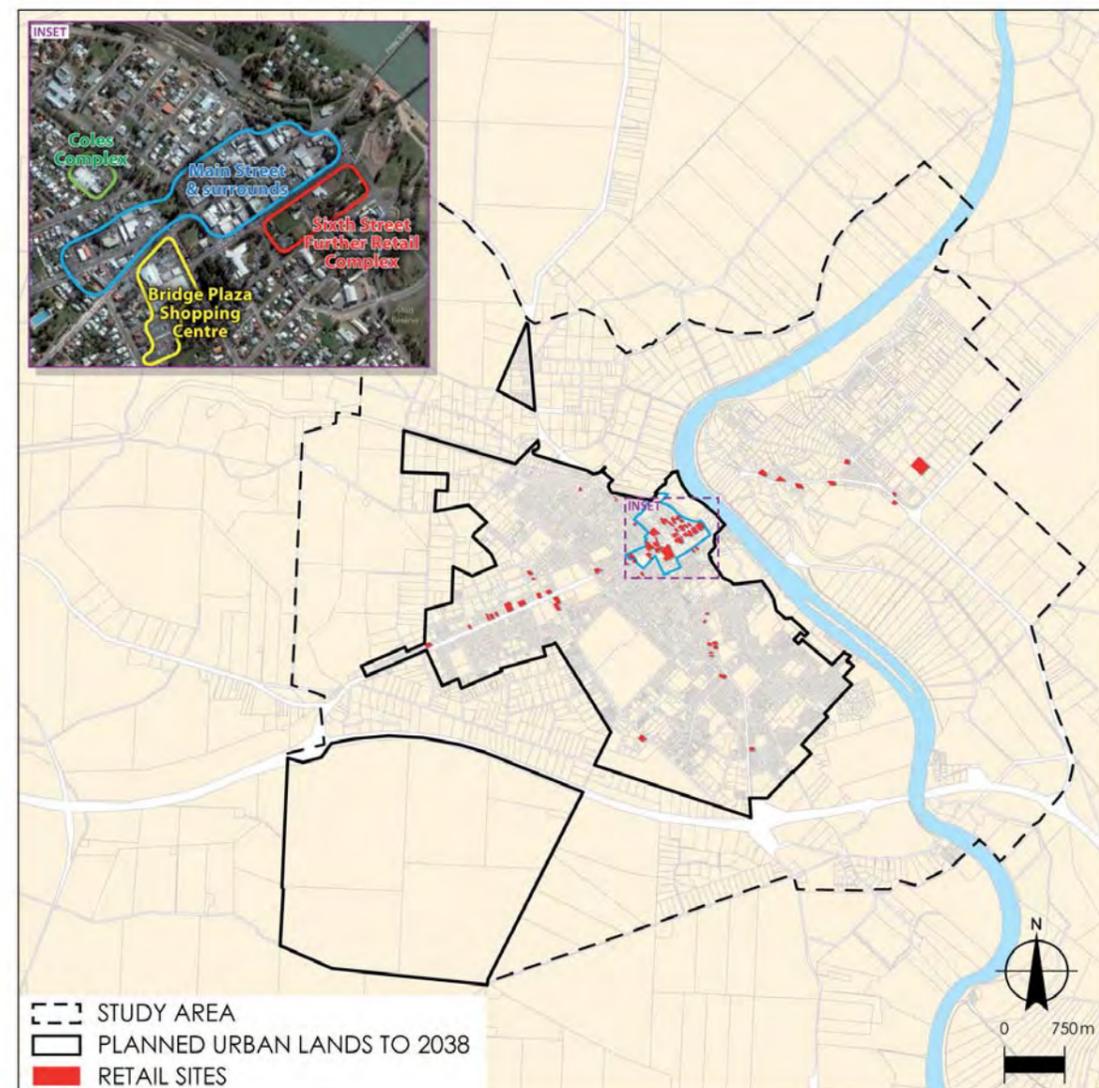
**Table 9.1: Retail Floor Space Murray Bridge Town Centre**

Floor Space Type	Total Floor Space	Key Retailers
Food Retail	9,810m <sup>2</sup>	<ul style="list-style-type: none"> <li>• Woolworths (4,167m<sup>2</sup>)</li> <li>• Coles (1,500 m<sup>2</sup>)</li> </ul>
Non-food Retail	20,187m <sup>2</sup>	<ul style="list-style-type: none"> <li>• Target ( 1,623m<sup>2</sup>)</li> <li>• Radio Rentals (1,400m<sup>2</sup>)</li> <li>• Mitre 10 (1,880m<sup>2</sup>)</li> </ul>
<b>Total Retail Floor Space</b>	<b>29,997m<sup>2</sup></b>	

Source: Planning SA (now known as DPTI) Retail Database 2007

The new Woolworths Marketplace (offering 17,833 square metres) development will satisfy demand for additional retail floorspace until just prior to 2021.

**Figure 9.1: Current Retail Facilities**



## 9.2 Future Retail Floor Space Demand

The potential demand for additional retail floor space within Murray Bridge generated by population growth is projected in this section. It should be noted that this represents a high level retail assessment for structure planning purposes only and will need to be reviewed as part of the DPA process for growth areas to ensure appropriate retail development policies are put in place and future community needs are met.

Future retail floor space demand in Murray Bridge will be strongly influenced by population growth and the income levels of new residents moving to Murray Bridge.

Based on the income levels projected in Section 6 and analysis of ABS Household Expenditure Survey Data, it is projected that household retail expenditure levels associated with growth areas and new development in infill areas are likely to be around \$31,150 per annum.

Allowance has also been made for real increases in retail expenditure over time. In recent years, real retail expenditure growth has averaged around 2% per annum in South Australia. However real retail growth is strongly linked to economic conditions (as recently evidenced by the global economic downturn), therefore, an average annual growth rate of 1% is considered a more appropriate assumption for long-term planning.



Total retail expenditure generated by future population growth is provided, by precinct area, in Table 9.2.

Based on data from the ABS Household Expenditure Survey, Retail Survey and estimated turnover rates per square metre, the amount of floor space demand projected to be generated by each of the identified residential precincts is provided in Table 9.2.

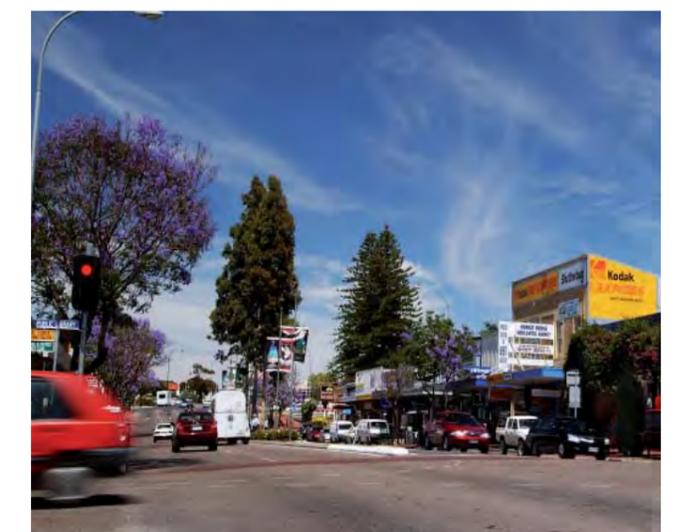
Not all of the expenditure and floor space demand identified in Tables 9.2 is likely to be captured within Murray Bridge. Rather, it is expected that residents will travel to other retail destinations, including Adelaide CBD to purchase some retail goods. The proportion of retail captured within Murray Bridge will depend on the future range and quality of the retail offer.

However, the Structure Plan should seek to ensure that there is ample, suitably located and zoned land available for non-residential purposes in Murray Bridge. It is therefore considered appropriate that the Structure Plan provides sufficient opportunities to cater for all retail demand generated by the future Murray Bridge population. For example, the redevelopment of the old race course site may demonstrate the need for a potential new accessible Neighbourhood Centre<sup>1</sup>.



Table 9.2: Projected Retail Expenditure (\$) and Retail Floor Space by Residential Growth Precinct (m<sup>2</sup>)

Growth Precinct	Short Term (0-5 years)	Medium Term (5-15 years)	Long Term (15-30 years)
1. Infill	\$13m 2,300 m <sup>2</sup>	\$24m 3,950 m <sup>2</sup>	\$51m 8,100 m <sup>2</sup>
2. Western	\$0 0	\$0 0	\$0 0
3. Gifford Hill	\$20m 3,450 m <sup>2</sup>	\$58m 9,650 m <sup>2</sup>	\$126m 19,450 m <sup>2</sup>
4. Southern	\$0 0	\$9m 1,500 m <sup>2</sup>	\$63m 9,750 m <sup>2</sup>
5. Eastern	\$0 0	\$0 0	\$26m 4,200 m <sup>2</sup>
6. Eastern Mixed Use	\$0 0	\$18m 3,000 m <sup>2</sup>	\$42m 6,500 m <sup>2</sup>
7. Northern Industrial	\$0 0	\$0 0	\$0 0
8. Rural/Country Living	\$0 0	\$9m 1,500 m <sup>2</sup>	\$21m 3,250 m <sup>2</sup>
9. Deferred Urban	\$0 0	\$0 0	\$0 0
10. Strategic Sites	\$0 0	\$9m 1,500 m <sup>2</sup>	\$21m 3,250 m <sup>2</sup>
11. Future Urban	\$0 0	\$0 0	\$0 0
<b>Total</b>	<b>\$33m 5,750 m<sup>2</sup></b>	<b>\$127m 21,100 m<sup>2</sup></b>	<b>\$353m 54,500 m<sup>2</sup></b>



<sup>1</sup> Any new Neighbourhood Centre should consider the projected retail floor space for the infill growth precinct as detailed in Table 9.2.

## 9.3 Future Retail Distribution

The primacy of the existing Town Centre is expected to be maintained and strengthened by new retail projects, such as that at Sixth Street. As the township expands, it is likely that additional Neighbourhood and Local level centres will be required to serve the daily/weekly shopping needs of residents and ensure that the expanded township provides a high level of accessibility to retail facilities.

Recommended distribution of future retail centres is summarised in Table 9.4 and Figure 9.2. Consideration has been given to the amount and type (food, non-food, bulky goods) of retail floor space demand generated by each of the identified future residential precincts. The amount of floor space identified in Table 9.3 is indicative only.

## 9.4 Implications for Structure Plan

Key issues arising from these strategic retail investigations include:

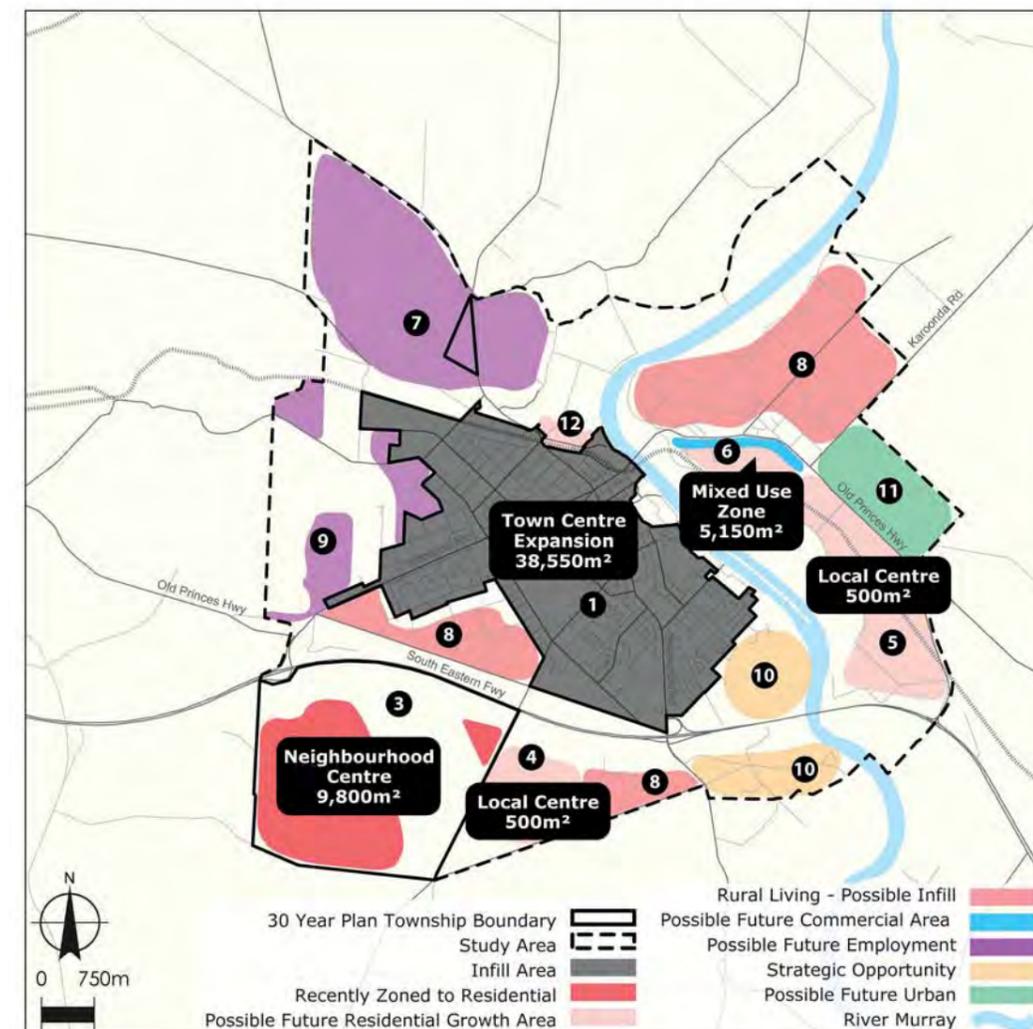
- the primacy of the existing Town Centre will be retained given the existing floor space distribution and recent approval of the Murray Bridge Market Place;
- growth areas at the fringe of the Study Area will need to be serviced by small scale neighbourhood and local level centres in order to establish nodes and destinations that create a sense of community and place and maximize accessibility to day to day services; and
- given the retained primacy of the Town Centre enhanced connectivity to the town centre needs to be facilitated.



Figure 9.2: Recommended Centre Distribution

Table 9.3: Recommended Retail Distribution by Precinct, Centre Type and Floor Space

Growth Precinct	Short Term (0-5 years)	Medium Term (5-15 years)	Long Term (15-30 years)
1. Infill	Town Centre 5,750 m <sup>2</sup>	Town Centre 15,300 m <sup>2</sup>	Town Centre 38,550 m <sup>2</sup>
2. Western	0	0	0
3. Gifford Hill	0	Neighbourhood Centre 4,350 m <sup>2</sup>	Neighbourhood Centre 9,800 m <sup>2</sup>
4. Southern	0	0	Local Centre 500 m <sup>2</sup>
5. Eastern	0	0	Local Centre 500 m <sup>2</sup>
6. Eastern Mixed Use	0	Neighbourhood Centre 1,500 m <sup>2</sup>	Neighbourhood Centre 5,150 m <sup>2</sup>
7. Northern Industrial	0	0	0
8. Rural/Country Living	0	0	0
9. Deferred Urban	0	0	0
10. Strategic Sites	0	0	0
11. Future Urban	0	0	0
<b>Total</b>	<b>5,750 m<sup>2</sup></b>	<b>21,150 m<sup>2</sup></b>	<b>54,500 m<sup>2</sup></b>



## 10.1 Demand

There is likely to be strong demand for suitable floor space at Murray Bridge for a wide range of office-based activities. These may include small professional offices (such as real estate agents, accountants, graphic/web designers, lawyers, architects, engineers, recruitment agencies etc), as well as office space for larger companies and organisations. There is also likely to be strong demand for consulting rooms for medical professionals including GPs, dentists, chiropractors, physiotherapists, etc.

There are many factors which could influence demand for office and other commercial floor space in Murray Bridge. These include broad economic conditions, industry trends, relative costs at Murray Bridge compared with other potential locations, overall competition in the office market and the nature and size of businesses attracted to Murray Bridge.

The Structure Plan seeks to support a job target of 9,000 dwellings over 30 years. Based on the strong growth of service sector jobs in recent decades, and the projected continuation of this trend, office-based jobs are likely to constitute a large share of future job growth in Murray Bridge.

Offices typically accommodate 3-4.5 persons per 100 square metres of floor space. In outer suburban and regional areas, employment densities are generally lower than in CBD and inner-suburban areas. This reflects the types of businesses attracted to different areas and the relative cost of floor space.

Table 10.1 provides an indication of the amount of floor space and land area that would be required to support office/commercial jobs, based on the following assumptions:

- employment density of 3 jobs per 100 square metres of floor space;
- site coverage of 40% (remaining 60% taken up by roads, car parking, landscaping, service areas, etc); and
- average building height of 1.5 storeys.

Importantly, it is not the role of the Structure Plan to identify where the jobs will come from. Rather it is to set aside the required land to facilitate the development of a range of employment generating uses.

**Table 10.1: Typical Floor Space and Land Take to support Office/Commercial Employment.**

Number of Jobs	Floor Space Required	Land Area Required
2,000	67,000 m <sup>2</sup>	11.2 ha
3,000	100,000 m <sup>2</sup>	16.7 ha
4,000	134,000 m <sup>2</sup>	22.3 ha
5,000	167,000 m <sup>2</sup>	27.8 ha

## 10.2 Land Supply

Key opportunities for employment generating commercial development within Murray Bridge have been identified as follows:

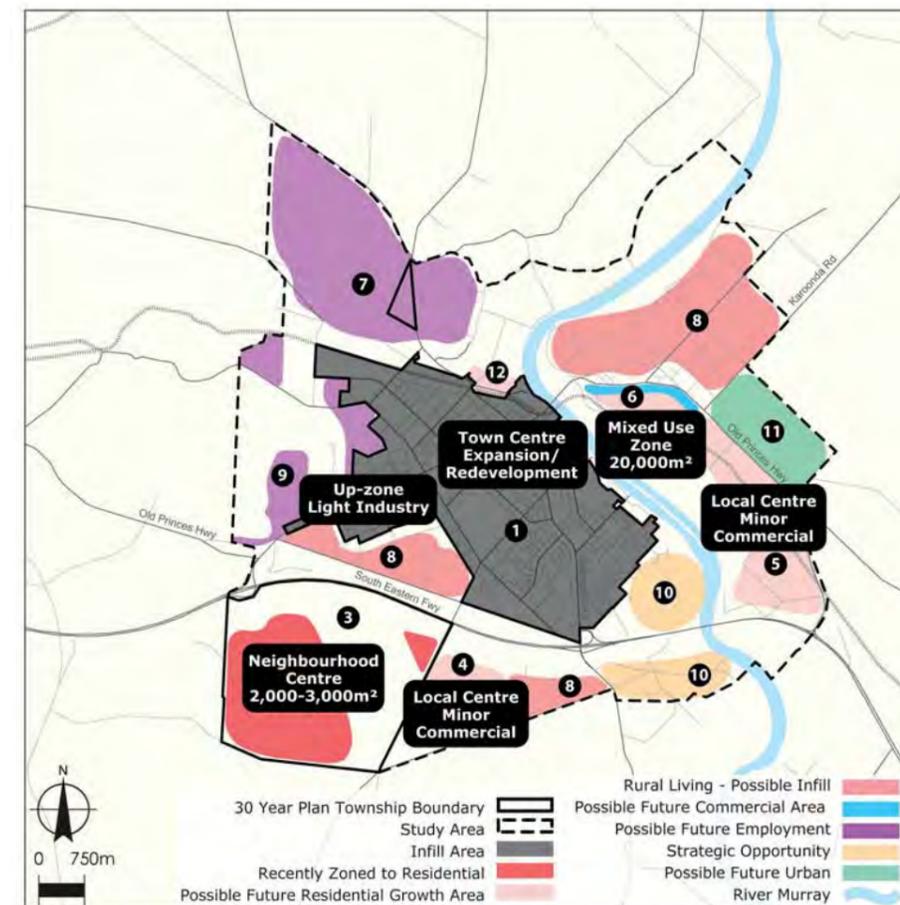
- intensification/redevelopment within the Town Centre Zone;
- intensification/redevelopment within the Adelaide Road Light Industry Zone, with potential noted to rezone this land for more general commercial/employment generating purposes;
- new development within the identified Eastern Mixed Use Precinct (Area 6); and
- new development within identified new Local and Neighbourhood Centres within Areas 3-6.

Demand at the latter is likely to be in the order of 3,000-6,000 square metres of office/commercial floor space. Neighbourhood and Local Centres, combined with the mixed use zone are estimated to support around 1,000 office-based jobs. The balance of demand is likely to be directed to the Town Centre/Adelaide Road and upzoning will be required to encourage intensification and redevelopment within these areas in order to support significant expansion of office/commercial employment in the future.

The potential also exists for a new Neighbourhood Centre at the old race course site.

A recommended distribution of commercial land precincts is shown in Figure 10.1

**Figure 10.1: Recommended Commercial Land Distribution**



## 10.3 Implications for Structure Plan

Key issues arising from these strategic investigations include:

- existing employment land should be retained and intensified for such purposes particularly along Adelaide Road and within the Town Centre Zone; and
- key nodes are likely to include a possible employment area to the north, a mixed use precinct on the speedway park site and new Local and Neighbourhood Centres in growth areas.



### 11.1 Industrial Demand

Industry plays a key role in current employment provision in Murray Bridge. Manufacturing, wholesaling, transport and storage and primary industries currently account for more than 35% of jobs in Murray Bridge. There is significant scope for the expansion of industrial activities in Murray Bridge. Limited new employment lands are identified in the 30 Year Plan for Greater Adelaide in the surrounding region and the relative affordability of industrial land at Murray Bridge represents a key advantage in attracting new industrial investment.

Industrial uses are typically space-expansive and have low employment densities. Site coverage and employment density can vary significantly between industrial uses. Table 11.1 provides an indication of the amount of floor space and land area that would be required to support industrial jobs, based on the following assumptions:

- employment density of 1.5 jobs per 100 square metres of floor space;
- site coverage of 25% (remaining 75% taken up by roads, car parking, landscaping, service areas, etc); and
- average building height of 1 storey.

**Table 11.1: Typical Floor Space and Land Take to support Industrial Employment**

Number of Jobs	Floor Space Required	Land Area Required
2,000	133,000 m <sup>2</sup>	53 ha
3,000	200,000 m <sup>2</sup>	80 ha
4,000	267,000 m <sup>2</sup>	107 ha
5,000	333,000 m <sup>2</sup>	133 ha

Table 11.1 represents typical floor space yields and land take for industrial uses in suburban settings, however, within Murray Bridge it is expected that large scale industrial operations could be attracted by the relative affordability of land. Such operations can have very low site coverage and employment densities. If such operations are attracted to Murray Bridge, a 100 hectare industrial precinct may only support 500 jobs.

It is therefore prudent to plan industrial land supply on the basis of low floor space and employment yields. It is also important to recognise that different industrial businesses have different locational requirements, some prefer to be located close to other similar businesses or other businesses in the same supply chain (clustering), others prefer strong separation from other businesses/land uses to minimise constraints to operating hours, noise, etc. Providing a range of different industrial precincts is therefore important to maximise business attraction.

Importantly, it is not the role of the Structure Plan to identify where the jobs will come from. Rather it is to set aside the required land to facilitate the development of a range of employment generating uses.

### 11.2 Land Supply

Key opportunities for future industrial development within Murray Bridge have been identified as follows:

- intensification within existing Industry Zones;
- new employment lands at precincts 7 and 9; and
- expansion of Monarto Industry Zone.

Precincts 7 and 9 comprise more than 1,000 hectares of land, and while some of this land is constrained, it is considered that this represents ample supply of land for future industrial development.

The recommended distribution of future industrial land is shown in Figure 11.1

It is acknowledged that the supply of industrial land is greater than that in the Housing and Employment Land Supply Program Report 2010 Greater Adelaide (2010).

This is based on the greater population growth scenario put forward by the Structure Plan and the employment yields analysis discussed in the previous section.

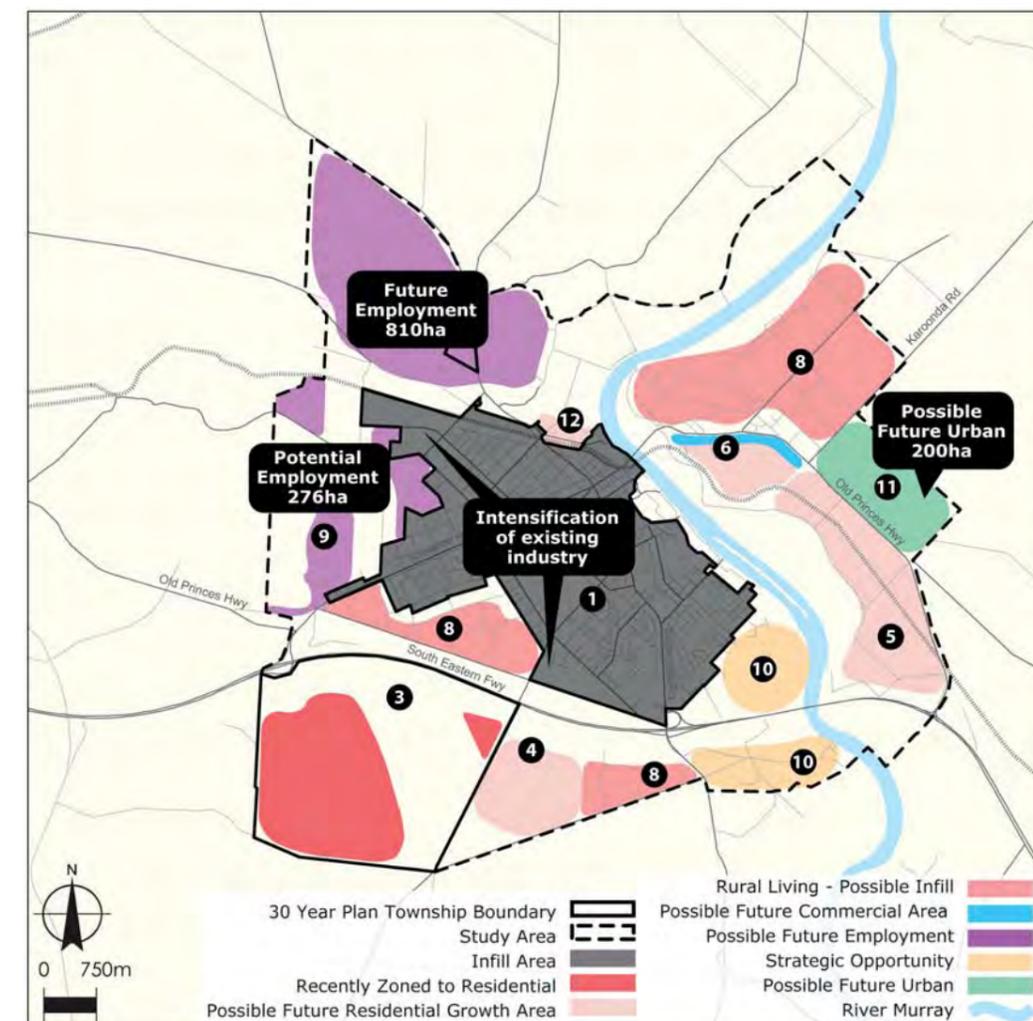
The 'intensification of existing industry' associated with the General Industry Zone adjacent to Old Swanport Road may include a review of the appropriateness of the General Industry Zone. Council will examine if an alternative employment-generating type of zone is appropriate given an intent to intensify residential densities in the locality. The type of zone module chosen will need to ensure that the strategic placement of Council's existing and proposed centres zones are not compromised.

### 11.3 Implications for Structure Plan

Key issues arising from these strategic investigations include:

- existing industrial land should be retained for such purposes;
- Monarto provides a major opportunity for employment lands given proximity to road and rail;
- new industrial/employment land will need to be set aside within the designated growth areas; and
- key nodes are likely to include a possible employment area to the north plus a future urban area to the east.

**Figure 11.1: Recommended Industrial Land Distribution**



Population growth in Murray Bridge will create demand for new and/or expanded education, health, community and recreation services. This section provides an overview of key additional services that are likely to be required based on projected population growth and, where relevant, implications for the Structure Plan. It should be noted that there are numerous government agencies as well as private service providers involved in human service provision. Human service outcomes depend on the decisions of these providers and the Structure Plan can only identify potential key services.

### 12.1 Education

#### Primary and Secondary Education

Education demand is difficult to predict given the 'choice factors' such as religion, mobility, perceived quality of education provided and facilities, that contribute to decisions about education.

The number and types of schools required in Murray Bridge in the future, will be influenced by these factors as well as factors such as the number of students who might be educated outside Murray Bridge, and those who might be attracted to new schools in Murray Bridge. The numbers of students that attend government schools and non-government schools will also be an important determinant of the form that new/additional schools in Murray Bridge might take. Considering current enrolment data for Murray Bridge, currently 65% of primary school aged children attend Government Schools and 80% of secondary aged children attend Government Schools (it should be noted in other new and redeveloping areas, attendance rates are typically 60% of primary school aged children attending government schools and 40% of secondary school aged children attending government schools). Murray Bridge's figures appear therefore to be skewed by some choice factor that could change over time.

Table 12.1 indicates demand for school places based on current trends and the projected population totals.

**Table 12.1: Projected School Enrolments**

Year	Government School Enrolments		Non-government School Enrolments	
	R - 7	8 - 12	R - 7	8 - 12
2018	1747	307	941	1229
2023	2096	354	1128	1419
2028	2348	397	1264	1589
2033	2633	445	1417	1782
2038	2678	446	1442	1783

Note all of these figures are accumulative totals numbers.

This equates to an increase in student numbers of approximately 2,200 primary school students and 1,700 secondary school students.

Typically these numbers would require 3 - 4 primary schools and 1 - 2 secondary schools.

Considering the project preferences for government and non-government schools this could be further broken down to an additional 2-3 government primary schools and 1 - 2 non-government primary schools.

The government primary schools at present have varying enrolments ranging from 71 students to 537 students, with the larger of these schools being comprised of a discrete junior primary and primary school.

It is likely therefore that with these generally low enrolment numbers that demand for government school enrolments can be largely accommodated within the existing campuses. One additional government primary school might be required beyond 2028 which needs to be factored into growth area planning and in particular future rezoning processes.

The current Murray Bridge High School is noted as having significant capacity and combined with the lower than average rates demand for government secondary education it is anticipated that the school (with additional facilities) will be able to accommodate the demand for government secondary education.

The non-government schools within Murray Bridge typically have higher enrolment numbers and are likely to be closer to current capacity levels. It would appear feasible for the existing non-government schools to accommodate a total of approximately 1,200 primary school students and 500 high schools students. This is likely to leave a requirement for approximately 1 non-government primary school and 1- 2 non-government high schools.

In terms of planning, the land take for a primary school of up to 800 students is roughly 3.5 hectares. A stand alone secondary school of up to 1,200 students requires a land take of roughly 8 hectares. If schools are co-located and share facilities such as ovals, gymnasiums, administration facilities and so forth, then this land take could be reduced.

#### Child Care and Pre-School

Within the area there are a number of child care and day care centres, as well as kindergartens, pre-schools and out of school hours care. These are located, in some cases with private and public schools, and in some instances, are provided by private operators, including some care being provided in private homes.

Considering the population growth there is likely to be additional demand for these facilities in the short term as a generally younger demographic is projected. The projected demand for child care places is outlined in Table 12.2.

**Table 12.2: Child care projected demand for places**

Year	Child Care
2018	554
2023	667
2028	748
2033	755
2038	808

Note based on national rates of attendance at formal child care for children 0 - 4, ABS 4402.0

Based on current attendance rates, 22.8% of children in Murray Bridge attend pre-school. This would equate to a need for the following number of places outlined in Table 12.3.

**Table 12.3: Projected total pre-school demand**

Year	Child Care
2018	355
2023	429
2028	480
2033	500
2038	517

Some of these places are likely to be provided within existing and new school facilities. However, this is unlikely to provide enough places and accordingly it is anticipated that multiple private operators would look to provide facilities within the development area.

Sites should be provided in areas that are convenient to residential areas, centres or employment.



## Tertiary Education

Currently, a relatively small proportion of Murray Bridge residents are enrolled in University courses with a small facility operational by Flinders University presently sited within the hospital. This, in part, reflects the trend for young people to relocate to Adelaide to attend University. Additional demand for University education services will be generated by the future Murray Bridge community. However it is unlikely that demand will be of a sufficient scale to underpin a large University campus within Murray Bridge.

In terms of tertiary education, there is currently a TAFE campus located on Swanport Road at Murray Bridge.

This TAFE offers a relatively limited range of courses and awards, including retail, fabrication and welding, bricklaying, literacy and numeracy, aged care, English as a second language, community services and administration and management.

Demand for TAFE and other further education services (including universities) is estimated to increase by around 400 places.

## Other

The Lower Murray Trade Training Centre and the Adelaide Hills Murraylands Trade School for the Future was opened in 2011. The Murray Bridge High School is the lead partner in this project that will provide amongst other things opportunities for school based apprenticeships.

In 2011, the Rural City of Murray Bridge together with Regional Development Australia (Murraylands branch) engaged Greenway Architects to explore the opportunities afforded by a number of key stakeholders in the development of a proposed Educational Precinct on the eastern side of Swanport Road around Beatty Terrace, south of the existing Town Centre. The existing site is occupied by TAFE SA and by the Department of Education and Children's Services (DECS) and offers great opportunities to other education stakeholders.

A Master Plan was prepared that comprised the following:

- a continuous and improved frontage to Swanport Road identifying one of the main entry points into the Precinct;
- a north/south Educational Precinct running from Swanport Road, across Beatty Terrace leading towards the river incorporating upgraded existing facilities and new facilities housing a range of educational and training environments;
- a focus on flexibility with shared spaces, IT rich learning environments and the ability for students and educators to 'cross pollenate' across a range of learning situations and disciplines. Existing teaching facilities could be upgraded, or new spaces created to achieve these goals;
- the improvement of public and private transport opportunities, with improved car parking, bicycle and pedestrian accessways and storage facilities;
- the possibility of co-locating local Sporting Clubs in upgraded facilities, sharing activity space and amenities; and
- opportunities to minimise capital cost and reuse existing building surplus to current needs.



## 12.2 Health

### Medical

The expanded population will create additional demand for health services. Based on State averages, it is projected that population growth over the next 30 years will create demand for the additional health services as identified in Table 12.4. Note that some of this demand is likely to be directed to health services outside of Murray Bridge, for instance some hospital services are only available at the Royal Adelaide Hospital and Women's and Children's Hospital.

**Table 12.4: Projected Health Service Demand 2038**

Health Service	Rate per 1,000 population	2018	2023	2028	2033	2038
Hospital beds	4.8 beds <sup>1</sup>	115 beds	129 beds	144 beds	162 beds	181 Beds
Doctors (GPs)	1.1 GP <sup>2</sup>	26 GPs	30 GPs	33 GPs	37 GPs	42 GPs
Dental	0.5 dentists <sup>3</sup>	12 dentists	13 Dentists	15 Dentists	17 Dentists	19 Dentists

The current hospital at Murray Bridge offers 47 beds.

The projected demand indicates a need for 181 hospital beds by 2038, an increase of 134. These would need to be provided progressively but do indicate sufficient demand to support a significant expansion to the existing hospital and/or a second facility.

Based on current Government policy, the latent demand will most likely be taken up by the private sector.

From information available there are approximately 16 GPs providing services within Murray Bridge. The provision of the additional 26 GPs projected to be required to 2038 are likely to be accommodated via the focus within the long term health plans on the provision of clinics and the private sector would be expected to fill much some of this demand.

Readily available information indicates that there are seven dental facilities within Murray Bridge. Based on the provision rates it is likely that these existing facilities will expand over the short to medium to accommodate the growth in demand as it arises. Over the longer term these facilities may be supplemented with additional facilities. Much of the supply is expected to be provided by the private sector.

Provision should be made in any plan spatially for areas where consulting facilities can establish, such that GPs can establish as demand dictates viability.

### Aged care

At the 2006 census the percentage of the population aged 70 years and above was 11.7%. Applying this proportion to the 2008 estimated resident population of 19,100 persons there was in the order of 2,235 persons aged 70 years or more in Murray Bridge.

Based on that number there is roughly demand for approximately 212 aged care beds and 11 aged care facilities.

Currently there are two aged care facilities within Murray Bridge. These are the Lerwin Nursing Home and Resthaven. Between these facilities there is currently a total of 153 aged care beds provided. This therefore leaves a theoretical current shortfall in the order of 59 beds.

Murray Bridge has numerous aged care facilities and services available to the community. These facilities and services are designed to provide assistance to aged people to live in their own homes.

The number of facilities available at 191 appear to be in theory greater than the "standard" level of provision. This additional provision in aged care packages is likely to go some way to offsetting the theoretical shortage in aged care beds.

<sup>1</sup> South Australian Urban Land Trust, Human Services Planning Kit, 1994  
<sup>2</sup> Rate based on current rate of provision across the State per 1000 population.  
<sup>3</sup> Ibid

The growth in population is likely to provide the following overall demand for services, as outlined in Table 12.5.

**Table 12.5: Projected Aged Care Demand**

Aged Care	Rate per 1,000 population	2018	2013	2028	2033	2038
Residential Aged Care	95 beds per 1,000 population aged 70 years or above	319	319	358	401	503
Community Care	5 packages per 1,000 population aged 70 years or above	17	17	19	21	26

Note: all numbers are aggregate overall population totals rounded to nearest whole number.

Considering this projected demand and the existing level of facilities, it would appear that Murray Bridge will need an influx of aged care beds, commencing in the early years of the development. This is partly due to the theoretical shortfall in beds currently provided.

Policy and funding for aged care has been the subject of a Productivity Commission Review. This review has found that the policy and funding arrangements covering aged care restrict consumer choice, distort investment decision making, and weaken incentives for innovation.

Government policy at present is very centralised. Recently, policy has been targeted to two outcomes. First, aging in place, and secondly, providing greater power to the end user of the service rather than the providers.

These policy directions are likely to be strengthened in future years as the baby boomers age. Baby boomers are typically more affluent, more mobile and more discerning/demanding than previous generations. It is recognised that baby boomers will seek to control their own aging to a greater degree than previous generations.

Aging in place will require a high level of access to services and facilitates, including technological connection. Home care service providers may become more prevalent as services expand to support people in their own homes.

The Residential Aged Care in Murray Bridge 2009 report projects short term future demand.

The commonwealth benchmarks over estimate the demand for residential care by at least 30 beds in Murray Bridge in 2010. An alternative benchmark places the putative demand for residential care at 193 or 40 places over the 2009 supply. This over estimates demand by about 20 places as indicated by waiting lists. However even if we discount 30 beds from the benchmarks for Murray Bridge there would still be demand for residential aged care of between 53 and 68 additional beds in 2015 based on population projections to 2015.

Net inward migration of older people into Murray Bridge could increase the demand for aged care beds from anywhere from 18 to 55 places. The impact of net migration would not impact on demand for aged care until after 2015. The population projections to 2020 would calculate a benchmark of 303 places in 2020 an under supply of 150 places on current supply. If we discount the benchmark by 30 beds and include the impact of net inward migration the undersupply would be somewhere between 130 and 175 beds in 2020. It should be noted that there is an apparent preference for community packages in Murray Bridge as evidenced by community package waiting lists and vacancies for low residential care. The increasing turnover in ageing in place facilities and the reported higher levels of care that people are entering into aged care reinforce the notion that people are choosing residential care later.

Land for future aged care facilities, should be well located with respect to transport, hospital and medical facilities, community facilities and activity centres.

## 12.3 Emergency Services

### Police

Murray Bridge currently has a Police Station. This station operates 24 hours per day seven days per week.

SAPOL operates on an intelligence based policing model and accordingly directs resources on a needs basis. SAPOL will monitor demand for services and seek additional resources if and as required.

The Murray Bridge Police Station is about to be redeveloped and it is expected that the new police station will be operative in about 12 months time.

### Fire

Murray Bridge is serviced currently by both an MFS brigade and a CFS brigade.

The MFS is the main response body for fires, natural disasters, and car accidents with the towns and urban areas. The area of cover includes hospital and nursing home facilities and industrial parks. The CFS also responds to incidents in industrial parks.

There is one MFS station in Murray Bridge with two appliances. For 2009 – 2010 this brigade responded to 290 incidents.

MFS facilities are not provided solely on the basis of population and the MFS monitors areas and directs resources accordingly.

The CFS is the main response body for airport/airstrips, crops, grassland, rural areas, bushland and scrubs and also attends incidents in towns and urban areas and industrial parks.

The CFS attended 171 incidents for 2010-2011. There is one station with three appliances.

Growth within Murray Bridge will in general be urban.

The Victorian experience is provision at a rate of 1 CFA station per approximately 15,000. The recommended rate in South Australia for Metropolitan Fire Services is 1 station per 50,000 with an average response time of between 6 and 8 minutes .

In total Murray Bridge is serviced by five appliances and two fire stations. Based on the guiding figures this should be appropriate for a population of 37,800 people.

It is important to note Murray Bridge does not experience a high bushfire risk and is treated as a 'safe destination' for Mount Lofty Ranges residents.

### SES

The SES is an emergency and rescue service that is made up predominantly of volunteers. There are 67 SES units across the State supported via over 1,600 volunteers. The SES provides the following services:

- General Rescue
- Flood Operations
- Land Search Operations
- Reconnaissance
- Storm Damage Operations
- Road Crash Rescue
- Marine Rescue

Murray Bridge is located in the SES Eastern Region, with two employed staff and supported by volunteers.

The SES crews travel where required.

The SES typically anticipates that the existing units can service demand based on past experience that shows an increase in volunteer numbers as a result of increases in population.

<sup>7</sup> Australian Social and Recreation Research Pty. Ltd, Planning for Community Infrastructure in Growth Areas, April 2008

## Ambulance

An Ambulance station providing 24 hour coverage is located within Murray Bridge on the Swanport Road near the Hospital.

Experience from Victoria suggests a provision of a metropolitan station of 1 station per approximately 56,500 people<sup>7</sup>. Based on this figure alone one ambulance station will be sufficient for the total population to 2038 or 37,800.

In practice, however, stations should be provided on the basis on the acceptable response times. SA Ambulance monitors services and directs resources as required.

## 12.4 Community Services

### Community Organisations

Murray Bridge is a regional service centre and as such has a reliance on strong community organisations and networks.

Sporting clubs, the Services clubs, Community Clubs and Churches all provide a range of support and services to the community and assist to provide social connection.

Murray Bridge is well served by numerous clubs as outlined by Table 12.6

Murray Bridge also is well serviced by Government offices.

Activity Centres will provide key areas for community and government groups to be located. Sporting clubs will locate in association with sporting facilities.

### Library

The Rural City of Murray Bridge operates a library facility from the 3rd floor of Mobilong House in Seventh Street. The library is open Monday to Thursday 9.30am to 6pm, Fridays 9.30am to 8pm and Saturdays from 9.30am to 1pm.

A new library opened in February 2012. This new facility is twice as large as the previous facility.

Australian Social and Recreation Research Pty. Ltd, Planning for Community Infrastructure in Growth Areas, April 2008 recommends one static library to service 30,000 people in the early years of a development. This is supported by the Human Services Planning Kit, 1994 (SAULT) that recommended one library for 5,000 to 10,000 people with a branch library once the population reaches 70,000 to 80,000 people. The new library should therefore be sufficient to accommodate growth to 2038.

Benchmarks for the provision of Community/ Neighbourhood centres vary between 1 per 10,000 to 20,000<sup>8</sup> populations and 1 per 7,000 to 10,000<sup>9</sup> population.

It is recommended that one to two additional centres would be sufficient to serve the new population.

On this basis it would be beneficial to provide a multipurpose local level community facility within the Structure Plan. This could be located within an activity centre. Including car parking an area of land of 1,000 square metres minimum should be set aside.



## 12.5 Open Space and Recreation

The Rural City of Murray Bridge Open Space and Recreation Research and Planning Study May 2010 indicates that Murray Bridge is currently reasonably well serviced with access to outdoor recreational facilities.

That study however concluded that for an increased population to 34,000 there would be the need for additional outdoor facilities.

Indicative figures from the Suter report indicated the following levels. However, a detailed review will be undertaken as part of the RCMB's current work on a Sports and Recreation Plan and Open Space Plan.

Table 12.6 shows the predicted additional requirements.

**Table 12.6: Projected Open Space and Recreation Demands (Suter)**

Sport	Existing Facilities	Potential Demand
Athletics	Access to Ovals	One athletics track (not synthetic/ regional quality) 5 Ovals
Australian Rules Football	3 Ovals in Urban Centre 2 Ovals and 2 playing fields in rural and outer areas Access to school ovals	Access to field possibly one diamond 5 Cricket Pitches (ovals)
Cricket (outdoor)	3 ovals in urban centre 1 oval and 1 playing field (not full size oval) in rural areas	(Overlay Australian Rules Ovals) Two fields turf
Hockey	Access to school ovals	Two clubs (5 - 6 greens)
Lawn Bowls	Two Clubs (6 greens)	12 netball courts
Netball	12 courts shared with tennis 4 courts linked to ovals 5 netball courts in rural areas Not played	Access to one field
Rugby League	Not played	Access to one field
Rugby Union	Not played	5 - 6 fields depending on local interest
Soccer (outdoor)	2 fields	Access to field (possibly one diamond)
Softball	Access to school ovals	20 tennis courts
Tennis	22 lawn tennis courts 12 shared courts 8 tennis courts in rural and outer areas	One field
Touch Football	Access to school ovals	

Source: The Rural City of Murray Bridge Open Space and Recreation Research and Planning Study "The Strategy Report" Final Report 11 May 2010



<sup>8</sup> Briggs, Brindle, Chambers, 1997  
<sup>9</sup> South Australian Urban Land Trust

For the purposes of this work, the projected population to 2038 is 37,800. This is 3,800 greater than was used as the basis for the Suter work. Taking out 0 – 4 years old who don't play sport this reduces the increase to 3,580 persons.

Adjustment for this additional population is therefore required. Based on participation rates from the ABS, and provision rates from Australian Social and Recreation Research Pty. Ltd, Planning for Community Infrastructure in Growth Areas, April 2008 additional demand has been calculated.

From this work it is considered that the increase demand in relation to athletics, baseball, hockey, lawn bowls, rugby league and rugby union, softball and touch football is negligible and can therefore be accommodated within the existing identified facilities.

In relation to the other sports the following provision rate as outlined in Table 12.7 is recommended.

**Table 12.7: Recommended Recreation Facilities**

Sport	Existing Facilities	Potential Demand
Australian Rules Football	3 Ovals in Urban Centre 2 Ovals and 2 playing fields in rural and outer areas	6 Ovals
Cricket (outdoor)	3 ovals in urban centre 1 oval and 1 playing field (not full size oval) in rural areas (Overlay Australian Rules Ovals)	6 cricket pitches (ovals) (Overlay Australian Rules Ovals)
Netball	12 courts shared with tennis 4 courts linked to ovals 5 netball courts in rural areas	13 netball courts
Soccer (outdoor)	2 fields	6-7 fields depending on local interest
Tennis	22 lawn tennis courts 12 shared courts 8 tennis courts in rural and outer areas	21 tennis courts

Overall therefore provision in the Structure Plan should be made for an athletics track, two turf fields for hockey, one softball diamond and one baseball diamond (two turf fields). There is potentially a need for two additional ovals within the urban area. However sharing the ovals between cricket and football may enable the existing 6 ovals within the urban area to suffice. Four to five additional soccer pitches would be required.

As a guide, provision of open space per 1,000 population should be approximately 1.5 hectares per 1,000 people developed as outdoor sporting facilities and a further 2.5 hectares per 1,000 people as informal open space.

Given Murray Bridge's role as a Regional Centre, this provision should be increased to double ie a total of 8 hectares open space per 1,000 people.

Provision for outdoor open space should be identified on a Structure Plan and implemented in stages to accommodate the additional population as it comes on stream. Passive open space should include facilities such as walking and cycling trails.



## Indoor Facilities

The Suter report found that there would be additional demand for indoor recreation facilities as outlined in Table 12.8.

**Table 12.8: Projected Indoor Recreation Demand (Suter)**

Sport	Demand
Aerobics/fitness	Two or more fitness facilities
Aqua-aerobics	Increased demand for classes at pool
Badminton	Access to a multi-use sports hall
Basketball	3 indoor courts
Indoor Cricket	Access to a multi-use sports hall
Dancing	One of two indoor halls
Gymnastics	Access to multi use hall
Martial arts	Access to one hall centre
Squash/racquetball	Difficult to justify
Indoor soccer	Access to multi use hall
Swimming	Potential justification for an indoor pool
Yoga	Access to multi use hall
Weight Training	Demand would improve gym viability

Source: The Rural City of Murray Bridge Open Space and Recreation Research and Planning Study "The Strategy Report" Final Report 11 May 2010

The increase in population now projected to 2038 is 37,800. Whilst 0 – 4 years olds would not participate in most organised indoor sports, this age category would potentially use multi-purposes spaces for activities such as kinder gyms, indoor pools, and dance.

It is considered that given the tolerances for indoor facilities are greater than for outdoor facilities, this increase is not likely to materially affect the demand.

Overall, considering the provision rates in Australian Social and Recreation Research Pty. Ltd, Planning for Community Infrastructure in Growth Areas, April 2008, and the findings of the Suter report, it is recommended that provision be made in the Structure Plan for one indoor aquatic centre, and two to three multipurpose indoor recreation facilities that provide for 1 to 2 courts in each.

With parking an allowance of 2.5 – 3 hectares should be sufficient for the indoor aquatic centre allowing for a 25 metre pool. This should be increased to between 3 and 4 hectares to accommodate a 50 metre pool. 1 hectare for each indoor facility should be allocated.

Timing of indoor facilities will be dependent upon the threshold populations being reached to assist underpin viability.

## 12.6 Implications for Structure Plan

Key issues arising from these strategic investigations include:

- identification of infrastructure provision mechanisms included developer contributions and shared use agreement for private facilities;
- response times for emergency services should be retained;
- exploration of a emergency services hub;
- provide nodes for community organisation and services to collocate;
- 2 local community centres/facilities;
- 2 primary schools;
- 2 high schools;
- allowance for childcare/preschools conveniently collocated with centres/schools nodes of community activity;
- allowance for expansion of tertiary education facilities including implementation of education precinct masterplan;
- allowance for four fold expansion of hospital services;
- allowance for medical services to be located within centres/nodes of community activity;
- allowance for aged care facilities to be collocated with centres/nodes of community activity;
- allowance for almost four fold expansion of age care facilities;
- promotion of aging in place;
- provision for an athletics track, two turf hockey fields, one softball, one baseball, 5 soccer fields, 2 cricket/aussie rules football ovals;
- one indoor aquatic centre and 2-3 indoor recreation facilities .



An opportunities and constraints analysis has been prepared, being informed by:

- a review of the strategic context of Murray Bridge, including 30 Year Plan for Greater Adelaide, the Murray and Mallee Region Plan and the Strategic Management Plan for Murray Bridge;
- literature review, including a raft of technical studies;
- high level infrastructure investigations; and
- high level sustainability modelling.

The findings of these investigations have been documented in the preceding Chapters and are summarized as follows.

## 13.1 Opportunities

The identified opportunities, which visually are shown in Figure 3.1, include:

### Strategic

- Murray Bridge and environs being designated as future urban lands by the 30 Year Plan for Greater Adelaide with associated dwelling, population and job targets;

### Transport

- excellent road access to Adelaide and Mount Barker via South-Eastern Freeway;
- potential for an additional interchange to the South Eastern Freeway;
- established rail corridor providing opportunities to improve passenger services to Adelaide; and
- potential establishment of a western ring route.

### Amenity/Function

The River is the very reason for the existence of Murray Bridge and contains significant cultural history.

The Riverfront Precinct has high heritage value due to:

- it demonstrating important aspects of the evolution of the States transportation history;
- uncommon and endangered qualities including a railway and wharf area of cultural significance; and
- it has special associations with the historically important era of riverboat transport and trade.

Riverfront opportunities include:

- creation of continuous riverside promenade to celebrate the riverfront;
- celebrate and enhance cultural and indigenous heritage assets (historic Wharf and Rail areas);
- improve connections and wayfinding from riverfront to adjoining precincts;
- program recreation spaces within riverfront through urban design and landscape improvements;
- maximise views for new and existing development;
- pedestrianise East Terrace to improve connections; and
- provide a range of tourist accommodation options.

The Sturt Reserve Precinct contains the open space network of Sturt Reserve. Sturt Reserve is the largest open space reserve within Murray Bridge, providing a range of recreation opportunities and a soft (grassed) edge to the River Murray.

The existing grassed riverfront with formal pedestrian trails provides a pleasant environment for passive recreation. Recent public art, commissioned by Ngarrindjeri people, has been established along the riverfront providing a unique character of the Precinct.

Much of the reserve is currently unimproved. This is due to Sturt Reserve being used formerly as a Council land fill site. Any future uses proposed on Sturt Reserve will need to consider land and ground water remediation works (to be determined in a separate study). Opportunities include:

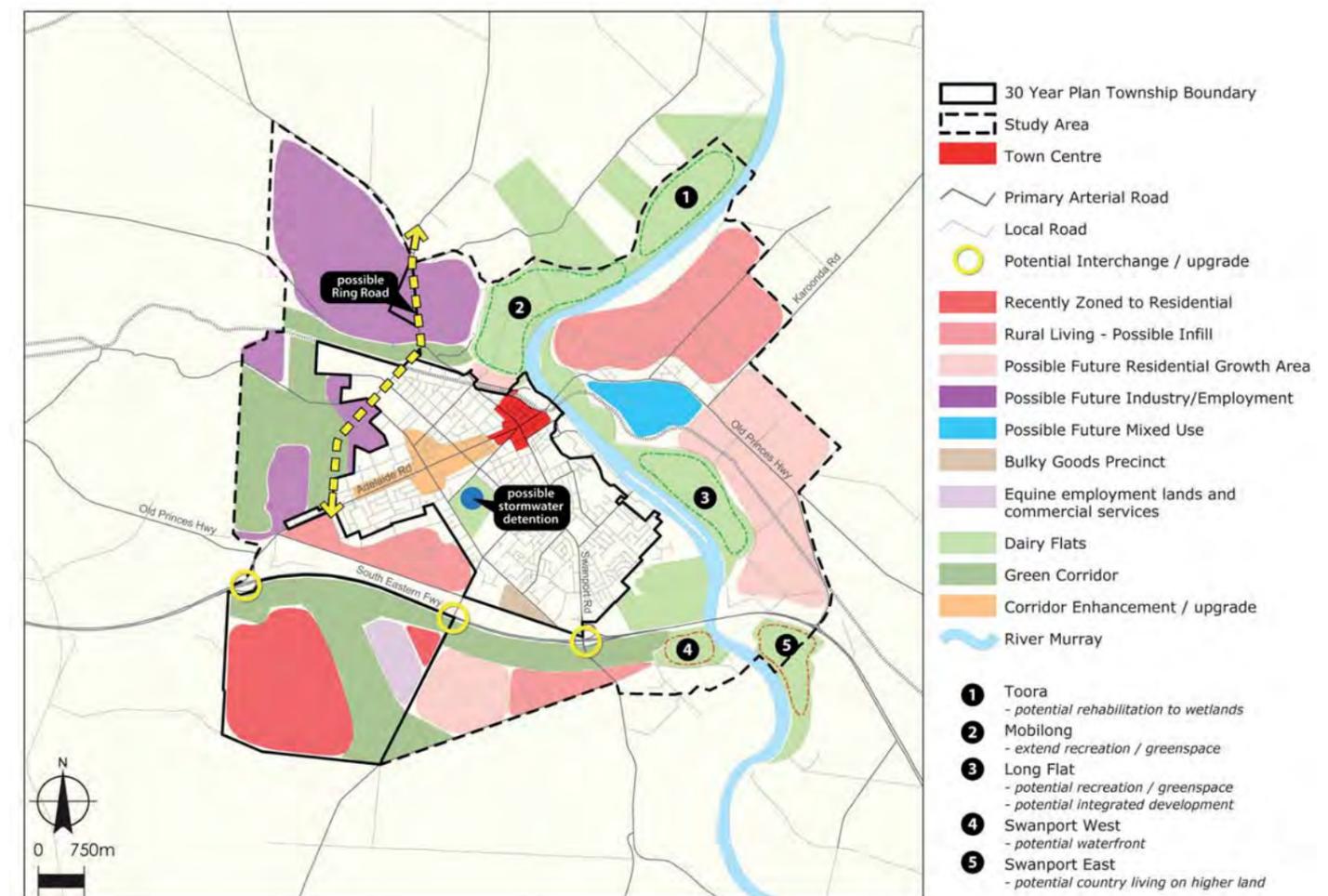
- respect and continue to celebrate historical significance of the Ngarrindjeri people;
- explore new recreational, community, function, large event, tourism and educational uses within the Precinct, subject to remediation works (separate study), which will assist in activating the Precinct;
- improve connections and wayfinding from Retail Core and Riverfront Precincts;
- maintain and enhance connections to adjoining riverfront precinct to the north;
- maintain adequate provision of car parks to promote use;
- rationalise existing tennis courts; and
- enhance existing commercial facilities (eg. the community club, riverscape café etc.).

Other general opportunities include:

- the grid layout of the Town Centre, providing an excellent basis to ensure that any redevelopment of the Town Centre is highly connected;
- potential community access/use of dairy flats;
- potential gentrification of Adelaide Road corridor including potential enhancement of existing gateway boulevard;
- potential marina/waterfront development opportunities at Swanport West;
- potential development of the railway precinct given proximity to waterfront and town centre;

- the desire of both the Rural City of Murray Bridge (within their 2030 plan) and the State Government within the 30 year plan to generate greater diversity of housing within the Council area; and
- possible stormwater detention within racecourse site (to be relocated).

Figure 13.1: Opportunities



## Sustainability

Key sustainability opportunities identified in development areas covered by the structure plan are as follows:

### Town Centre

- retail and services focus; and
- public transport interchanges linking wider community centres.

### Township Boundary

- development to meet highest environmental building standards;
- infill opportunities;
- clusters of local business, shopping and services, particularly along corridor identified for enhancement;
- public transport links;
- cycle paths linking main bicycle network;
- community facilities such as schools, child care and aged care;
- open spaces, recreation spaces, public meeting places; and
- wetland opportunity in racecourse site and along the river.

### Future Urban Growth Zones

- development to meet highest environmental building standards;
- small clusters of local business, shopping and services;
- public transport links;
- cycle paths linking main bicycle network;
- community facilities such as schools, child care and aged care;
- open spaces, recreation spaces, public meeting places; and
- potential connection to community waste water treatment facility.

## Open Space Network

- rehabilitation of land, returning to wetlands; and
- recreational/green space opportunities.

### Employment Lands

- proximity to service corridors;
- large scale on-site renewable energy generation opportunities;
- public transport links, walking and cycling infrastructure to surrounding residential and business districts; and
- impact of air emissions to be minimised through consideration of prevailing winds.

The identified opportunities have been mapped on Figure 13.1.

## 13.2 Constraints

The identified constraints predominantly relate to hazards (flooding), infrastructure (location and capacity) and environment (vegetation).

### Stormwater

- significant investment in detention basins and major stormwater network upgrades will be necessary to facilitate growth as per the recommendations of the Stormwater Management Plan (Tonkin 2007).

### Electricity

- 26 metre wide easements would be required for the 33KV lines if not located in road reserves.

### Notable Buffers

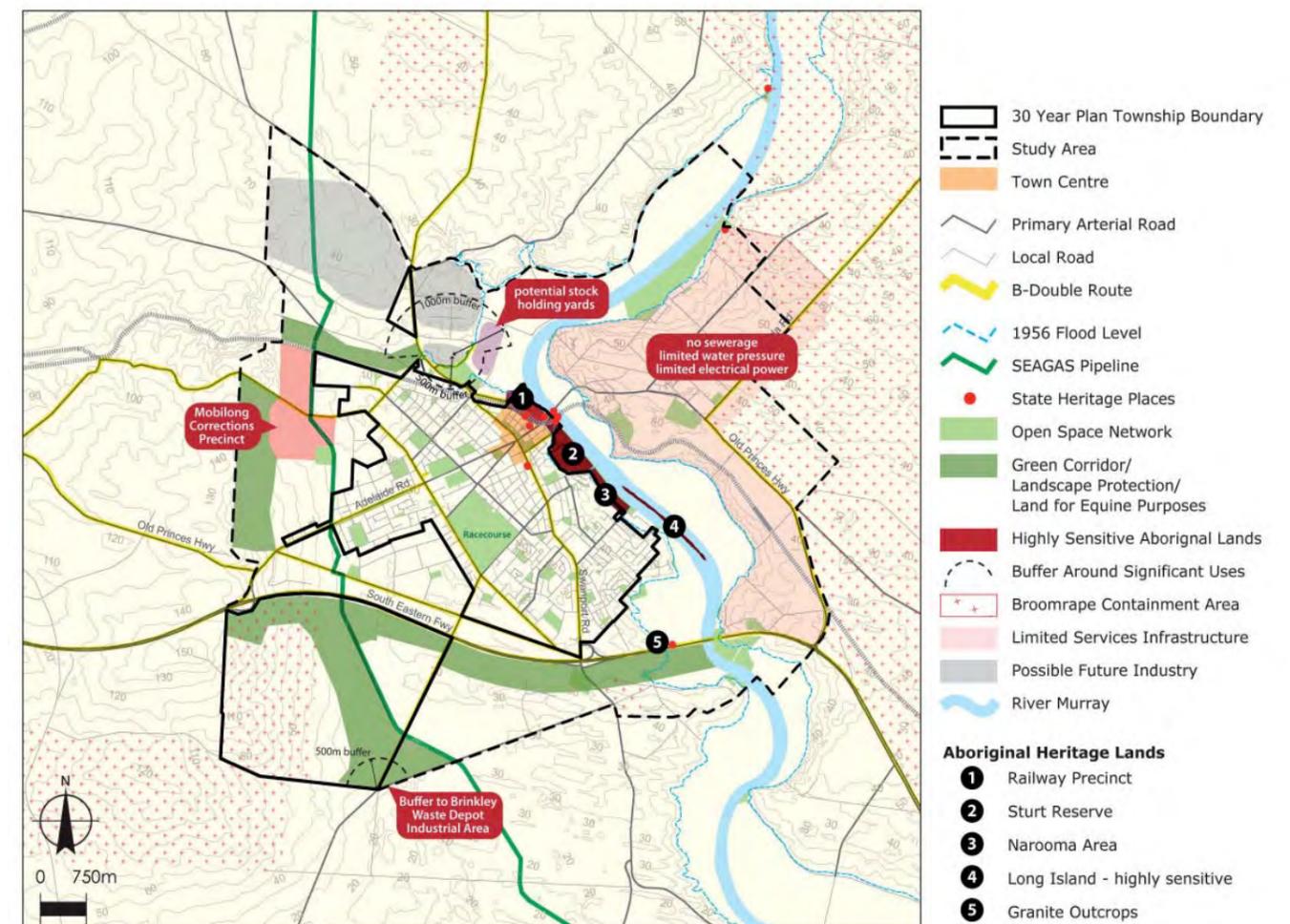
- Brinkley Waste Depot and associated buffer, located to the south of Gifford Hill;
- separation distances to other EPA licensed activities within Murray Bridge and on the periphery of Murray Bridge will need to be considered;
- buffer required to T & R Pastoral site;
- requirements for potential interface treatments associated with arterial roads and future bypasses;
- rail corridor and associated noise generated from trains; and
- management of interfaces associated with Gas Transmission Pipelines.

## Cultural Heritage

- known sites of Aboriginal heritage significance, including Long Island, Narooma Area, Sturt Reserve and the Granite Outcrops located adjacent to the Swanport Bridge; and
- existing Local and State Heritage listed properties.

The identified constraints identified above have been mapped on Figure 13.2.

Figure 13.2: Summary of Constraints



There are a number of options available to Council in order to facilitate growth which achieves the proposed population, housing and employment targets.

At a high level, the options include:

- infill development (existing township boundary including Gifford Hill)
- western/southern broad hectare parcels (west of River Murray);
- eastern infill/broad hectare parcels (east of River Murray).

At a more detailed level, a combination of the above options can be considered, but for the initial spatial planning modelling the capacity of the three options have been considered from both an individual and then a collective perspective.

### 14.1 Targets

The population and dwelling growth targets to 2038, are:

- Total population of 37,800;
- Population growth of 18,700;
- Dwelling growth of 8,400; and
- Job growth of 9,000.

**Population targets are aspirational indicators used for strategic planning purposes and are not forecasts of the future. Population projections are intended to illustrate the consequences of selected assumptions on the size, age structure and geographic distribution of population and are often based on data/trends drawn from preceding years.**

The following growth options exist in order to achieve population, dwelling and job targets with the projected yields included in each figure. The text box in the left of each figure shows the yield for each option with the text box in the right of each figure showing the cumulative total.

### 14.2 Existing Town Capacity

If the existing town boundary was retained, the population, housing and employment targets would not be achieved.

Figure 14.1 shows the population, housing and employment yield expected to be generated from within the existing town boundary. It is evident that just above half of the dwelling and population targets would be achieved.

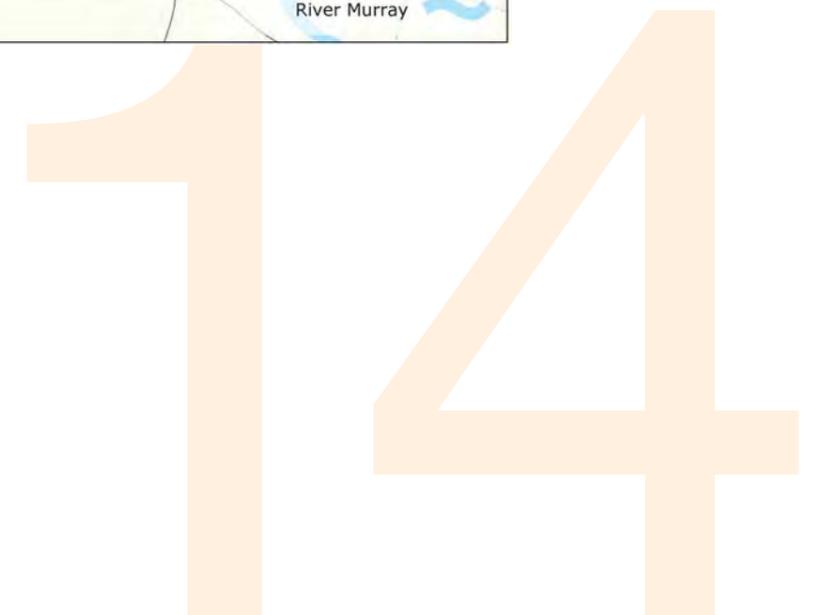
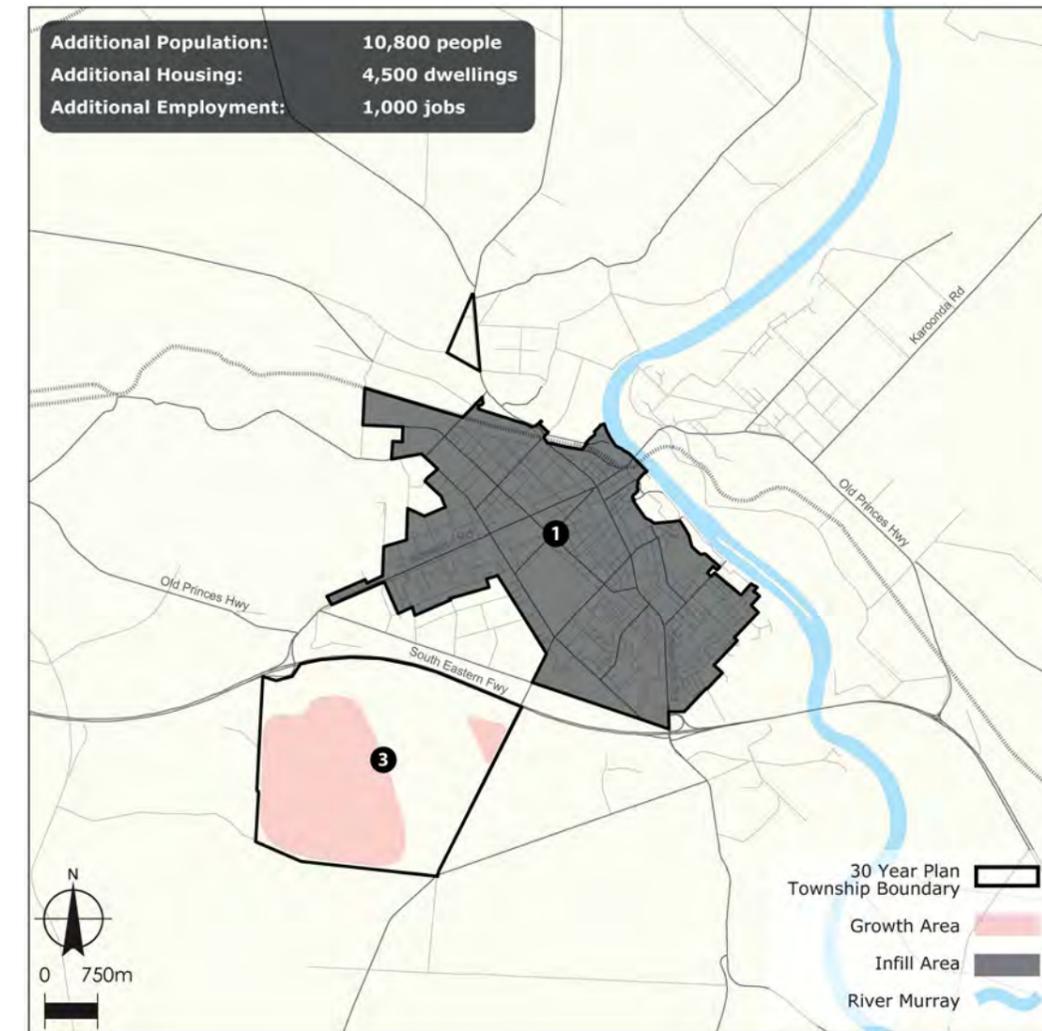
The most obvious options for growth exist on the western side of the River Murray. The current township boundary is presently west of the River. In addition, recent strategic and policy directions have seen the Gifford Hill area to the south-west be rezoned for residential purposes.

The concentration of future growth, at least in the short to medium term should therefore occur in the western sector, with land to the south suited for residential purposes and land to the north suited for employment purposes.

The existing township boundary is projected to accommodate 4,500 dwellings (1,500 infill) and 1000 jobs. The bulk of the growth will occur in Gifford Hill (Area 3).



**Figure 14.1: Projected Capacity Arising from Existing Town Boundary (including Gifford Hill)**



### 14.3 Western/Southern Growth Capacity

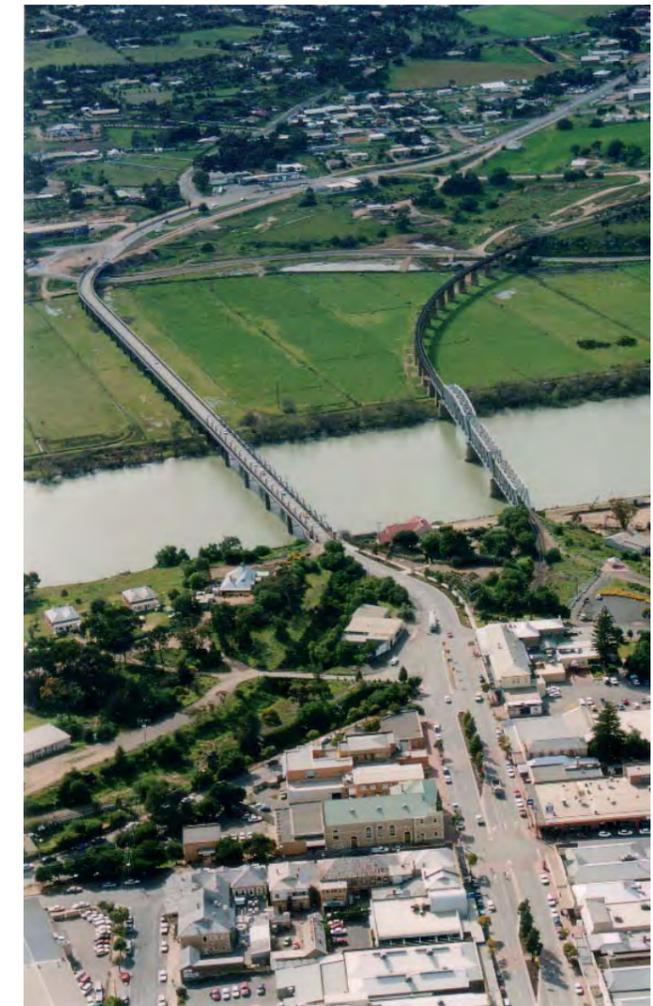
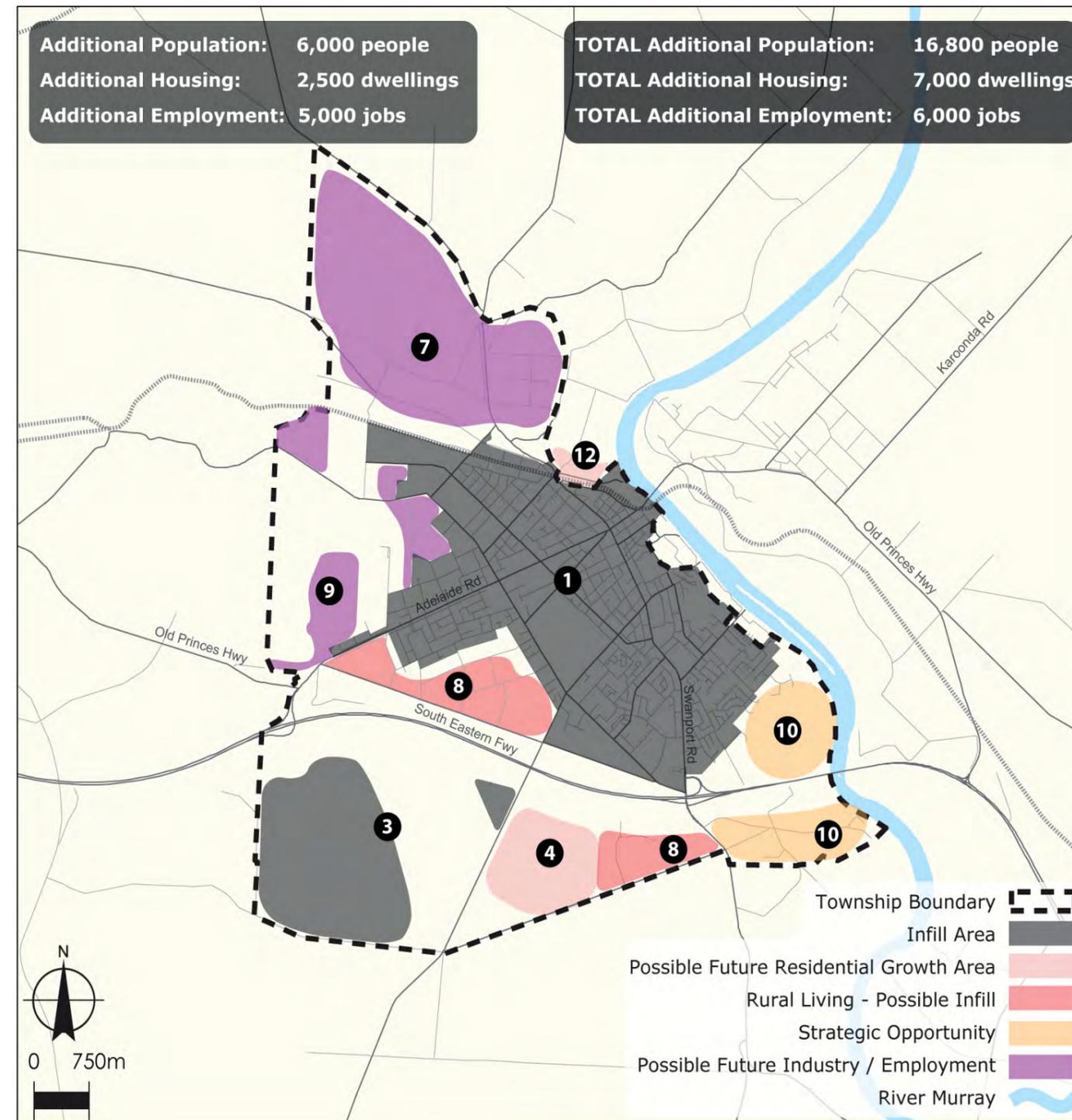
This section considers the yield generated from the identified growth areas in the western/southern sector. Approximately 2,500 dwellings and 5,000 jobs could be accommodated. Combined with the growth projected from the existing town boundary the cumulative growth would be 7,000 dwellings and 6,000 jobs. The western/southern sector could accommodate 6,000 people, resulting in a cumulative total of 16,800 persons when considering the yield from the existing township boundary.

Figure 14.2 shows the population, housing and employment yield expected to be generated from within the existing town boundary, together with the inclusion of the western growth areas. It is evident that with the inclusion of the western growth areas the population and housing targets for 2038 will be approached but not achieved.

The key risks relating to the achievement of the projected yields are summarised as follows:

- concentrated ownership of land and therefore risk of key landowners controlling/restricting the supply of land;
- continued risk that the market will resist infill development; and
- reliance on the development of 'strategic sites' for the development of tourist accommodation/marina or similar development which are entirely speculative and require significant investment and resolution of environmental issues.

Figure 14.2: Projected Growth Arising from Western/Southern Growth Areas



**14.4 Eastern Growth Capacity**

Other than in respect to the QED Land Use Plan the area to the east of the River Murray has essentially been ignored from a strategic planning perspective. The spatial significance of this eastern sector is worthy of recognition as low intensity development already exists in this area, most of which is highly accessible to the River, the town centre and ultimately the South Eastern Freeway.

The eastern sector has substantial capacity for growth, with the primary constraint being service. It is likely that significant growth would need to be facilitated in order to justify the major infrastructure upgrades and costs that would be required.

On the assumption that the majority of the land is used for residential purposes, it is estimated that between 10,000 and 13,000 persons could be accommodated requiring between 4,000 and 5,600 dwellings. Employment could range between 500 to approximately 1,250 jobs.

The area to the east of the river can be accessed via the existing bridge. Development of the east would 'centralise' the town centre, regenerate the Old Princess Highway frontage and provide future growth areas with reasonable proximity and access to the town centre.

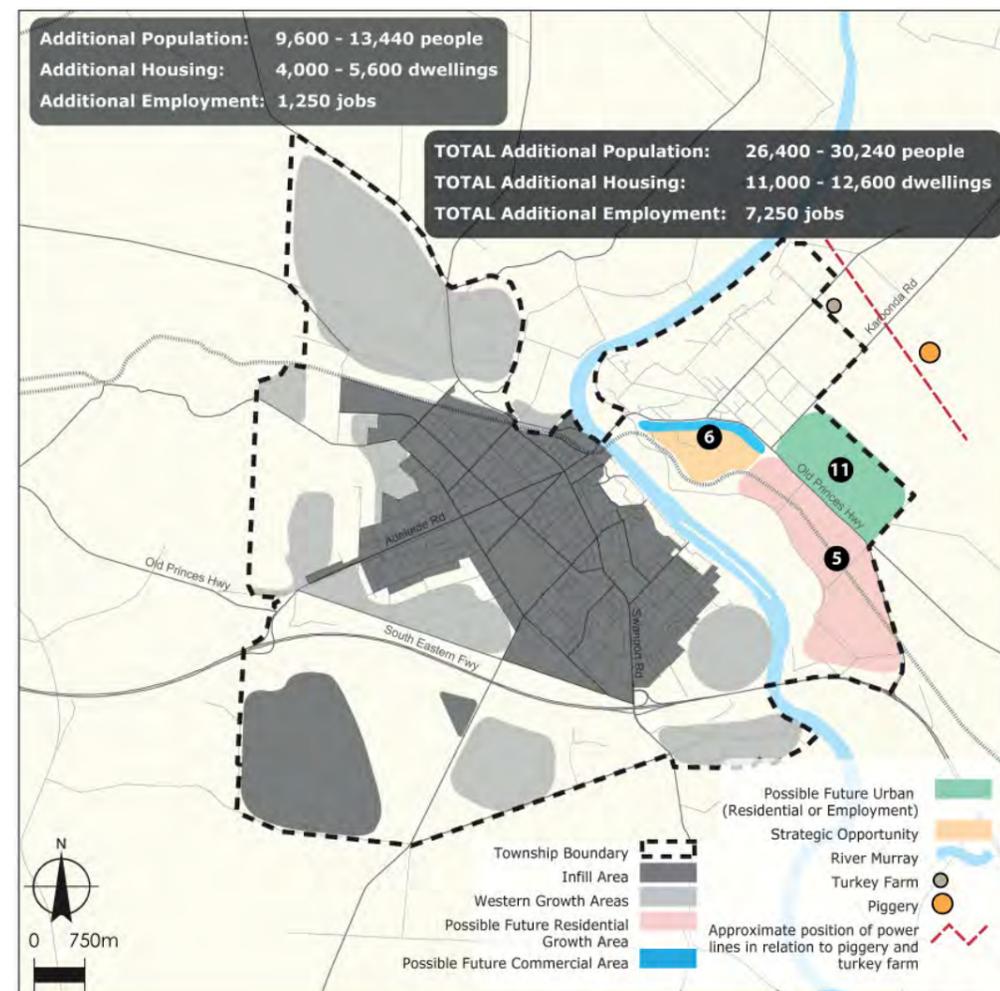
Perhaps more critically, development of the east can play a key function in terms of being a catalyst for longer term growth (ie beyond 2038), with the township otherwise constrained to the west and north.

The operations of a turkey farm at allotment 257, Part Section 159, Loddon Road, Hundred of Burdett and a piggery at Section 572, Karoonda Road, Hundred Burdett are within relatively close vicinity of rural living allotments. Both operators have expressed concern that their operations will be compromised by future growth and intensification of development on the eastern side of Murray Bridge and have requested strategic consideration of their land for Country / Rural Living based on this issue and arguments that the land is a logical extension for urban development. Figure 14.3 indicates the approximate location of these operations. There may be opportunities to consider some of this land for rural living or country living purposes beyond the Year 2038. The existing overhead powerlines (approximate location indicated by dashed red line on Figure 14.3) would also need to be considered in the setting of a future boundary.

Area 11 to the south of the piggery operation is identified as a possibility for Future Urban growth for either employment or residential land uses in the longer term. The Structure Plan also intends that Area 8c (refer Figure 17.2) should be examined to determine the most appropriate mix of rural living and country living on the Eastern side. Any future DPA investigations associated with Areas 8c and 11 will need to include an assessment of the impacts of EPA licensed and food production businesses on the periphery of Murray Bridge.

Figure 14.3 shows the population, housing and employment yield expected to be generated from within the existing town boundary, together with the inclusion of the western and eastern growth areas. It is evident that with the inclusion of the whole of the eastern growth areas that the population and housing targets for 2038 would be readily accommodated, and indeed far exceeded if all land was released for development.

**Figure 14.3: Projected Capacity Arising from Eastern Growth**



**Table 14.1: Projected Dwelling, Population and Employment Yield from Revised Township Boundary**

Site	Dwelling Capacity	Population Growth	Yield Jobs
1 (Infill) including area 12	1000-1500	2400-3600	500
2 (Western)	0	0	0
3 (Gifford Hill)	3000	7200	500
4 (Southern)	2000	4800	100
5 (Eastern)	3000	7200	0*
6 (Eastern) MU	1000	2400	750
7 Northern Industrial	0	0	3000
8 (Rural Living)	500	0	0
9 Deferred Urban	0	0	1400
10 Strategic Sites**	500	1200	500
11 Future Urban	1600	3840	500
<b>Total</b>	<b>12,600-13,100</b>	<b>29,000-30,200</b>	<b>7,250</b>
<b>Target</b>	<b>8,400</b>	<b>18,700</b>	<b>9,000</b>

\*It is anticipated that non-residential uses will be located within the adjacent mixed use area (site 6)  
\*\* Tourist related developments likely to result in a less permanent population offer housing diversity and choice

**14.5 Achieving The Targets**

Table 14.1 shows the population, housing and employment yield expected to be generated from within the existing town boundary, together with the inclusion of the western and eastern growth areas. It is evident that with the inclusion of the whole of the eastern growth areas that the population and housing targets for 2038 would be readily accommodated.

It is also evident that with the inclusion of the eastern growth areas the job growth target is not achieved. Further investigations will be required to determine how to deliver the job target regionally, with a focus on Monarto.

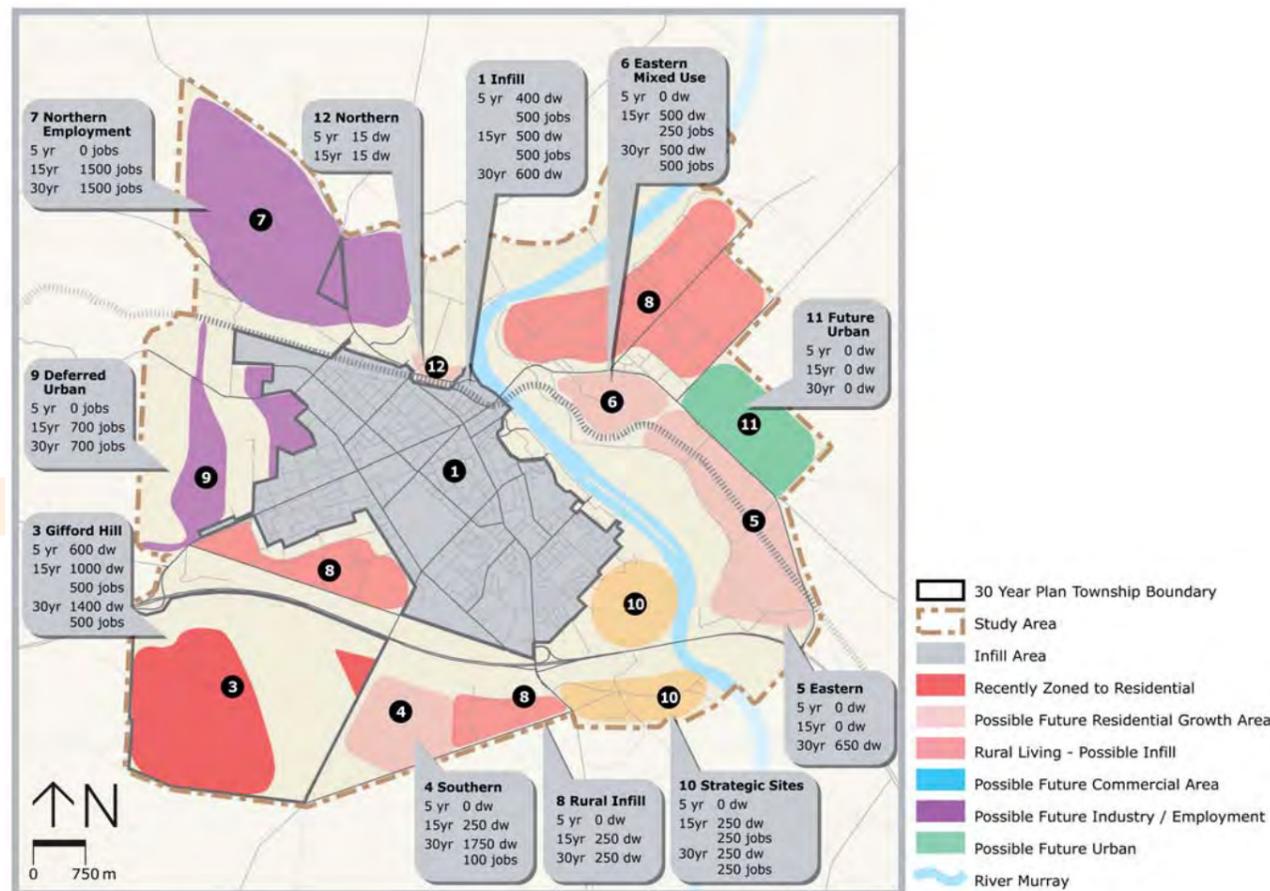
Based purely on land supply, it is questionable that all of the land included within the eastern growth area be included in the township boundary, given that the majority of the land will not be required to achieve the 2038 targets. However merit exists in the context that the full township boundary identifies and includes future urban lands which could be used if required to supplement long term supply. Further, it would serve the purpose of identifying the strategic significance of the land and future Council intention in relation to the east. In order to address the potential for oversupply a rezoning and release strategy would be required.

## 15.1 Purpose & Application

The Structure Plan is a high level spatial document, with designated future growth areas requiring further investigation and concept plan preparation in order to resolve local area traffic implications, open space and human service planning and the preparation of infrastructure delivery plans. Equally as important are matters relating to land use mix, urban design, placemaking, environmental sustainability and access and connectivity. All of these tasks could be undertaken as part of further detailed investigations pertaining to the Structure Plan or as part of location specific Development Plan Amendments (DPA's).

Whilst these additional investigations are warranted ahead of any future rezoning, the investigations undertaken to inform this Structure Plan are sufficient to determine the broad implications of growth and the recommended adjustment to the town boundary.

Figure 15.1: Residential and Employment Yield Plan<sup>1</sup>



<sup>1</sup> These residential and employment yields reflect Structure Plan targets and not the capacity of the areas.

## 15.2 Detailed Plans

The key layers of the Structure Plan are documented in the following series of plans.

### 15.2.1 Residential and Employment Yield

Figure 15.1 outlines the proposed release of residential and employment land within each of the designated precincts. The yields are shown at Year 5, Year 15 and Year 30.

The residential and employment yields reflect Structure Plan targets and not the capacity of the areas.

**Population targets are aspirational indicators used for strategic planning purposes and are not forecasts of the future. Population projections are intended to illustrate the consequences of selected assumptions on the size, age structure and geographic distribution of population and are often based on data/trends drawn from preceding years.**

### 15.2.2 Neighbourhoods and Centres

Figure 15.2 outlines the recommended spatial distribution of key neighbourhoods and centres.

The neighbourhoods replicate the key precincts outlined earlier in these investigations.

In relation to centres, the following hierarchy is proposed:

#### Town Centre

- reinforce the primacy of the existing Town Centre;
- adopt recommendations of Town Centre Master Plan (creation of Precincts and place making responses);
- consider potential for new Neighbourhood Centre at the existing racecourse site.

#### Neighbourhood Centre

- retain existing zone designation at Gifford Hill;
- consider future education needs to service Gifford Hill and southern growth area;

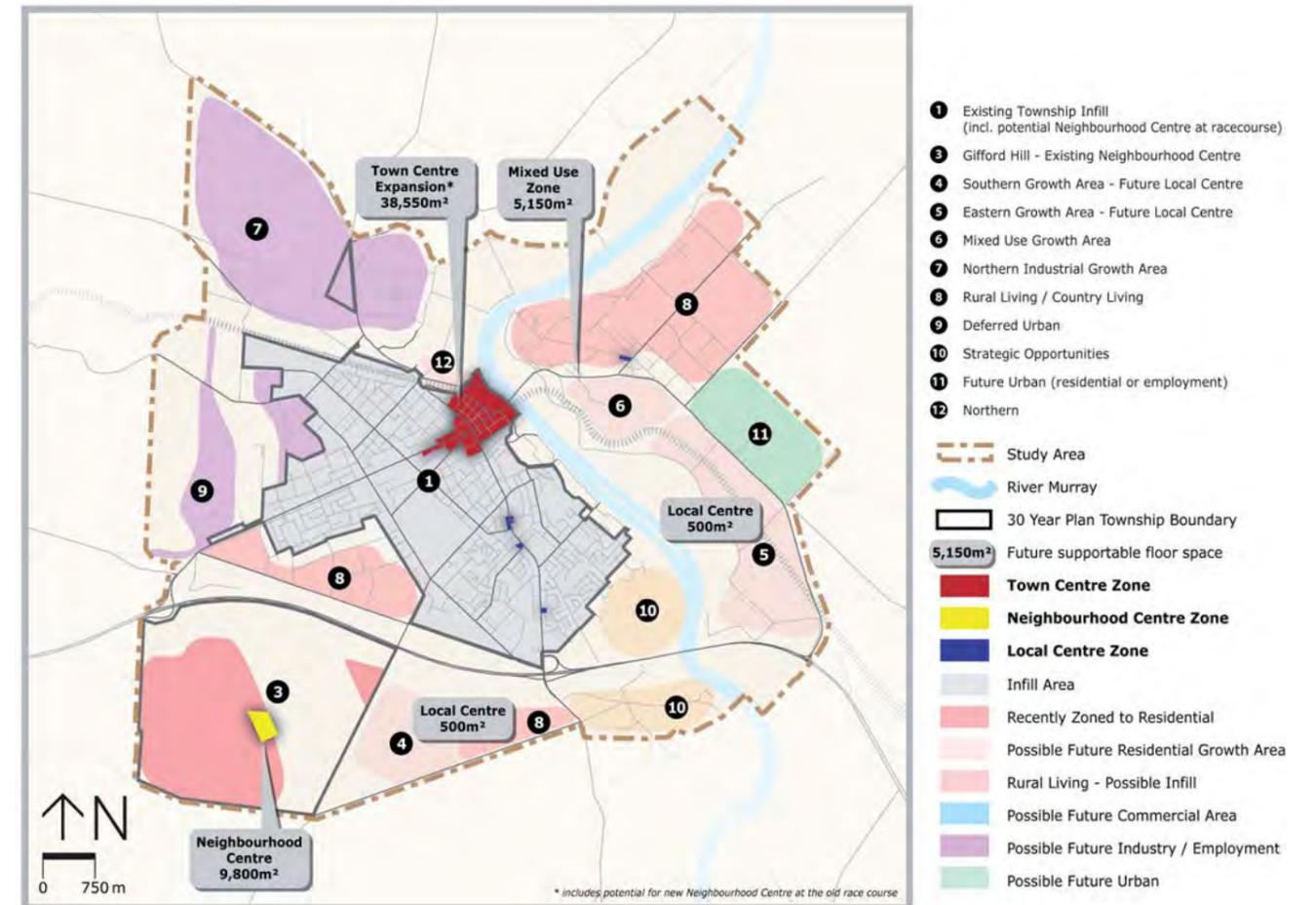
#### Mixed Use

- identify the speedway park site on the eastern side of the River Murray as a key mixed use opportunity.

#### Local Centre

- retain existing centres within established township;
- provide new local centres to service southern growth area and eastern growth area.

Figure 15.2: Neighbourhoods and Centres Plan<sup>2</sup>



<sup>2</sup> Includes potential for new Neighbourhood Centre at the old race course

### 15.2.3 Road Hierarchy

Figure 15.3 outlines the proposed road hierarchy for Murray Bridge

Of particular note is the proposed designation of a B-double route bypass, which would require construction of a new ring route.

### 15.2.4 Open Space and Parkland

Figure 15.4 outlines the proposed open space hierarchy together with key pedestrian and cycling connections. Key features include:

- open space corridor to follow Seagas pipeline alignment, north of the South Eastern freeway;
- reinforcement/establishment of linear park/trails along Adelaide Road, Brinkley Road, Swanport Road, Mannum Road, Old Princess Highway and along the waterfront, providing connection to the rural communities to the south;
- the community places strong value on the White Hill and Rocky Gully areas and these areas should be recognised for their landscape and native vegetation appeal;

- The width of the buffer along the southern boundary of the Freeway is indicative and will need to be clarified through future investigations; and
- indicative neighbourhood level open space areas to service new growth precincts (to south and east).

The Council is also progressing two strategic documents in the 2012/13 financial year relating to sport, open space and recreation, more specifically:

- The Rural City of Murray Bridge Sport and Recreation Strategy will be the strategic link that ties together strategies and plans related to active and passive recreation and conservation (ie. Bike Plan, Sport and Recreation Strategy, Trail Strategy, Integrated Water Management Plan, Murray Bridge Development Plan and Environmental Sustainability Management Plan). The outcome will be an Action and Implementation plan, priority and hierarchy list; and

- The Open Space Strategy for the Rural City of Murray Bridge (MBOSS) will guide the provision, development and ongoing management of open space facilities throughout the Rural City. The outcome will be an Action and Implementation plan, priority and hierarchy list.

Figure 15.3: Road Hierarchy Plan

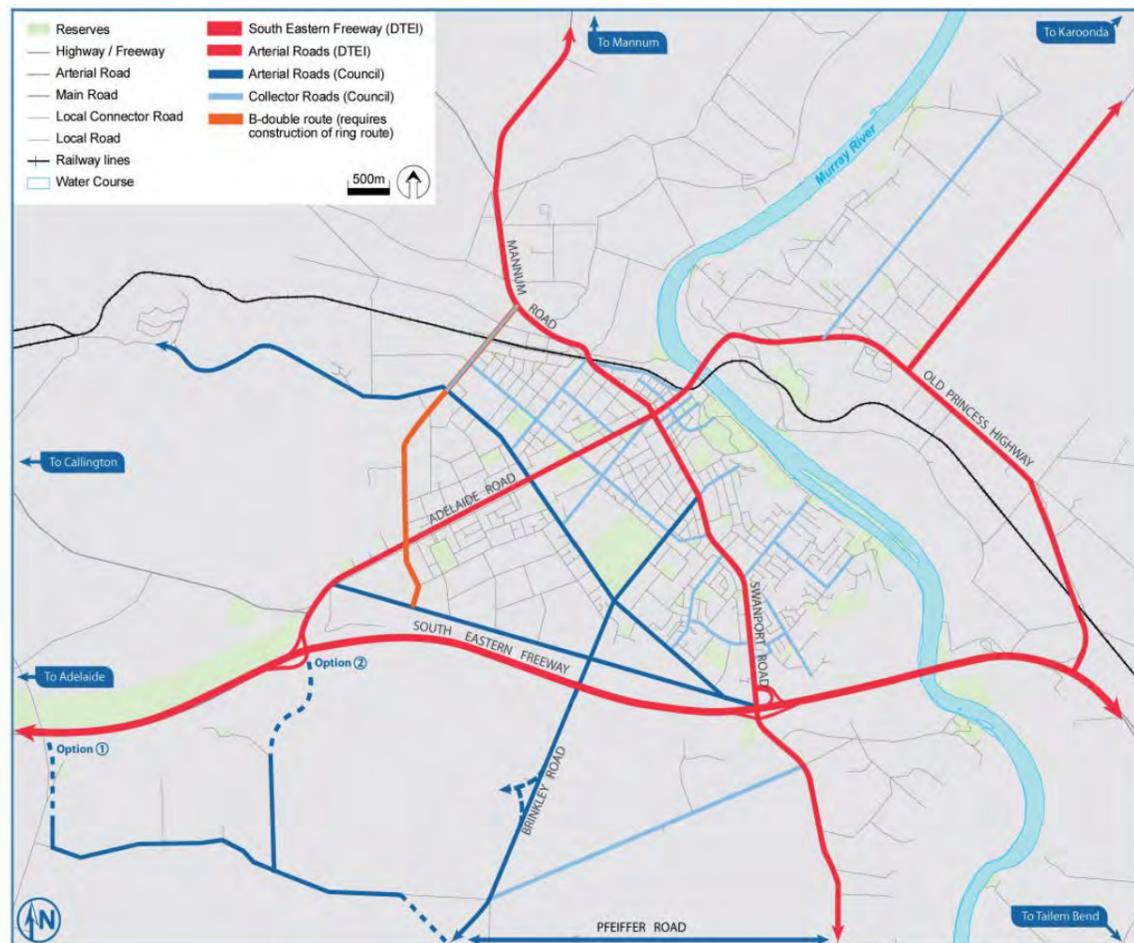
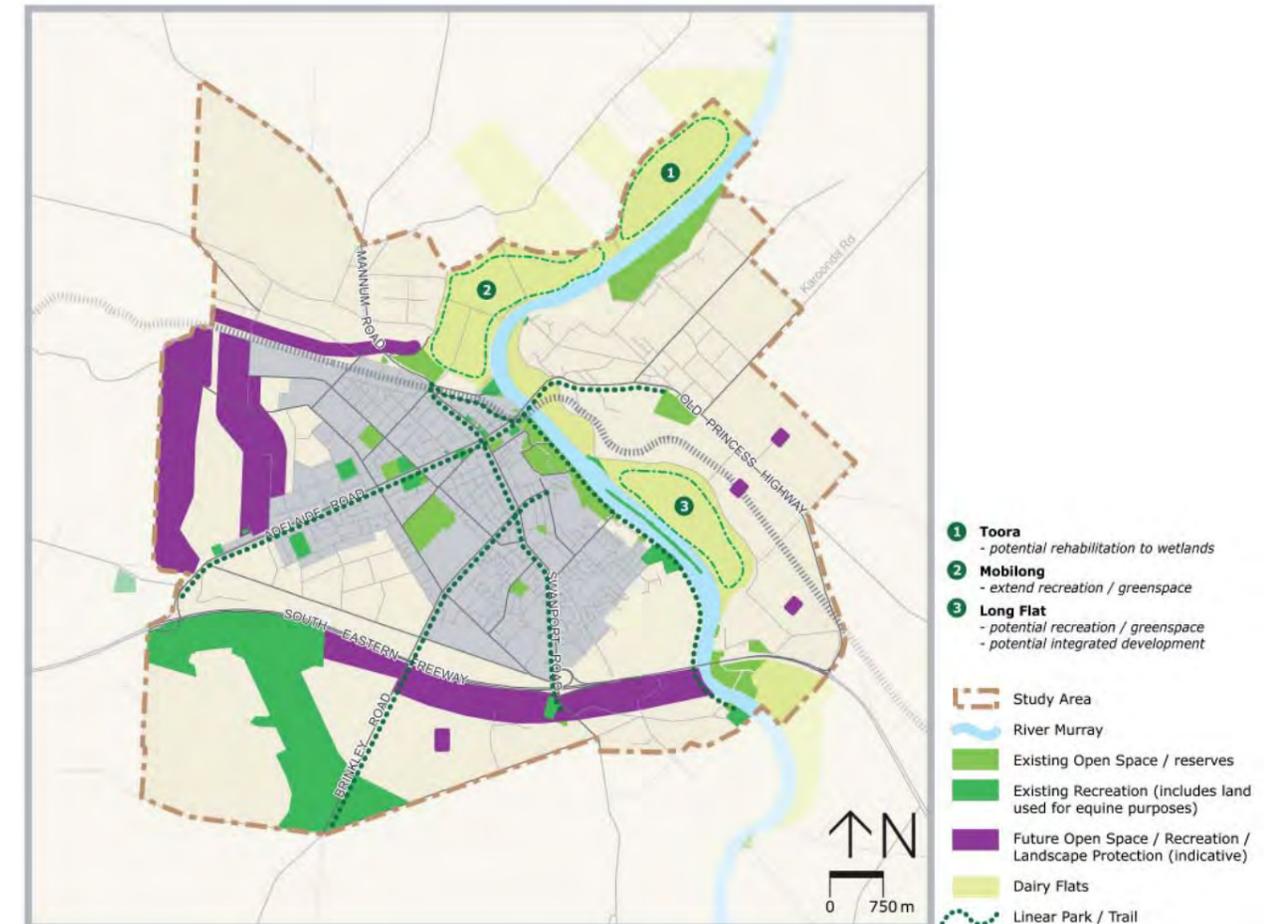


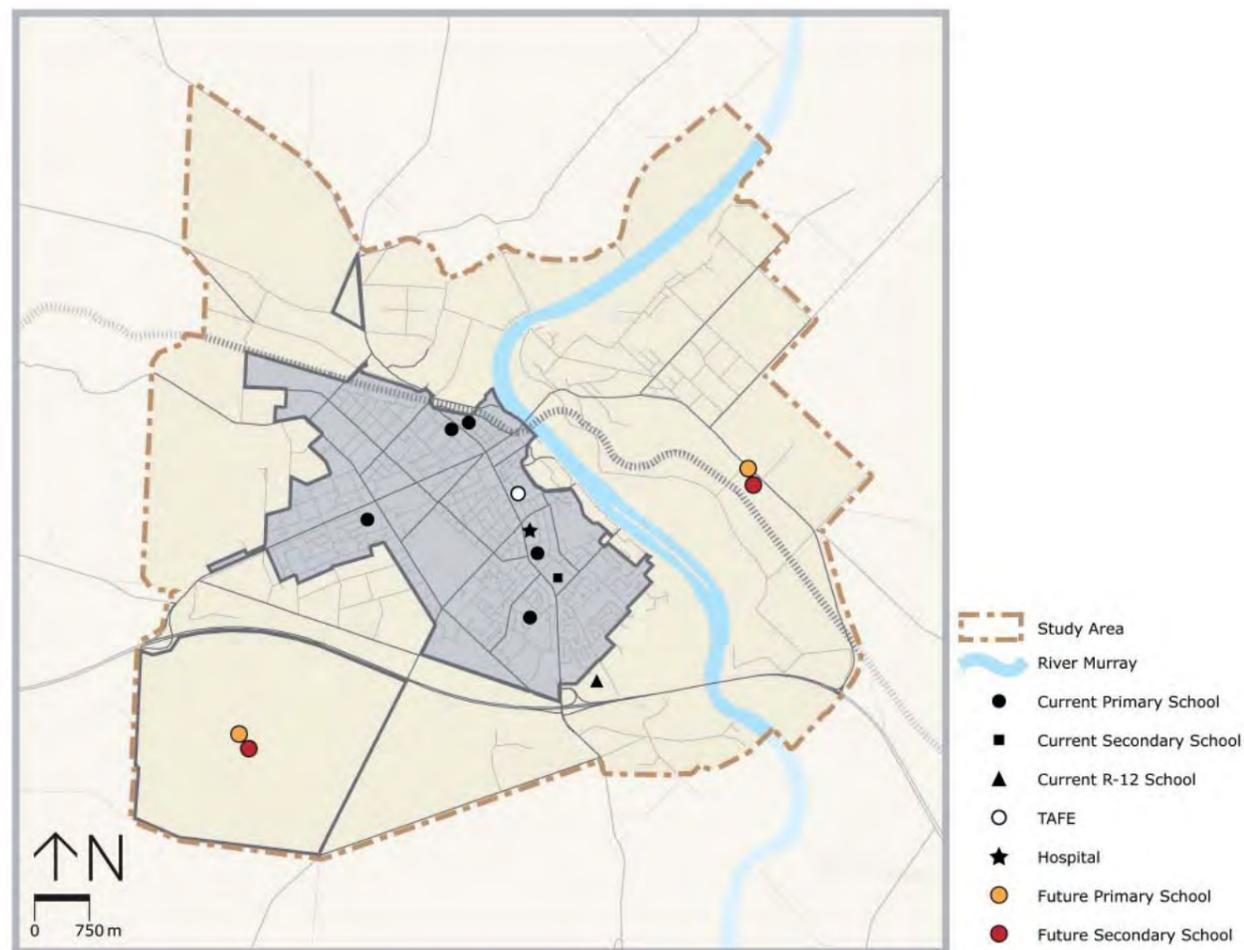
Figure 15.4: Open Space and Parkland Plan



## 15.2.5 Education and Community Facilities

Figure 15.5 outlines the proposed education and community facilities precincts. Of note are the future designation of primary and secondary schools to service the southern and eastern growth areas. These facilities should be established within close proximity of future centres. Future centres should also accommodate other community facilities that may be required.

Figure 15.5: Education and Health Facilities Plan

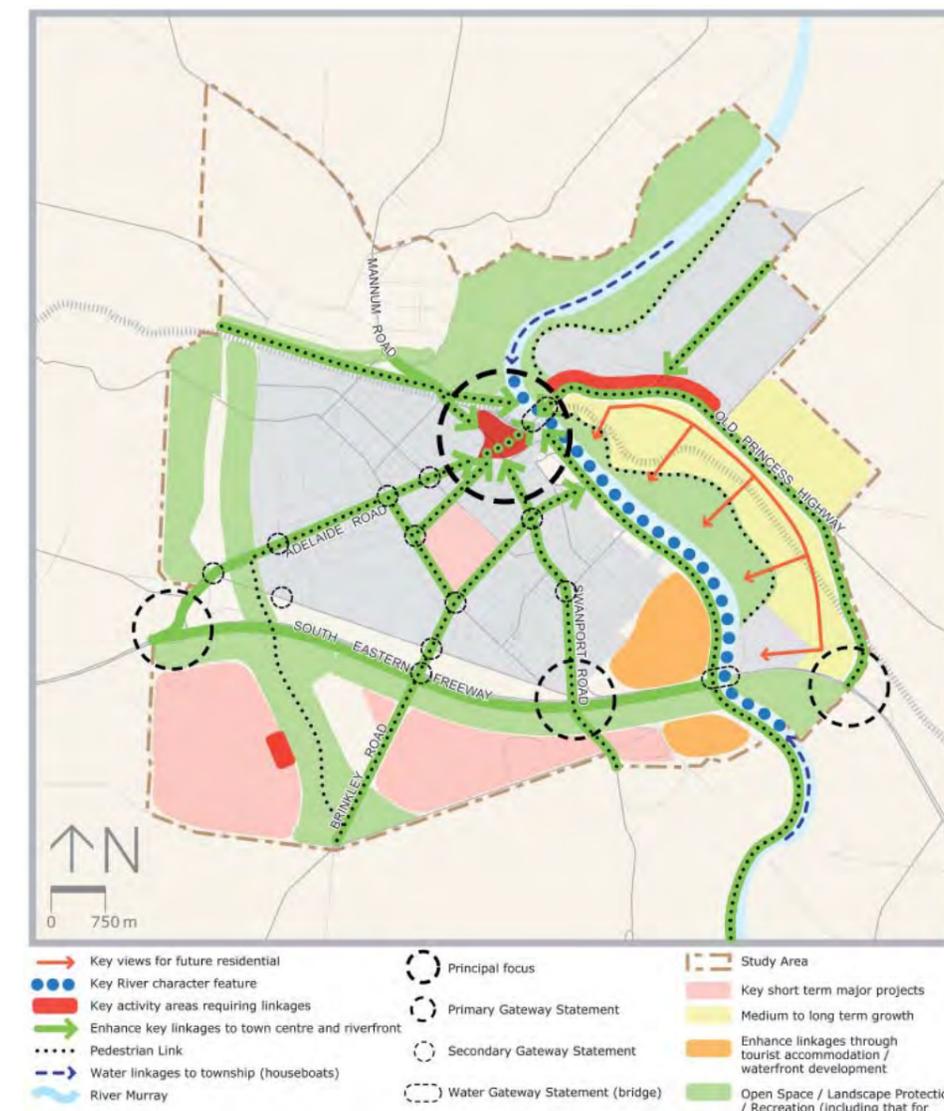


## 15.2.6 Place-Making Plan

Figure 15.6 outlines the key place-making elements which could enhance the character and amenity of the Murray Bridge Township. In particular, the Plan seeks to:

- provide attractive gateways (primary and secondary) to create an attractive sense of arrival from all aspects of the township;
- provide attractive statements over the River along the bridges to create an attractive sense of arrival along the River;
- establish linkages between growth areas and between growth areas and the Town Centre to maintain the primacy of the Town Centre;
- make use of the views available on the eastern side of the river for residential development;
- enhance linkages between the Town Centre and the river front;
- enhance linkages between the Town Centre and other townships;
- better link the eastern side of the river with the town centre through key activity areas; and
- enhance linkages along the waterfront through tourist accommodation, waterfront development and community uses.

Figure 15.6: Key Place-Making Elements



## 15.2.7 Integrated Transport and Traffic Management Plan

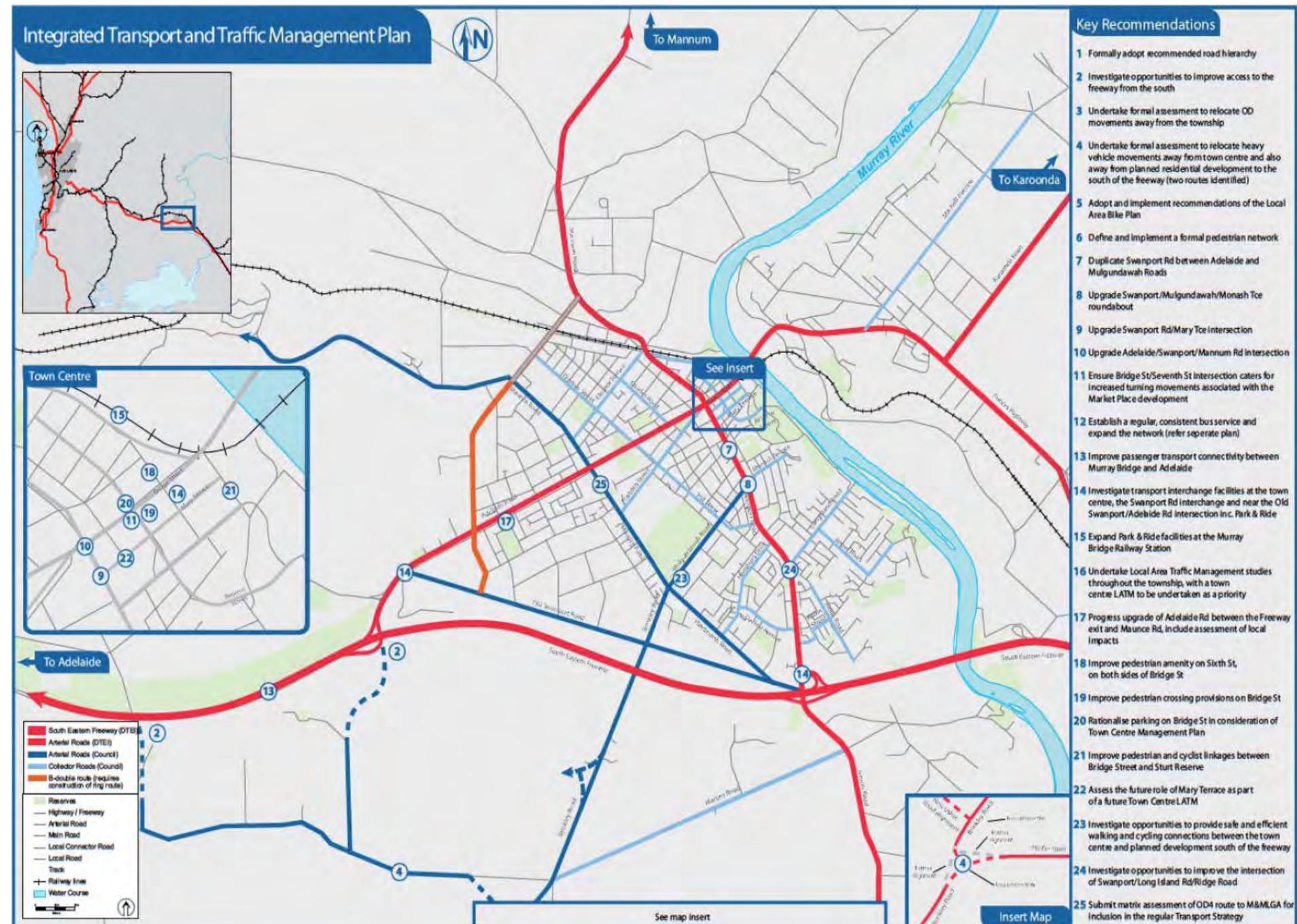
Key findings of the ITTMP undertaken concurrently with the Structure Plan include, but are not limited to the following:

- The need to adopt a defined system for movement of all transport modes within Murray Bridge.
- As a result of development to the south, the study has identified that:
  - Additional freeway access from the south of the freeway is highly desirable to service this development, for both amenity and accessibility
  - Brinkley and Mulgundawah Roads will carry significant additional traffic volumes
  - The constrained width of the Brinkley Road underpass of the South Eastern Freeway has a limited traffic carrying capacity and also cannot accommodate required pedestrian/cyclist linkages between the planned southern development and the Town Centre
  - North of Martins Road, Brinkley Road will no longer play a suitable role for the movement of heavy vehicles
  - Mulgundawah Road will have a higher order role to play in the transport network.
- Swanport Road will require duplication between Mulgundawah Road and Adelaide Road.
- It is expected that upgrades will be required at least the following intersections:
  - Bridge Street/Adelaide Road/Swanport Road/Mannum Road
  - Swanport Road/Mary Terrace, and
  - Swanport Road/Mulgundawah Road/Monash Terrace.
- The current passenger transport services in Murray Bridge is unlikely to meet future demands and a regular, consistent bus service will require establishment along an expanded route.
- The State Government would like to improve public transport connectivity between Murray Bridge, Mount Barker and Adelaide, however there is no current direction for expansion of the Adelaide MetroTicket system to Murray Bridge.

- There is a desire and a need to create an alternative Over-Dimensional (OD) route away from the Town Centre. A preferred route (subject to formal assessment) has been identified from the South Eastern Freeway at the Monarto Interchange along Schenscher Road, Pallamanna Road, Wagenknecht Road to Mannum Road north of the township.

- There is a similar desire and a need to create alternative B-Double routes away from the Town Centre and development areas to the south of the South Eastern Freeway (subject to more formal investigations).

Figure 15.7: Integrated Transport and Traffic Management Plan



## 15.3 Composite Structure Plan

The Structure Plan for Murray Bridge (Figure 15.8) shows the following key elements:

- an expanded township boundary intended to accommodate future land supply requirements for at least 2038;
- the Town Centre, neighbourhood and local activity centres;
- proposed land use distribution including projected residential and employment capacity/yield for identified precincts;
- arterial, B-double and collector routes, together with key linkages;
- natural features including flood risk areas;
- major open space and parkland; and
- nodes for future schools and community facilities.

The Structure Plan does not show the following elements which require further investigation, including:

- spatial provision of human services and community facilities;
- infrastructure requirements;
- land release strategy for growth areas (page 52); and
- regional employment strategy to deliver regional employment targets.

### 15.3.1 Town Centre

The Town Centre will be reinforced as the hub of social interaction and economic activity for the Murray Bridge community, and will include a rich diversity and intensity of land uses including retail, commercial, residential, public open space, civic, health and educational facilities in a compact, pedestrian-focused walkable centre.

The Town Centre is an inclusive mixed use destination and transport hub that will provide access for all members of the Murray Bridge community to more frequent public transport services, housing and employment choice, recreation, shopping and entertainment opportunities.

Desired Outcomes:

- ground floor land uses are used to create an active and vibrant street environment, and generally consist of retail and entertainment shopfronts at grade.
- a mix of land uses will occur horizontally and vertically within Town Centre blocks, employing sophisticated solutions for access and car parking.
- residential development will predominantly occur as shop top housing and mixed-use multi-storey developments with active ground floor uses.
- large format office uses and showrooms are inappropriate for the Town Centre, which will employ a finer-grain of boutique commercial tenancies and retail shopfronts.
- streets within the Town Centre will be 'social' and incorporate design and built form elements such as seating, lighting, public art and shading to ensure pedestrian comfort, safety and interest.
- all streets, lanes, parks and pedestrian plazas within the town centre will be considered as part of an overall public realm strategy, which focuses on placemaking and aims to create a robust and attractive centre.

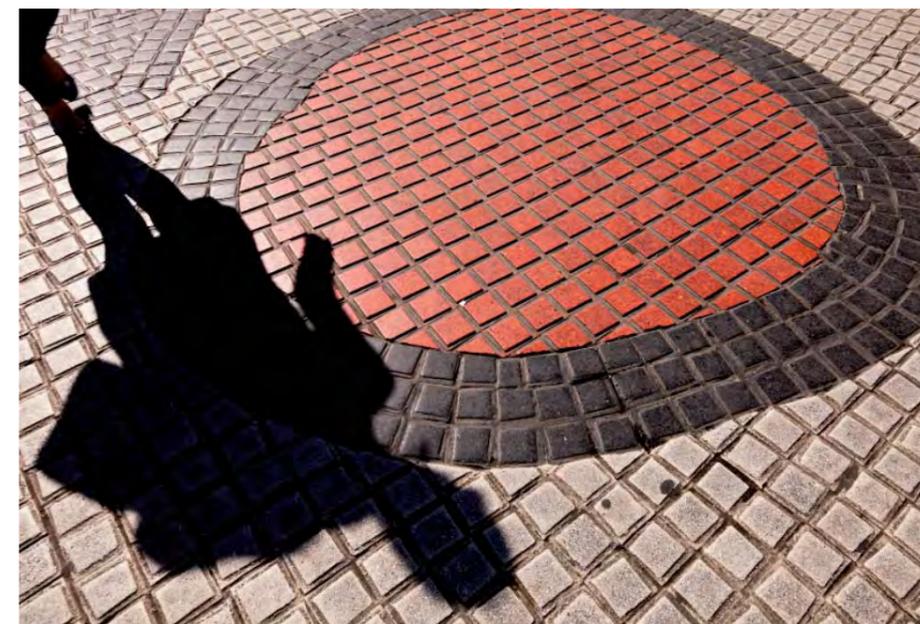
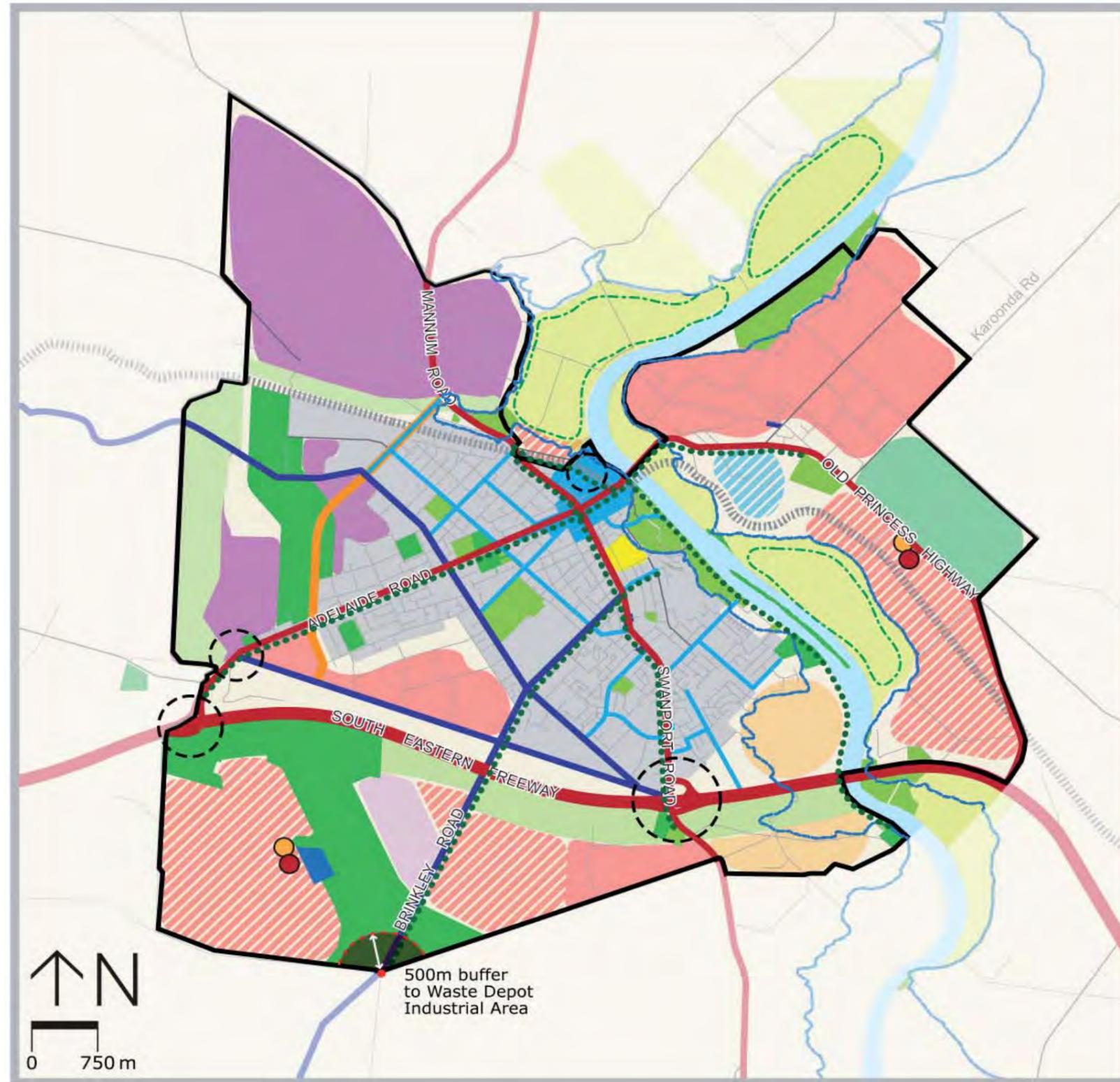


Figure 15.8: Structure Plan



- Proposed Township Boundary
- Residential
- Mixed Use
- Rural Living - Future Infill
- Equine Employment Lands and Commercial Services
- Future Employment
- Future Urban
- Strategic Sites
- River Murray
- Town Centre
- Neighbourhood Centre
- Local Centre
- Open Space/ reserves
- Recreation (includes land used for equine purposes)
- Green Corridor
- Dairy Flats
- Linear Park/ Trail
- 1956 Flood Boundary
- Education Precinct
- Future Primary School
- Future Secondary School
- South East Freeway
- DTEI Maintained roads (key arterials)
- Council maintained arterial roads
- Council maintained collector roads
- B-Double Route (requires construction of ring route)
- Transport Interchange Facility

1. The recreation and employment area band in the vicinity of Bremer Road will be the subject of future investigations. These investigations will determine a) the need for recreation/open space land in this area; b) whether any additional housing such as low density Country Living can be accommodated based on achieving SEA Gas requirements, the considerations of EPA licensed facilities in the broader locality, and the impact on the proposed freight bypass (consideration of noise and traffic flow issues).
2. The width of the buffer along the southern edge of the South Eastern Freeway will be subject to future investigations to determine the most appropriate width based on land fragmentation issues, visual amenity considerations and noise attenuation measures.
3. Land along the northern boundary of the Freeway is currently within a Rural Landscape Protection Zone. In instances where land remains white, there is no intent to consider a future land use change.
4. The proposed residential land adjacent to the Regional Town Centre Zone will need to address contamination, railway interface & industry infrastructure issues, impacts from T & R Pastoral meat processing facility, the outcomes of the RCMB Open Space Strategy and stormwater & flooding issues.

## 15.3.2 Mixed Use Precinct

Supporting the growing Murray Bridge population and in close proximity to both support and benefit from the intensity of social capital and economic activity within the town centre, the Mixed Use Precinct located to the east of the River Murray, can perform an important role in providing diverse accommodation, employment and economic opportunities.

The Mixed Use Precinct provides a range of centrally-located opportunities for larger-format tenancies and businesses such as furniture showrooms, multi-storey office buildings and research and technology industries, plus smaller home-based businesses, essential larger-scale community and entertainment facilities, attractions and public parkland within close proximity of the central retail and business district.

The residential components of this precinct provide a high quality urbanised pattern of residential development and density in close proximity to the increased levels of activities, facilities, public transport services, and employment opportunities available within the nearby Town Centre.

The Mixed Use Precinct will provide a range of land uses focused on urban residential accommodation and employment generation. Uses will include commercial, research and technology opportunities, community uses and entertainment attractions,

Residential accommodation will primarily be provided in the form of small lot detached dwellings, semi-detached dwellings, attached dwellings, shop top dwellings and multi-storey mixed-use developments.

## 15.3.3 Employment Precinct

The Employment Precinct is to be developed as a high quality, regional employment area and business park that complements the Town Centre and primarily services the employment needs of the Murray Bridge community. The precinct will have a range of low impact industrial, business and commercial uses.

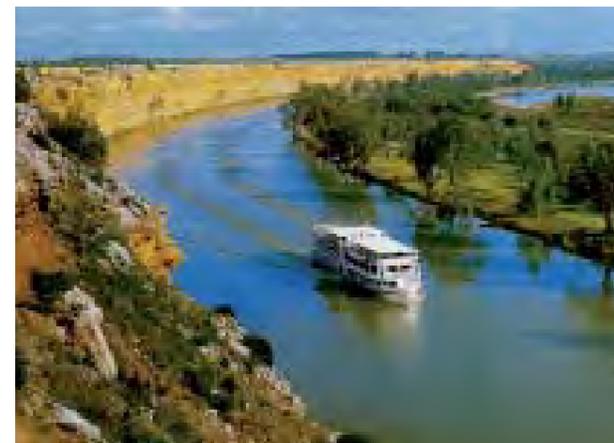
## 15.3.4 Residential Precincts

Murray Bridge will support a diverse population of approximately 30,000 additional people within 12,000 new homes by 2038. Residential precincts will be predominantly residential areas providing a wide range of dwelling types reflective of a suburban character, providing affordable home-ownership and accommodation opportunities for first homeowners through to retirement-living.

## 15.3.5 Connections to the River Murray

The Structure Plan integrates with and reinforces the actions recommended by the Town Centre Master Plan. These include:

- to strengthen connections to the River Murray;
- revitalisation of Bridge Street to improve pedestrian connections to the river and draw elements of the river into the Town Centre;
- resolve riverfront land ownership issues to promote coordinated revitalisation;
- strategic removal of vegetation to enhance up views and visual connections to the river;
- upgrade of pedestrian access and facilities at the Roundhouse;
- develop a pedestrian promenade along the River Murray with links to the Town Centre;
- promotion of houseboat accommodation activating the river;
- development of the boat grave yard as a tourist attraction;
- the development of reading rooms in Wharf Hill Reserve to provide connections between the library and the river;
- redesign of the intersection at Olympic Drive and South Terrace to improve connections to Sturt Reserve and the Riverfront.



All 3 tiers of government need to work together to co-ordinate and deliver the required infrastructure together with contributions from the development sector. An infrastructure plan should be established for each designated growth area as part of future DPA processes. This high level information however provides guidance in terms of likely future capital requirements as growth unfolds.

The following sections outline the infrastructure issues associated with the infrastructure implications arising from the modelled growth scenario.

## 16.1 Water and Wastewater

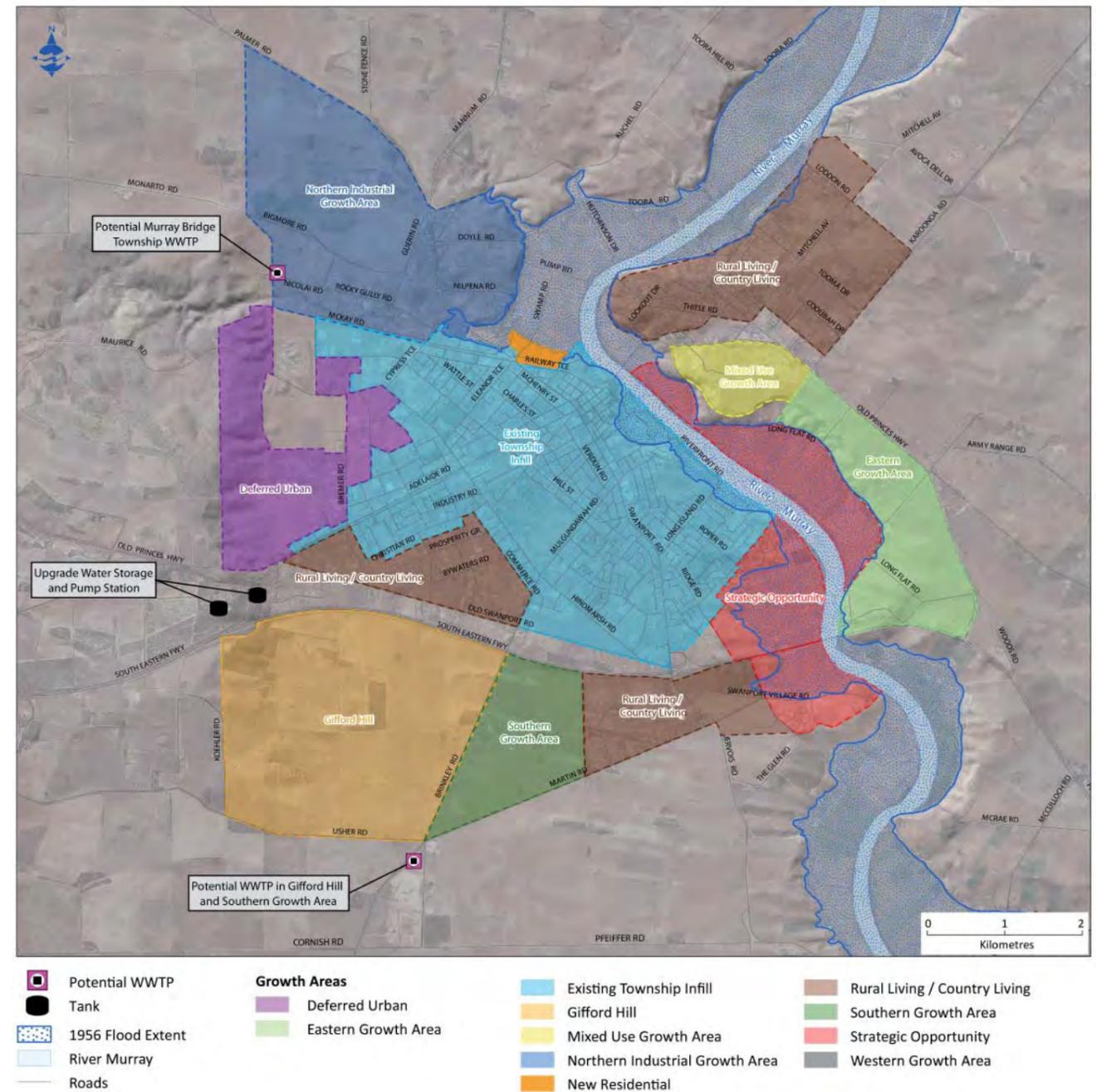
In the absence of formal advice from SA Water, an estimate of the potential augmentation requirements has been undertaken by AWE, based on the above demand projections and is summarized in Table 16.1.

**Table 16.1:** <sup>1</sup>Estimated Water and Wastewater Augmentation Requirements

Year	Additional peak daily water demand (ML/day)	Additional peak daily wastewater demand (ML/day)	Water network upgrade Options	Wastewater network upgrade options	Recycled water network upgrade options
2013 (Year 5)	3	1	<ul style="list-style-type: none"> <li>Provide additional storage and elevation at White Hill</li> <li>Extend network to Gifford Hill estate</li> <li>Provide additional pressure boosting from White Hill storage</li> </ul>	<ul style="list-style-type: none"> <li>New upgraded WWTP for MB with stand alone 1ML/day package plant for Gifford Hill</li> </ul>	<ul style="list-style-type: none"> <li>Install network in Gifford Hill estate supplied from wetland or WWTP</li> <li>Extend existing town recycled stormwater network to infill areas</li> </ul>
2023 (Year 15)	10.6	3.6	<ul style="list-style-type: none"> <li>Additional treatment train for WTP at MB North to achieve 38ML/day max capacity</li> <li>Provide additional storage and pressure at White Hill</li> <li>Extend network to growth areas</li> </ul>	<ul style="list-style-type: none"> <li>Extend network to growth areas</li> <li>Consider a sewer or CWMS network for Murray Bridge east with stand alone package plant</li> <li>Upgrade capacity of Gifford Hill WWTP to 2ML/day</li> </ul>	<ul style="list-style-type: none"> <li>Install network in southern growth area supplied from Gifford Hill wetland or WWTP</li> <li>Extend town network to infill growth areas and northern industrial area and consider capturing SA Water WWTP effluent</li> </ul>
2038 (Year 30)	25	8.2	<ul style="list-style-type: none"> <li>Upgrade capacity of WTP at Murray Bridge North to 54 ML/day</li> <li>Provide additional storage at White Hill</li> </ul>	<ul style="list-style-type: none"> <li>Upgrade MB WWTP</li> <li>Extend network to growth areas</li> <li>Upgrade Gifford Hill package WWTP to 3ML/day</li> </ul>	<ul style="list-style-type: none"> <li>Extend network to growth areas</li> </ul>

<sup>1</sup> The infrastructure requirements proposed and estimated timing have not yet been agreed by Government.

**Figure 16.1:** Water and Wastewater Augmentation Requirements



### 16.2 Stormwater

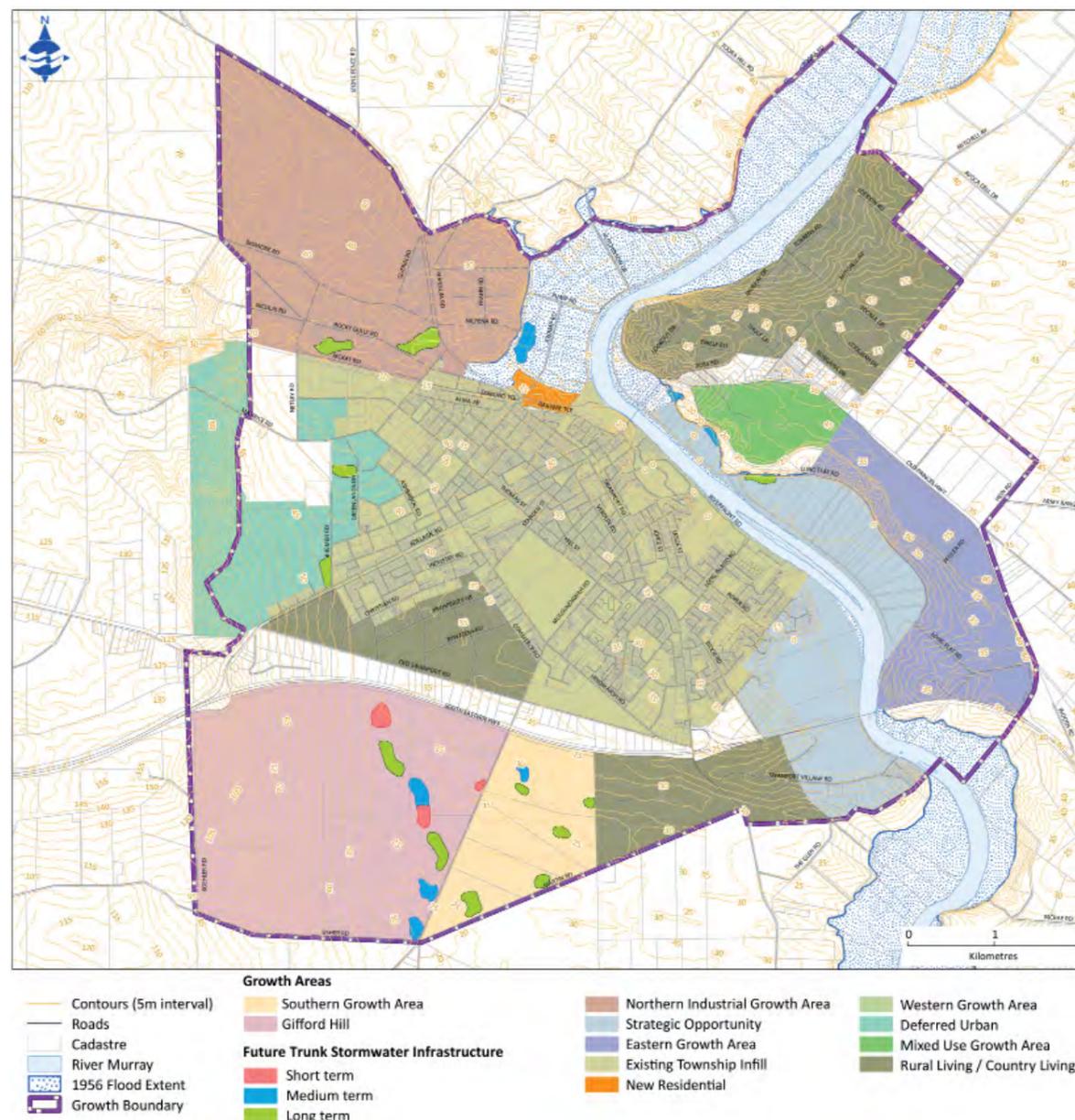
Stormwater trunk infrastructure in the form of wetlands and detention basins will be required within each of the proposed growth areas. Figure 16.2 shows the anticipated nature and spatial location of new stormwater infrastructure.

The nature and timing of stormwater infrastructure, based on the modelled growth periods, are outlined as follows.

#### 16.2.1 Short Term (0-5 years)

The short term residential development within Murray Bridge is anticipated to be a mix of infill development and the first stages of Gifford Hill. Based on the constraints analysis, it appears that the bulk of the key stormwater drainage augmentations within the Murray Bridge drainage network have been completed such that this should not limit the potential for infill development.

**Figure 16.2: Anticipated Stormwater Infrastructure Upgrades**



Stormwater and flooding issues will also need to be considered in that part of the Rural Fringe Zone, to the west of the Regional Town Centre Zone, which is being considered for residential development.

The first stages of the Gifford Hill development would most probably be within the north-eastern corner of the site. This would require the minimum augmentation of Brinkley Road which is the main linkage to Murray Bridge town centre. Drainage from this area is poorly defined with numerous localised low points. Future development will require cut and fill to achieve a satisfactory drainage outcome. The main low point runs from the culvert beneath the South Eastern Freeway towards the south-southeast. The Gifford Hill development Master Plan has identified this area for a linear park and recreational facilities. Further drainage assessment would be required to confirm the area of basin that is required to manage stormwater runoff from short term development of Gifford Hill.

#### 16.2.2 Medium Term (5-15 years)

Medium term development of Murray Bridge extends to areas outside of the existing township boundary and Gifford Hill. These areas of further development and associated drainage works are described below.

##### *Southern Residential*

This area lies adjacent to the eastern boundary of the Gifford Hill site boundary (east of Brinkley Road). It is understood that this area is a low priority with only 250 residential allotments anticipated during this time period. The first stages will occur in the northwest corner adjacent to the South Eastern Freeway and Brinkley Road.

The existing drainage regime is dominated by local depressions with no dominant flow path. The development of this site will require detailed drainage assessment and well considered earthworks to avoid catchments which do not have a gravity drainage outlet albeit these may be unavoidable in some locations.

##### *Eastern Mixed Use*

The Eastern Mixed Use Precinct is located just to the east of the Old Princes Highway bridge across the River Murray and between the railway and the Old Princes Highway. This area grades west towards the River Murray with low to moderate grades in the north increasing to steep along the southern boundary as it enters the floodplain. Open channel conveyance systems must only be incorporated in the area with low to moderate slope to manage the erosion potential.

Due to the steep gradient towards the southern boundary of the Eastern Mixed Use Precinct it would be required to construct stormwater quality management systems, such as wetlands, within the floodplain.

A review of the planning policies appurtenant to the flood plan will be required.

Works within the floodplain will require approvals from the relevant Government agencies and are to be dealt with in parallel with the future rezoning of this area. The existing land supply schedule indicates that half of the estimated 1,000 allotments will be taken up during the medium term. Stormwater quality improvement structures in the wetland at this time should be constructed to cater for the ultimate development scenario of this area to minimise the duration of disturbance within the floodplain.

##### *Strategic Sites*

Strategic sites are within/adjacent to the River Murray floodplain. During the medium term it is anticipated that the residential take up will be approximately 250 of the estimated yield of 500. Stormwater quality management systems will again be required within the floodplain and located on an as needs basis.

##### *Rural/Country Living*

This Precinct is defined for lower density residential development. Their impact on the adjacent drainage network will be less than a standard residential development. However, this may require upgrades to local drainage infrastructure. In the medium term it is probable that the Rural/Country Living areas most likely to be developed further are to the north of Gifford Hill and to the north east of Murray Bridge.

### *Northern Industrial*

This industrial precinct is to the north west of the existing Murray Bridge Town Centre. It is assumed that approximately half of this area would be developed during the medium term. The most probable location for initial development within this precinct is in the south-eastern sector. This area would require the least immediate upgrade to road infrastructure and has good linkages to Murray Bridge Town Centre.

The south-eastern sector typically grades moderate to steep, toward Rocky Gully. Stormwater management systems would again be required within the floodplain or base of Rocky Gully where there is an abrupt reduction in gradient. Wetlands would need to be offline from Rocky Gully and as such a hydrological and hydraulic assessment of this watercourse would be required.

### *Deferred Urban*

The location of the deferred urban precinct to the west of Murray Bridge town centre could potentially lead to an increase in stormwater runoff towards the existing drainage network. Stormwater management (quality and quantity) systems would be required in strategic locations for these areas to be developed without negatively impacting on the surrounding area.

This potential development zone is in an area of low to moderate gradient generally falling towards the northeast and discharges to Rocky Gully just north of McKay Road. Open channels and basins would be required. If viable, half of the Deferred Urban will be developed during the medium term.

### *Infill*

Existing drainage deficiencies are anticipated to have been overcome and pose no constraint to continued infill development.

### *Gifford Hill*

It is likely that the medium term development of Gifford Hill would extend from the east to west. Additional development may trigger the requirement to increase the size of the basins within the main drainage line extending south-southeast from the culverts beneath the South Eastern Freeway.

### 16.2.3 Long Term (15-30 years)

#### *Eastern Residential*

Eastern Residential area is located to the southeast of the Eastern Mixed Use precinct between the River Murray and the Old Princes Highway. This area is a low priority residential zoning with only 650 of a potential 3,000 allotments being taken up in the long term. This area is relatively flat with no clearly defined flow path. Stormwater management systems could be constructed to the north (upstream) of the railway line to mitigate the peak flows and improve stormwater quality prior to discharge to the River Murray floodplain.

#### *Northern Industrial*

The area identified as the Northern Industrial precinct generally all grades south towards Rocky Gully. It would be recommended that wetlands constructed within Rocky Gully and the River Murray floodplain would be constructed in the medium term and that further development during the long term would be able to drain to these or the wetlands be augmented to manage the increased flows.

#### *Southern Residential*

A further 1,750 of a possible 2,000 allotments are expected to be taken up during the long term. The remaining areas likely to be developed are again undulating with localised low points. Site grading will be critically important in managing stormwater drainage. Detailed stormwater drainage assessment will be required with further development of this zone.

### *Eastern Mixed Use*

It is likely that the remaining 500 allotments would be taken up during the long term. Stormwater management systems constructed within the floodplain during the medium term should be adequately sized or augmented during this phase to manage the increase in stormwater runoff.

#### *Strategic Sites*

The additional 250 allotments in this zone are anticipated to be taken up during the long term. As for the medium term, stormwater management systems are to have been constructed within the floodplain to manage stormwater quality and quantity prior to discharge.

#### *Rural/Country Living*

The further development of these zones may require localised upgrades to drainage infrastructure but the impacts of development within these zones are likely to be minimal.

#### *Deferred Urban*

The stormwater management systems put in place for the development during the medium term would be adequate to manage the long term development.

#### *Infill*

No stormwater drainage constraints are known that would restrict the long term development of infill sites.

#### *Gifford Hill*

During the long term period the remaining allotments at Gifford Hill are anticipated to be taken up. The remaining areas to be developed grade towards the main low point south of the culverts beneath the South Eastern Freeway. There will be existing stormwater management infrastructure in this area that may need to be augmented to manage the increased runoff generated from the developed area. Drainage through the development in the medium term will have been adequately sized to convey the increased flow associated with this development.

### 16.2.4 Summary

Stormwater management objectives will need to ensure that the quality and quantity of stormwater discharging from developed areas will not have a negative impact on neighbouring properties or the receiving environment. General rules of thumb have been applied to assist in marking up the proposed basin locations and indicative size. The sizing would be influenced by whether individual stormwater catchments have the capacity to be drained with a gravity outlet or pumped system. A plan has been marked up showing the approximate size of stormwater management systems required and the likely timeframe that these would be required based on the lot take-up forecasts for each development area.

At this time a conservative assumption has been made that the stormwater management area required for each of the short, medium and long term time frames will be 8-10% of the area to be developed in that period.

Areas that contain a higher proportion of impervious surfaces such as industrial and commercial precincts will require a larger proportion of the catchment for stormwater management.

This will differ for individual catchment areas and will be refined during the concept development planning phase for each development areas.

### 16.3 Electricity

ETSA have provided an initial response and advises that the ultimate development scenario will require three new zone substations (33/11KV) and associated overhead sub-transmission lines (33 KV) connecting the two proposed substations in a loop with the existing Murray Bridge North and south substations. A new 33KV overhead transmission line will also need to be constructed from the existing Monarto South substation to one of the proposed substations. Figure 16.3 shows the anticipated nature and spatial location of new electricity infrastructure.

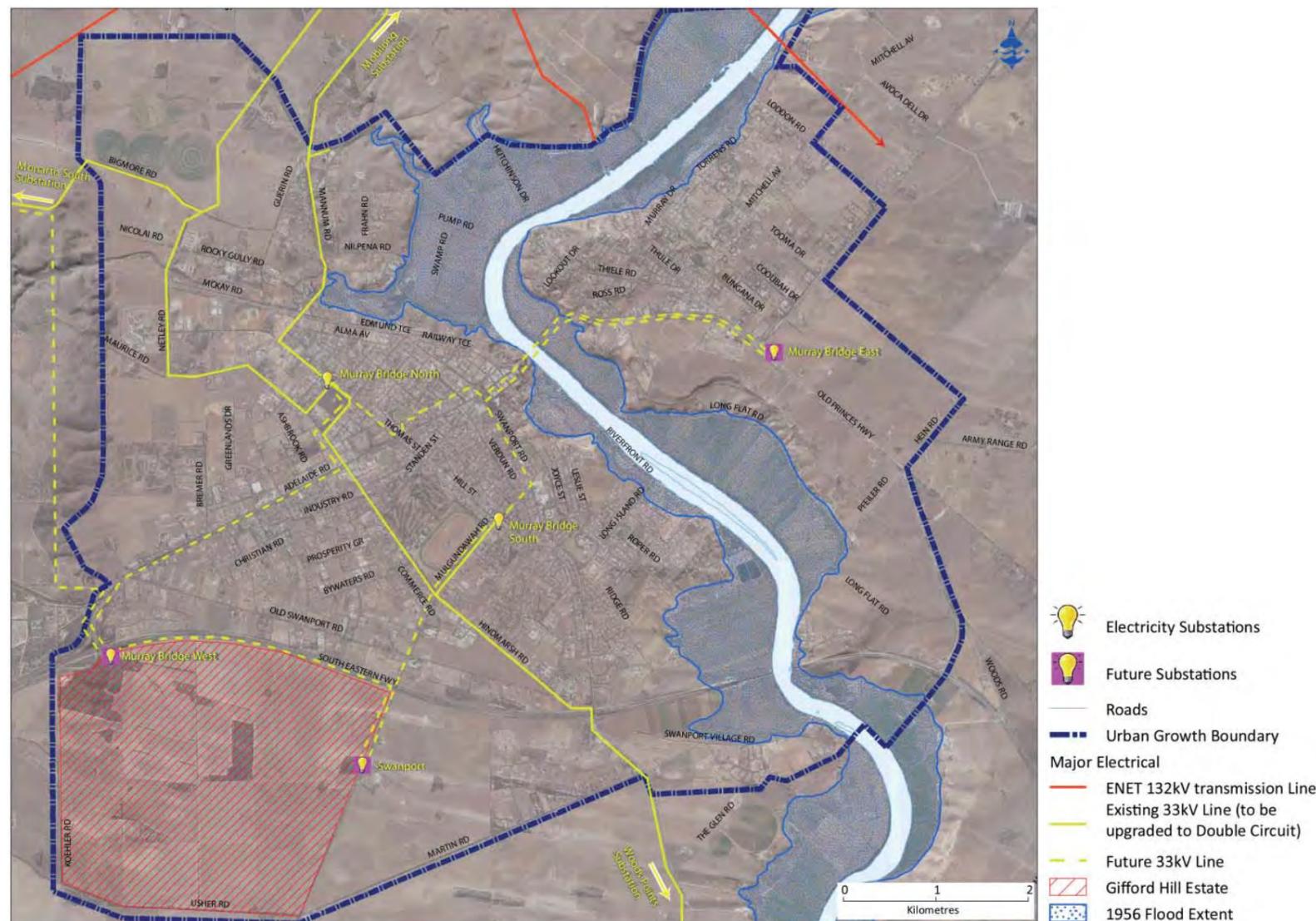
The following new works and provisions will be required:

- a Murray Bridge west zone substation to service Gifford Hill west located in the north-west corner of Gifford Hill timing dependant on where Gifford Hill develops first;
- a Swanport zone substation to service Gifford Hill and the southern growth area located adjacent to Brinkley Road (Nominal 1 Hectare area)- timing dependant on where Gifford Hill and Area 4 develops first;

- a Murray Bridge east zone substation to service the growth area on the eastern side of the Murray River;
- new overhead 33KV sub-transmission lines from existing Murray Bridge North substation to proposed Murray Bridge West substation via existing road network;
- new overhead 33KV sub-transmission lines from proposed Murray Bridge West substation to proposed Swanport substation via a 26m wide easement or existing road network;
- new overhead 33KV sub-transmission lines from proposed Swanport substation to existing Murray Bridge south substation via existing road network;

- new overhead 33KV sub-transmission lines from proposed Murray Bridge West substation to existing Monarto South substation via existing road network;
- upgrading of the existing overhead 33 KV sub-transmission lines between:
  - existing Mobilong substation and Mobilong Tee (double circuit);
  - existing Mobilong Tee and Murray Bridge North Substation (double circuit);
  - existing Murray Bridge North substation and Murray Bridge South Tee; and
  - existing Murray Bridge South Tee and Murray Bridge South substation.
- upgrading of the existing Murray Bridge North and Murray Bridge South substations to service the infill growth area; and
- new extensions to our 11kV and low voltage networks (overhead, underground or a combination of both) to service infill growth areas or new developments.

**Figure 16.3: Anticipated Electricity Infrastructure Upgrades**



### 16.4 Human Services

A significant growth in population over the next 30 years will undoubtedly generate demands for additional human services.

The projected demands are outlined in Section 12.

From a spatial planning perspective additional human services will occur in the form of either upgrades to existing facilities or the establishment of new facilities within the future growth areas. It is likely that both would occur.

The majority of new human services would be ideally located within or adjacent to activity centres.

The Structure Plan provides guidance in respect to the indicative location of future activity centres for such purposes.

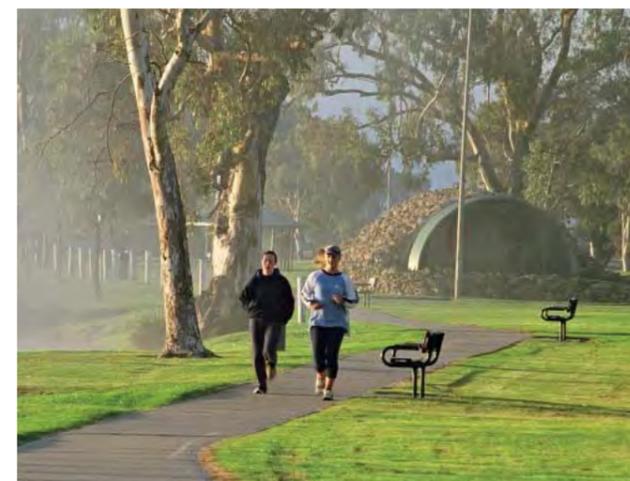
### 16.5 Open Space and Recreation

A significant growth in population over the next 30 years will undoubtedly generate demands for additional open space and recreation facilities.

The projected demands are outlined in Section 12.

Whilst open space will inevitably be provided as part of future land division processes, it is important that the spatial locations, area and form of open space be carefully planned and co-ordinated.

In acknowledging the above, the Rural City of Murray Bridge is in the process of developing a Sport and Recreation Strategy and Open Space Strategy which will have regard for the overall direction of the Murray Bridge Structure Plan and will provide the necessary guidance regarding the distribution and form of open space, sporting and recreational facilities, servicing both existing and developing neighbourhoods. These strategies will inform future DPAs.



This chapter provides an overview of the key streams of activity by which the directions of this Structure Plan will be delivered. Ultimately Council will be the driver for managing growth and ensuring adequately zoned land is made available for housing and employment purposes. Councils actions ultimately must be consistent with the Planning Strategy and the Housing and Employment Land Supply Program.

Councils Strategic Directions Report will be the mechanism to formally prioritise and sequence growth opportunities identified by the Structure Plan. Development Plan Amendment (DPA) processes will then follow.

## 17.1 Planning Strategy

The Planning Strategy is constituted by Section 22 of the Development Act 1993 as the peak guiding reference for the content and operation of the South Australian planning system.

The Strategy guides the priorities, directions and targets for rezoning of land for urban growth for residential and employment purposes. It is a key influence on the decisions of State agencies and utility providers as to the location, timing and nature of infrastructure provision. In doing so, it provides important signals to the private sector that help shape investment and development decisions.

It is therefore important that the land use policy directions and employment, housing and population targets set out in this Structure Plan are consistent with the relevant volume(s) of the Planning Strategy.

## 17.2 Regional Implementation Strategy

The Adelaide Hills and Murray Bridge Regional Partnership Forum has been established by the Regional Partners of Adelaide Hills Council, the District Council of Mount Barker and the Rural City of Murray Bridge. A primary function of the Regional Partnership Forum is to develop a Regional Implementation Strategy which gives a policy and spatial expression to the delivery of the 30 Year Plan's policies, targets and major infrastructure priorities at the regional level.

The Murray Bridge Structure Plan will support the development of the Adelaide Hill and Murray Bridge Regional Implementation Strategy, ensuring consistency and continuity in policy documents cascading from the 30 Year Plan for Greater Adelaide into Council's planning framework and priorities outlined in the Strategic Directions Report.

## 17.3 Council's Planning Framework

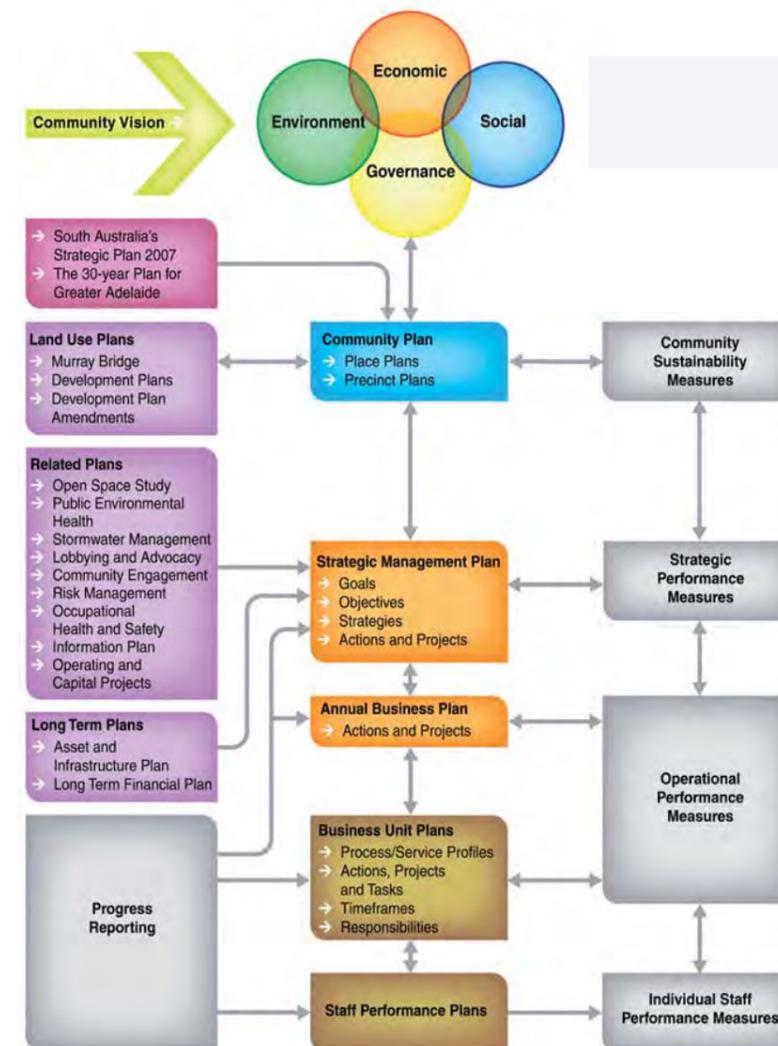
The Local Government Act 1999 requires Council to prepare and adopt plans to guide its long term financial sustainability, the management of its assets and resources and various other aspects of the growth and management of the area.

Murray Bridge Council has adopted an integrated planning and performance management framework that incorporates relevant statutory planning requirements and supports these with an organisational implementation framework (refer Figure 17.1 below).

The principles, targets and directions of this Structure Plan should be incorporated within, and then delivered through, relevant plans and performance measures.

It is imperative for the RCMB to review its organisational capacity to deliver the scope of this Structure Plan and the accompanying Rural Communities Study.

**Figure 17.1: Rural City of Murray Bridge Community Sustainability Planning and Performance Management Framework**



## 17.4 Strategic Directions Report

Section 30 of the Development Act 1993 requires Council to review the Development Plan for consistency with the Planning Strategy and with Council's planning and urban management priorities, and draft a Strategic Direction Report which sets out priorities for amending the Development Plan to increase that consistency. Section 30 also requires Council to seek the agreement of the Minister for Planning to the Strategic Directions Report (and the SDR will not be considered complete without this agreement).

The purpose of the Strategic Directions Report is to promote a direct "line of sight" between strategic planning goals, targets and priorities (on the one hand) and the content of the zoning rules (on the other). This is important in order to avoid a situation where strategic plans speak to one effect and zoning rules speak to another.

This Structure Plan should be a guiding reference for Council's next Strategic Directions Report, which is due to be completed by the end of March 2013.

A strategic program of land rezoning will be essential in order to ensure an adequate supply of zoned residential and employment land and to drive delivery of infrastructure solutions.

The rezoning (Development Plan Amendment) process generally takes about 12-18 months, but may take longer depending on the complexity of the rezoning. Following authorisation, the processes required to deliver allotments to market typically takes another 12-24 months (assuming that the owner has an active intention to develop the land).

Therefore a rezoning that is initiated following completion of the next Strategic Directions Report is unlikely to result in allotments on the market until at least 2015. This underscores the importance of embarking upon priority DPAs at the earliest possible juncture.

The State Government's adopted policy for land supply is to have 30 years of supply identified, with 15 years zoned. This policy is set out in The 30 Year Plan for Greater Adelaide and the supporting The Housing and Employment Land Supply Program Report 2010.

In the case of Murray Bridge, the preferred growth scenario requires the creation of 280 net additional dwellings per annum on average. Therefore there should be a rolling stock of land capable of delivering at least 4,200 net additional dwellings. Further, this stock should be capable of delivering a diversity of product from a competitively large number of different ownerships.

Table 17.1 outlines an indicative schedule aimed at achieving this rolling residential land supply. The table also outlines the actions required to ensure that the growth areas are rezoned in accordance with the schedule.

A spatial representation of the short, medium and long term staging and rezoning strategy is shown by Figure 17.2.

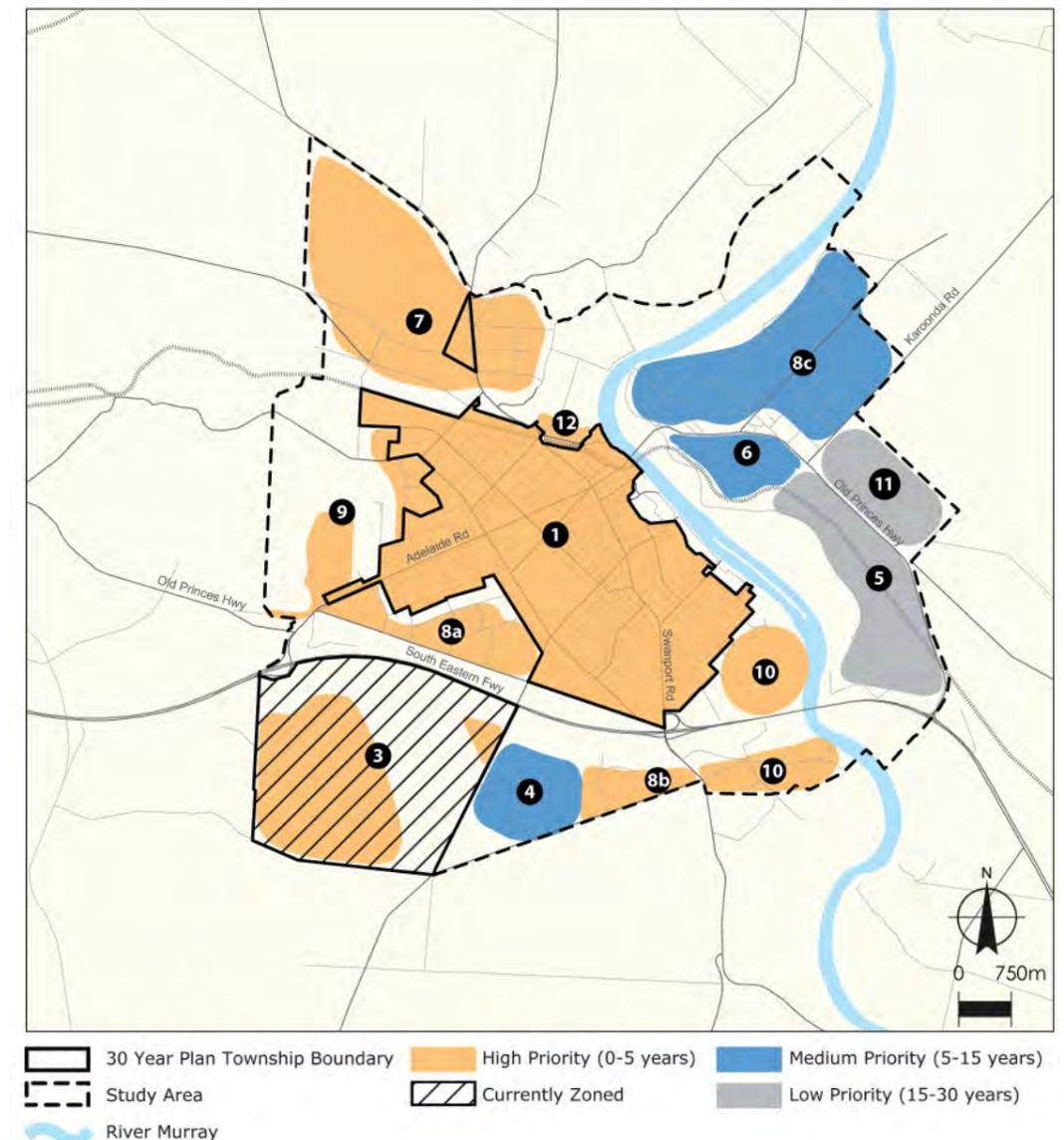
**Table 17.1: Projected Dwelling, Population and Employment Yield from Revised Township Boundary**

Site	Dwelling Capacity	Population Growth	Yield Jobs
1 (Infill) including area 12	1000-1500	2400-3600	500
2 (Western)	0	0	0
3(Gifford Hill)	3000	7200	500
4 (Southern)	2000	4800	100
5 (Eastern)	3000	7200	0*
6 (Eastern) MU	1000	2400	750
7 Northern Industrial	0	0	3000
8 (Rural Living)	500	0	0
9 Deferred Urban	0	0	1400
10 Strategic Sites**	500	1200	500
11 Future Urban	1600	3840	500
<b>Total</b>	<b>12,600-13,100</b>	<b>29,000-30,200</b>	<b>7,250</b>
<b>Target</b>	<b>8,400</b>	<b>18,700</b>	<b>9,000</b>

\*It is anticipated that non-residential uses will be located within the adjacent mixed use area (site 6)

\*\* Tourist related developments likely to result in a less permanent population offer housing diversity and choice

**Figure 17.2: Sequencing of Growth**



## 17.5 Infrastructure Provision

Infrastructure required to support this Structure Plan can be considered within two broad categories: direct and strategic.

Direct infrastructure is required to service development as it occurs. It is a “hygiene factor” which provides an essential (but not sufficient) pre-requisite for growth and is provided progressively as key service thresholds (or trigger points) are reached. Water supply, effluent treatment and road networks are all examples of direct infrastructure. Responsibility for provision usually lies with utility or service agencies and/or Council (often with a contribution from homebuyers – via developers - in new release areas).

Strategic infrastructure is required to attract development. It forms a key part of a region’s competitive proposition in the race to attract investment, employment and economic growth. Recycled water for beneficial reuse, intermodal facilities and freeway interchanges provided ahead of demand are all examples of strategic infrastructure. Key responsibility for provision usually lies with State Government, Council and the RDA (with support usually required from Commonwealth grants or the private sector).

Key infrastructure priorities for the Structure Plan are summarised in Figures 17.3 and 17.4 and Table 17.2. Table 17.2 also indicates trigger points where known. It is important that infrastructure is provided according to trigger points (and not based on projected years) because actual growth may be slower or faster than anticipated in the Structure Plan, and basing delivery on trigger points will allow flexibility to respond to changes to the pace of development.

All growth areas will require augmentation and infrastructure, in particular, sewer, water, stormwater, transport, power, community facilities, open space, sports and recreation.

In addition, existing infrastructure will need to be upgraded to cope with additional demand.

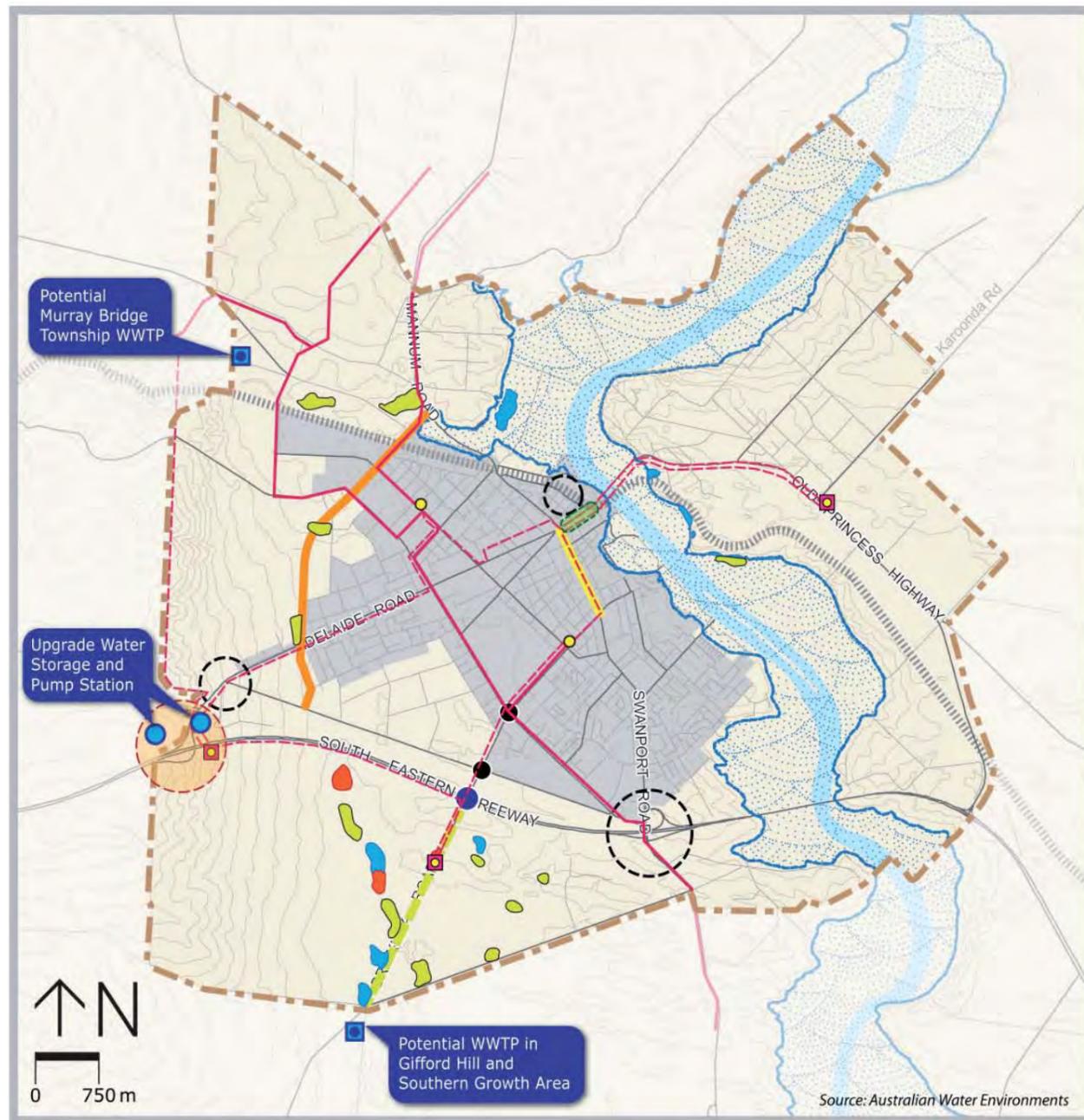
In summary, the 3 tiers of government and the development sector need to work collaboratively in delivering the infrastructure required. This Structure Plan provides the necessary framework to commence collaboration between these stakeholders and to identify funding sources. The infrastructure requirements and locations proposed in this Structure Plan have not yet been agreed by Government.



Table17.2: Indicative Infrastructure Schedule

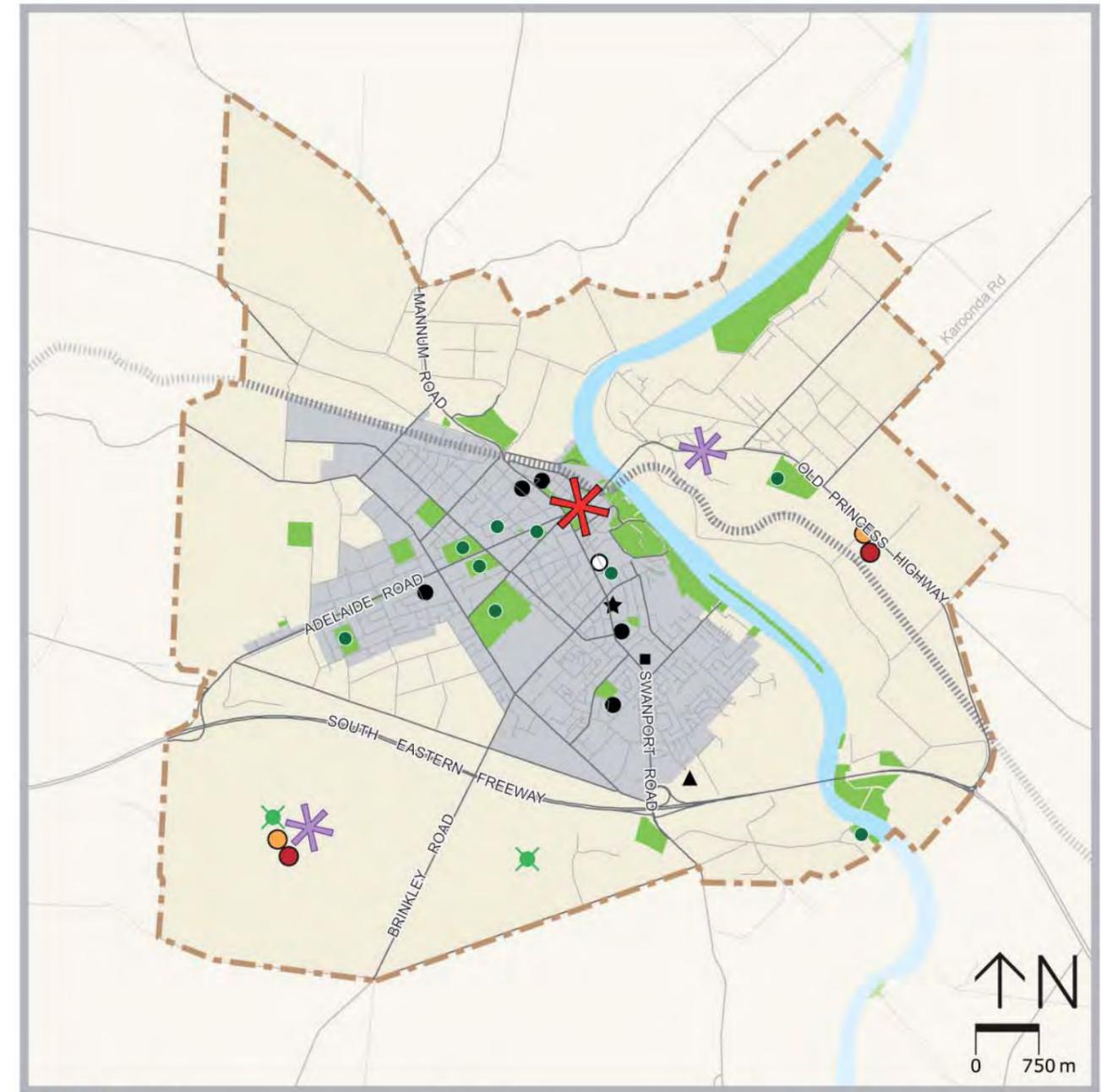
Category/Element	Type		Trigger Points	Comment
	Direct	Strategic		
Trunk Road Network				
- OD route diversion		✓	n/a	Essential to remove OD vehicles from township roads. New alignment would form part of wider regional north/south freight corridor proposal.
- B-Double bypass route (Old Swanport/Bremer/Cypress Rds)		✓	n/a	Essential to remove B-Doubles from town centre.
- Bridge Street streetscape upgrade		✓	n/a	As per Town Centre Masterplan.
- Gifford Hill freeway interchange		✓	n/a	Key accessibility requirement for Gifford Hill masterplan and integration across freeway.
- Brinkley Road underpass upgrade		✓	n/a	Key accessibility requirement for Gifford Hill masterplan and integration across freeway.
- Brinkley Road (south of freeway) realignment	✓		ASAP	As per Gifford Hill masterplan and infrastructure agreement.
- Duplicate Swanport Rd (between Mulgundowah & Adelaide Rds)	✓		3,500 lots	As per Murray Bridge ITTMP.
- roundabouts on Brinkley Rd at Old Swanport and Mulgundowah/Maurice Intersections	✓		2,100 lots at Gifford Hill	As per Gifford Hill infrastructure agreement.
Public transport				
- staged improvement of intra-town bus services	✓	✓	n/a	Significant subsidy required.
Cycling/Walking Network				
- review and implement bicycle plan	✓	✓	n/a	Existing plan outdated and largely unimplemented.
- prepare/implement pedestrian plan	✓	✓	n/a	Planning required.
Water				
	✓		1000 lots	Additional storage and elevation at White Hill. Extended network to Gifford Hill.
	✓		2500 lots	Additional water treatment train for WT plant at Murray Bridge North. Provide additional storage and pressure at White Hill. Extend network to growth areas.
	✓		4900 lots	Upgrade capacity of WTP at Murray Bridge North. Provide additional storage at White Hill.
Wastewater				
- new treatment plant	✓		300 dwellings approx.	Could be private or SA Water. Location to be determined. SA Water to commence EoI process late 2011, decision by end 2012.
	✓		2500 lots	Extend network to growth areas. Consider a sewer or CWMS network for eastern growth area with stand along package plant. Upgrade capacity at Gifford Hill.
	✓		4900 lots	Upgrade WWTP capacity. Extend network to growth areas. Upgrade Gifford Hill WWTP.
Recycled water				
- ring main and integrated reticulation scheme		✓	n/a	Grant funding to be sought. Initially provide for eventual interconnection of treated stormwater systems. Plan for eventual interconnection of treated effluent.
Electricity	✓		Various	Three new substations to service growth areas Six new sub-transmission lines Upgrade of four sub-transmission lines
Gas	✓		2000 dwellings	Second transmission main
Stormwater	✓		Commencement of Gifford Hill	Augmentation of Brinkley Road to service Gifford Hill.
	✓		Commencement of all other growth areas	Stormwater treatment and management devices to be designed and established
Education				
- Murraylands Education Precinct		✓	n/a	DFEEST business case currently underway. Grant funding to be sought.
- Primary	✓			Private or public.
- Secondary	✓		n/a	Expand existing.
Health				
- etc	✓		Demand	Driven by demand
Open Space/Recreation				
- regional sport and recreation complex		✓	by 34,000	Redevelop showgrounds/harness racing site.
- golf course upgrade		✓	n/a	Opportunity to attract regional tournaments.
- 5/6 district recreation parks	✓		n/a	Masterplanning required.
- indoor aquatic & fitness facility	✓		by 30,000	Upgrades to existing pool required in the interim.

Figure 17.3: Physical Infrastructure Priorities



- |   |  |   |  |
|---|--|---|--|
| <b>Future Trunk Stormwater Infrastructure</b><br><ul style="list-style-type: none"> <li>Short term</li> <li>Medium term</li> <li>Long term</li> </ul> | <b>Potential Water and Wastewater Headworks</b><br><ul style="list-style-type: none"> <li>Potential WWTP</li> <li>Existing Tank</li> </ul> | <b>Future Electrical Headworks</b><br><ul style="list-style-type: none"> <li>Existing Substation</li> <li>Future Substation</li> <li>Existing 33kV Line (to be upgraded to Double Circuit)</li> <li>Future 33kV line</li> </ul> | <b>Future Road Infrastructure Upgrades</b><br><ul style="list-style-type: none"> <li>Potential B-Double Bypass</li> <li>Potential new roundabouts</li> <li>Road realignment</li> <li>Road duplication</li> <li>Underpass upgrade</li> <li>Gifford Hill Freeway Interchange upgrade</li> <li>Streetscape upgrade</li> <li>Transport interchange facility</li> </ul> |
|---|--|---|--|

Figure 17.4: Social Infrastructure Priorities



- |   |  |   |
|---|--|---|
| <ul style="list-style-type: none"> <li>Study Area</li> <li>River Murray</li> <li>Current Primary School</li> <li>Current Secondary School</li> <li>Current R-12 School</li> </ul> | <ul style="list-style-type: none"> <li>TAFE</li> <li>Hospital</li> <li>Playing Field</li> <li>Future Playing Field</li> <li>Future Primary School</li> </ul> | <ul style="list-style-type: none"> <li>Future Secondary School</li> <li>Reinforce Centre</li> <li>Urban Activity</li> <li>Parks and Reserves</li> </ul> |
|---|--|---|

## 17.6 Consultation

### Submissions and Views Derived From Consultation

Under the banner of the Imagine your Rural City Murray Bridge 2020 campaign, the Murray Bridge Structure Plan (draft) underwent public consultation between 12 March 2012 and 13 May 2012.

A highlight of the public consultation period was a 26 March 2012 Information Evening and Workshop on the Murray Bridge Structure Plan, Rural Communities Study and the Draft Murray Bridge Integrated Transport and Traffic Management and Bike Plan, which was held in the Town Hall and delivered by Village Well, Connor Holmes and Parsons Brinckerhoff. The night was very well attended attracting more than 100 people.

The key themes from the Information Evening encompassed traffic management concerns, the capacity to deliver infrastructure for the proposed township expansion and the need to have adequate social infrastructure such as education, health and community transport services. In terms of Murray Bridge's urban form, a number of attendees expressed support for infill residential development whilst others sought further opportunities for waterfront housing and the expansion of the township on the eastern side of the River. The prospect of further industrial land at Rocky Gully and White Hill (Narrinyeri Hills) was not supported by several attendees.

Thirty six written submissions were received in relation to the Murray Bridge Structure Plan, including submissions from government agencies, organisations funded by government, developers and individuals.

At a broad level, the submissions from government agencies and those organisations funded by government sought:

- the protection of White Hill (Narrinyeri Hills) and Rocky Gully waterway;
- greater alignment with the South Australia Murray-Darling Basin Natural Resources Management Plan;
- protection of native vegetation and re-instatement of a Scenic Corridor Zone along the Freeway to increase vegetation, habitat and biodiversity;
- consideration of a more conservative growth rate and greater concentration on infill opportunities to maximise use of existing infrastructure;
- further information/mapping on water sensitive urban design (WSUD), flooding/stormwater and wastewater augmentation;
- inclusion of information noting which precincts would be the subject of site contamination investigations at a future DPA stage;
- to inform Council of interface issues with EPA-licensed activities, which will need to be considered at any future DPA stage;
- amendments relating to gas transmission pipelines;
- consultation with ElectraNet in future planning stages;
- consistency in reporting of expected yields and greater acknowledgement of the Housing and Employment Land Supply Program Report 2010 and content informing that aviation at Monarto is not a government priority;
- to ensure the long term viability of defence infrastructure and requested that the role of the Murray Bridge Training Area be considered in future investigations;
- undertaking by Council and prepare a heritage study and incorporate in any future Development Plan Amendment(s);
- to enhance the crime prevention objectives of the South Australia Police at future DPA stages;
- to inform Council of matters associated with augmentation of electricity and the protection of electricity assets; and
- re-wording of water and waste water content.

With respect to the non-government agency submissions, the main requests encompassed:

- Land proposal requests within:
  - Area 1: Advocacy for an alternative zone for the General Industry Zone bound by Brinkley Road, Old Swanport Road and Hindmarsh Road;
  - Area 8a: Advocacy for part of this area to be considered for future residential purposes;
  - Area 8c: Advocacy for an approach that looks at infill opportunities within existing rural living and country living zones on the eastern side;
  - Recreation corridor in the western sector: Request to consider a component of this corridor for country living purposes;
- land proposals adjacent to:
  - Strategic Opportunity 10: Advocacy for consideration of land within the south eastern corner of the Study Area, which is currently zoned primary production, for country living purposes;
  - Area 1: Advocacy for consideration of small part of the River Murray Fringe Zone to be considered for future residential purposes;
  - Area 11: Advocacy for consideration of land currently zoned Primary Production to the north-east of this area for Rural/Country Living purposes;
  - Area 8c: Advocacy for consideration of land currently zoned Primary Production to the north-east of this area for Country Living purposes;
- concern over the indicative placement of waste water treatment infrastructure on Nicolai Road;
- confirmation that a Neighbourhood Centre, as part of an integrated development, will be considered for the racecourse site adjacent to Mulgundawah Road in the Section 30 Review;
- additional content to re-inforce that Precinct 2 is not part of growth plans over the next 30 years;
- clarification of 'recreation' lands in Gifford Hill to note that this space is for equine purposes;
- an argument to consider equity in funding of future infrastructure; and

- requests to focus on stormwater management, new events, tourism development and sporting and recreational facilities linked to the River.

### Key Changes as a Result of Submissions

In response to submissions and other agency feedback, the following key post consultative changes were incorporated into the final draft of the Structure Plan:

- placement of a Green Corridor over Rocky Gully creek and White Hill (Narrinyeri Hills) to reflect the value placed on these areas by the community;
- notation within the Structure Plan acknowledging that a component of the Recreation corridor, which is proposed over the SEA Gas transmission pipeline, will be investigated for potential country living purposes at any future DPA stage;
- designation of a small part of the River Murray Fringe Zone adjacent to the Regional Town Centre Zone for potential residential land uses and acknowledgement that this site has a range of challenges that will need to be worked through as part of any future DPA process;
- expansion of Strategic Opportunity 10 in a westerly direction to Jervois Road to clarify the intention of this land within the Study Area and associated notation to inform that this area will be the subject of a range of future investigations;
- notation that Area 8a has the potential to be investigated for future residential development but will be subject to challenges that will need to be worked through as a part of any future DPA process.
- correction of the composite Structure Plan (Figure 15.8) to acknowledge the intent of Area 8c to be investigated for infill opportunities;
- expansion of Section 14.4 Eastern Growth Capacity to acknowledge the existing piggery and turkey farm, which is currently zoned primary production and located near the eastern edge of the Study Area, and to note that this land could be considered for rural living or country living purposes beyond the year 2038;

- additional content advising that the General Industry Zone, bound by Brinkley Road, Old Swanport Road and Hindmarsh Road could be reviewed for an alternative employment generating zone provided that Council's existing and proposed 'centres' are not compromised;
- inclusion of the Riverland Gas Transmission Pipeline and amendments as requested by DMITRE and SEA Gas;
- further information on key strategic and infrastructure projects that have been announced since the consultation period, such as the Rural City of Murray Bridge Sport and Recreation Strategy, the Open Space Strategy for the Rural City of Murray Bridge (MBOSS) and the \$7.115m grant approval under the National Urban Water and Desalination Plan – Stormwater Harvesting and Reuse Projects;
- inclusion of further information on the HELSP report as it relates to aviation and industrial land demand and supply;
- acknowledgement that EPA-licensed activities and interface issues, waste water augmentation, stormwater and flooding aspects and the potential for land contamination will be further addressed through the Section 30 Review and/or investigated during future DPA processes;
- acknowledgement of the extension granted by the Minister for Planning to submit the Strategic Directions Report by March 2013;
- replacement of the 'Immediate' action areas from Figure 17.2 Sequencing of Growth with 'High' action areas to correspond to the Low, Medium and High terminology to be utilised in the Section 30 Review;
- minor clarifications and corrections.

## 17.7 Next Steps

In response to submissions regarding the provision of infrastructure and associated funding mechanisms, there are a number of aligned strategic planning and administration processes, which will address these challenges including:

- the investigations and discussions of the Murray Bridge Transport Steering Group;
- the Council's Strategic and Integrated Planning and Major Projects Group, which will consider, monitor and co-ordinate major projects that have significant economic, social and environmental objectives; and
- the progression of the Regional Provincial City Pilot Program, aimed at building key partnerships, exploring leading practices in sustainable growth and investment attraction, quantifying resource implications and placing the Council and its key stakeholders in the best position to attract external funding.

The aforementioned initiatives will be undertaken in conjunction with Council's Section 30 Review, and, along with the Murray Bridge Structure Plan, the Rural Communities Study and the Murray Bridge Town Centre Master Plan and Urban Design Framework, will inform Council's infrastructure planning and future Development Plan Amendment program.

Many matters raised in written submissions or by attendees of the Information Night will also be further explored through the Section 30 Review, in other strategic work and through potential DPA processes. Such matters include:

- retail analysis review;
- site history and land contamination investigations;
- how the planning and building processes can better respond to an ageing population;
- appropriate management of urban and primary production interfaces;
- ensuring the Development Plan is supportive of tourism development; and
- protecting and guiding appropriate development of Council's historic fabric.

Requests for capital works projects ('Small Wins' and 'Big Wins') and events are noted and can be considered as part of Council's administrative processes.

