

Ouyen Structure Plan

Final Report

Mildura Rural City Council

June 2006



Ouyen Structure Plan

Prepared for

Mildura Rural City Council

Prepared by

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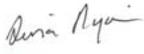
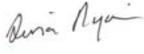
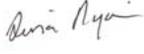
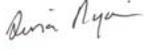
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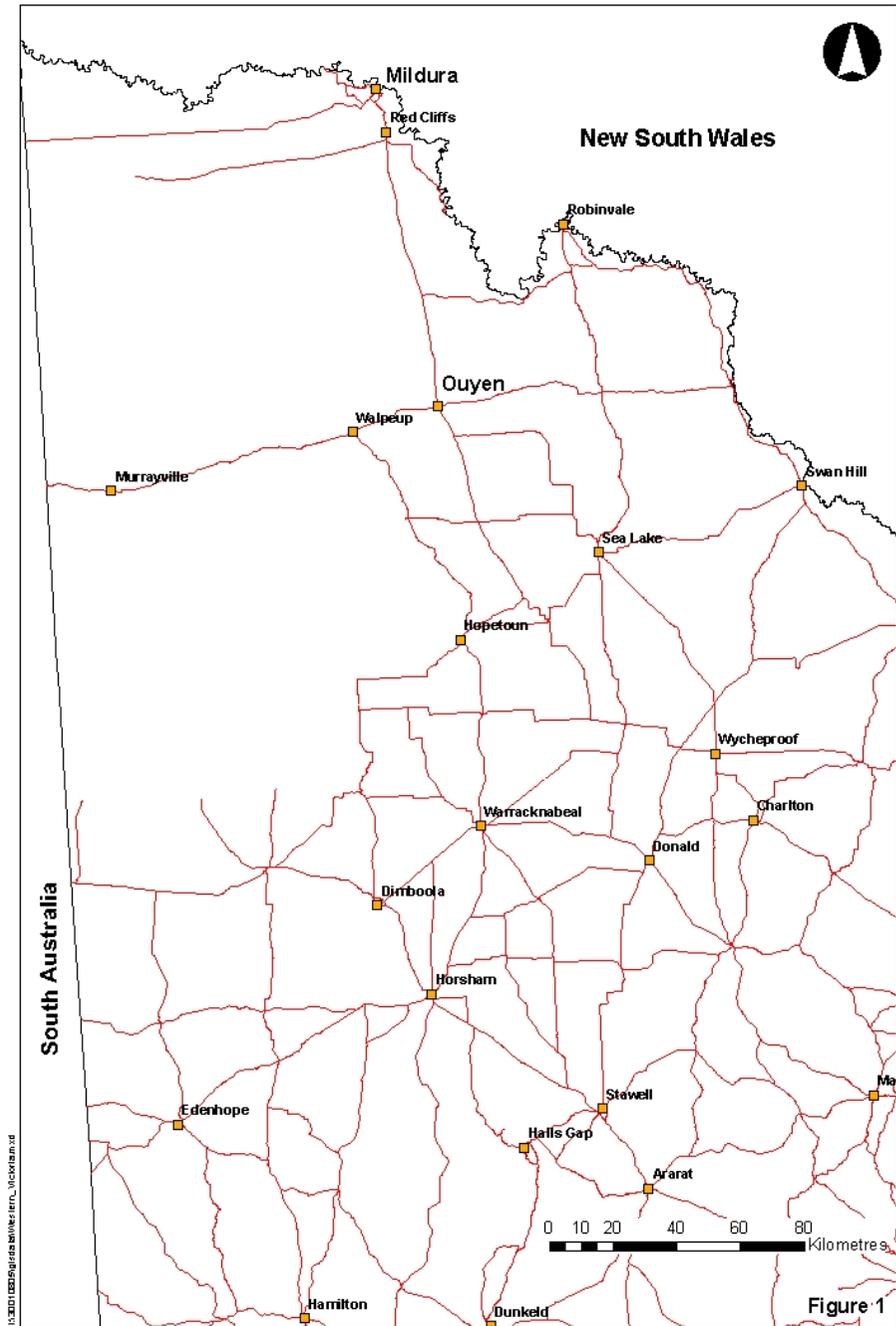
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1.0 Introduction

Maunsell Australia Pty Ltd (Maunsell) has been engaged to undertake the preparation of the Ouyen Structure Plan. Since Mildura Rural City Council (MRCC) has now completed a significant portion of the strategic planning and urban design projects for the municipality such as the *Industrial Land Use Strategy (2003)*, *Review of Retail Strategy (2004)*, *Rural Residential Strategy (2003-2004)*, *Urban Design Advice* and currently undertaking the *Rural Areas Strategy*, it is now timely to undertake the structure planning work for Ouyen as the overall strategic direction for the municipality has now been set.

Ouyen was identified as part of the *Industrial Land Use Strategy, October 2003* as providing various future potential from industrial activities to primary product processing and transport and storage.

The *Industrial Land Use Strategy* identified the most appropriate location for industrial development in Ouyen as the area on the northern side of the township. This area, like the whole of Ouyen currently zoned Township pursuant to the Mildura Planning Scheme and based on future demand, Council could investigate the need to rezone for specific industrial uses.



1.1 Aim of Study

The aim of the Structure Plan is to provide a planning and staging blueprint for management and development of Ouyen Township. The Structure Plan identifies, researches and accommodates the long term planning requirements for Ouyen and sets the direction for future consolidation and expansion of residential/commercial, rural and industrial uses within and immediately beyond the Ouyen Township. General comments and recommendations will be made in regard to particular provisions of land within Ouyen Township.

The preparation of the Structure Plan involves a review and analysis of all relevant documentation, a thorough investigation regarding opportunities and constraints for residential, commercial, rural and industrial land and identification of existing environmental, servicing, transportation and planning constraints and opportunities, and a community consultation process with both government and private stakeholders, including landowners within the study area.

This Structure Plan includes:

- Identification of areas for staged development in the short, medium and long term.
- Identification of key land use precincts.
- Identification of development precincts and road alignments for the key areas having regard to the need to capitalise on existing road and rail alignments and the potential synergies of aligning industry and transport.
- Provision of a vision to guide strategic direction and growth of Ouyen
- Review of the provisions of the Mildura Planning Scheme and modifications where appropriate.



1.2 Study Area

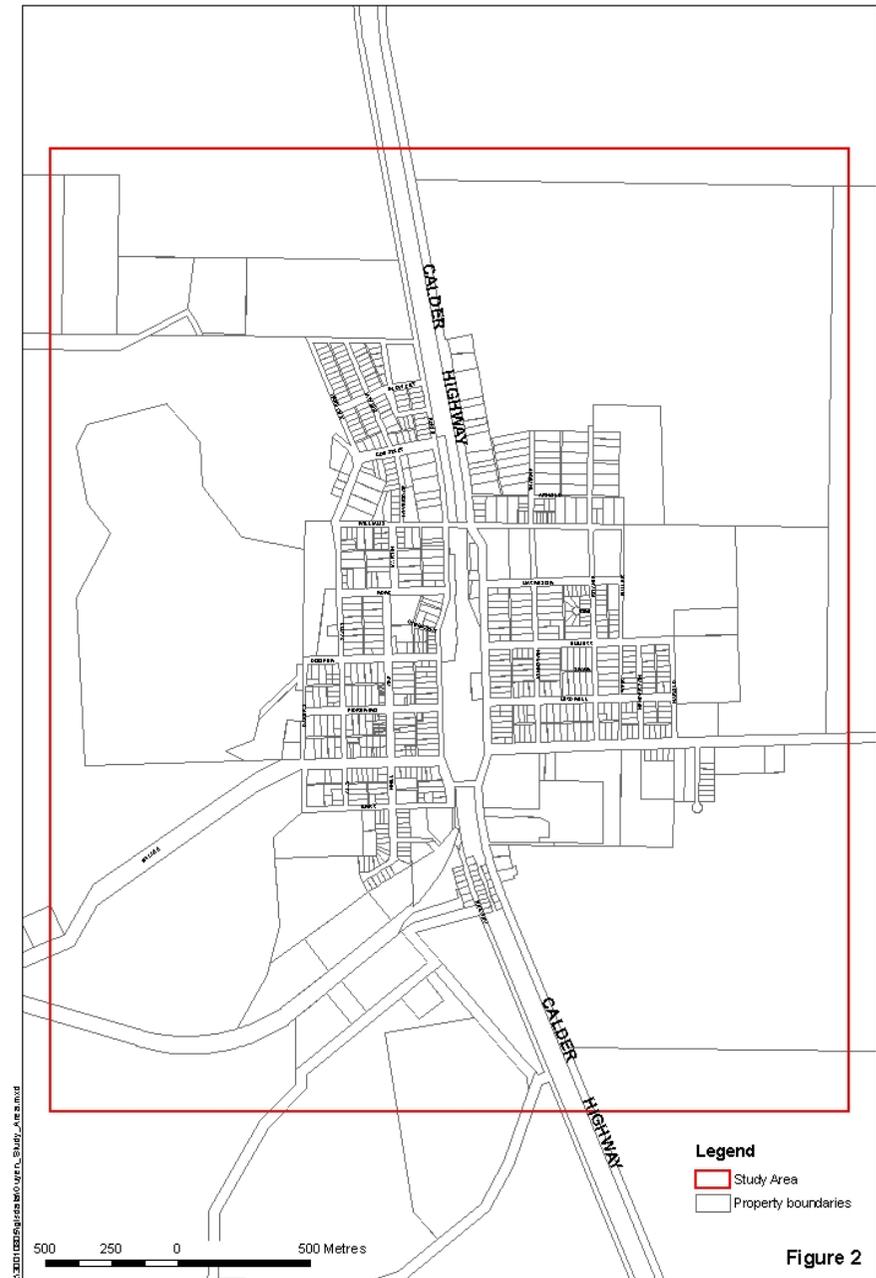
The study area, as it relates to the Ouyen Township, is illustrated in Figure 2. The Ouyen Township is situated at the crossroads of the Mallee and Calder Highways approximately 100 kilometres from Mildura to the north, 450 kilometres from Melbourne to the south and approximately 400 kilometres from Adelaide to the west.

The area is within the Rural City of Mildura and subject to the provisions of the Mildura Planning Scheme. The study area comprises a range of land uses including town centre, sporting and leisure facilities such as Tennis and Golf Clubs, Blackburn Park, Trotting Track, Ouyen Regional Saleyards, community and health services, tourism, residential, service and industrial, secondary and primary schools, freight facilities and Mineral Sands mining operations at KWR operated by Iluka Resources.

The Mineral Sands Projects consist of two main areas of mineralisation:

- The Kulwin deposit, about 28km east of Ouyen and 40km west of Manangatang;
- The Wornack, Rownack, Rainlover and Pirro deposits about 20km south-east of Ouyen

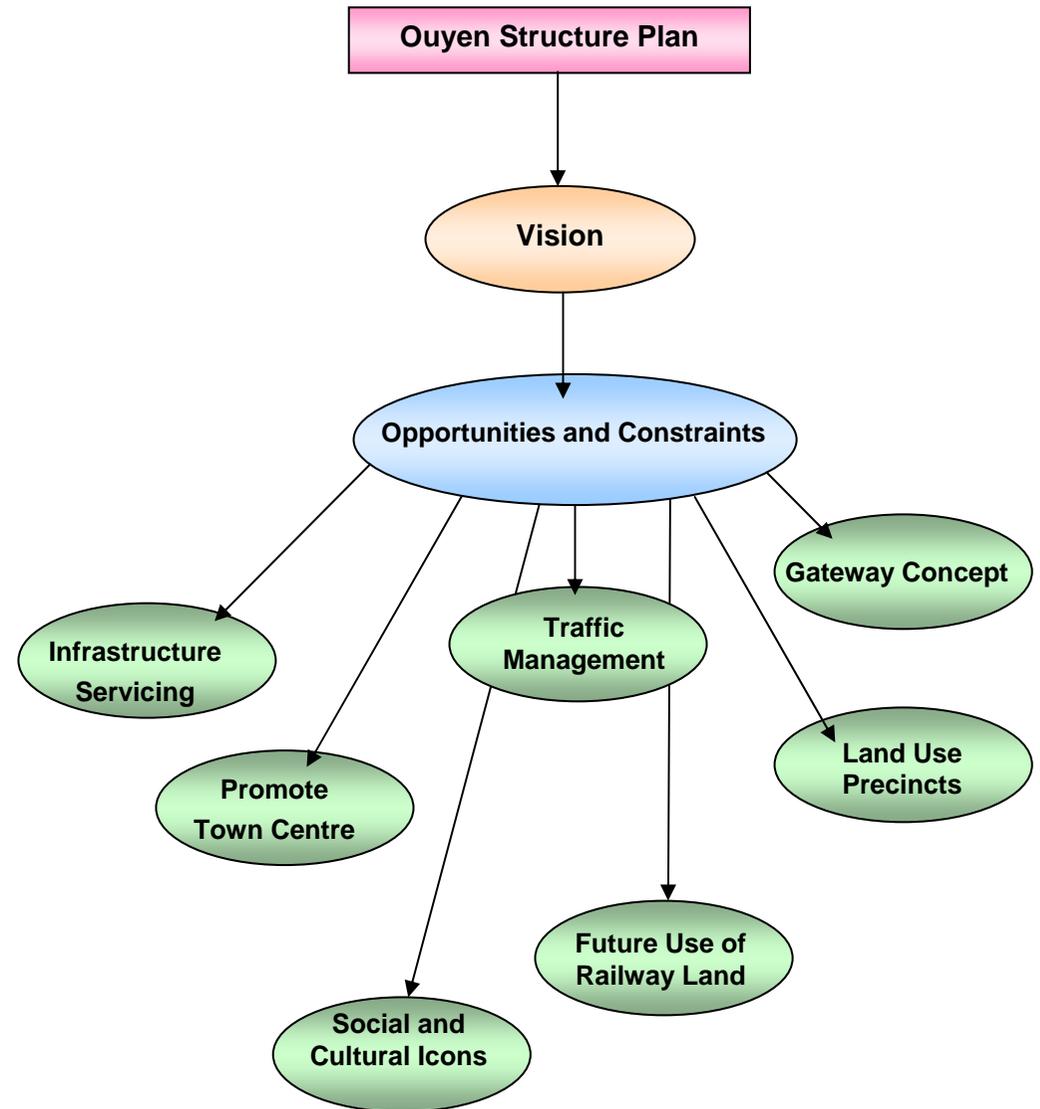
Regional facilities in proximity to the study area include Ouyen Airstrip, new sewerage treatment plant to the east of the township, and the presence of a range of state and national parks nearby.



1.3 Key Issues

In preparing the Structure Plan, consideration has been given to the following issues:

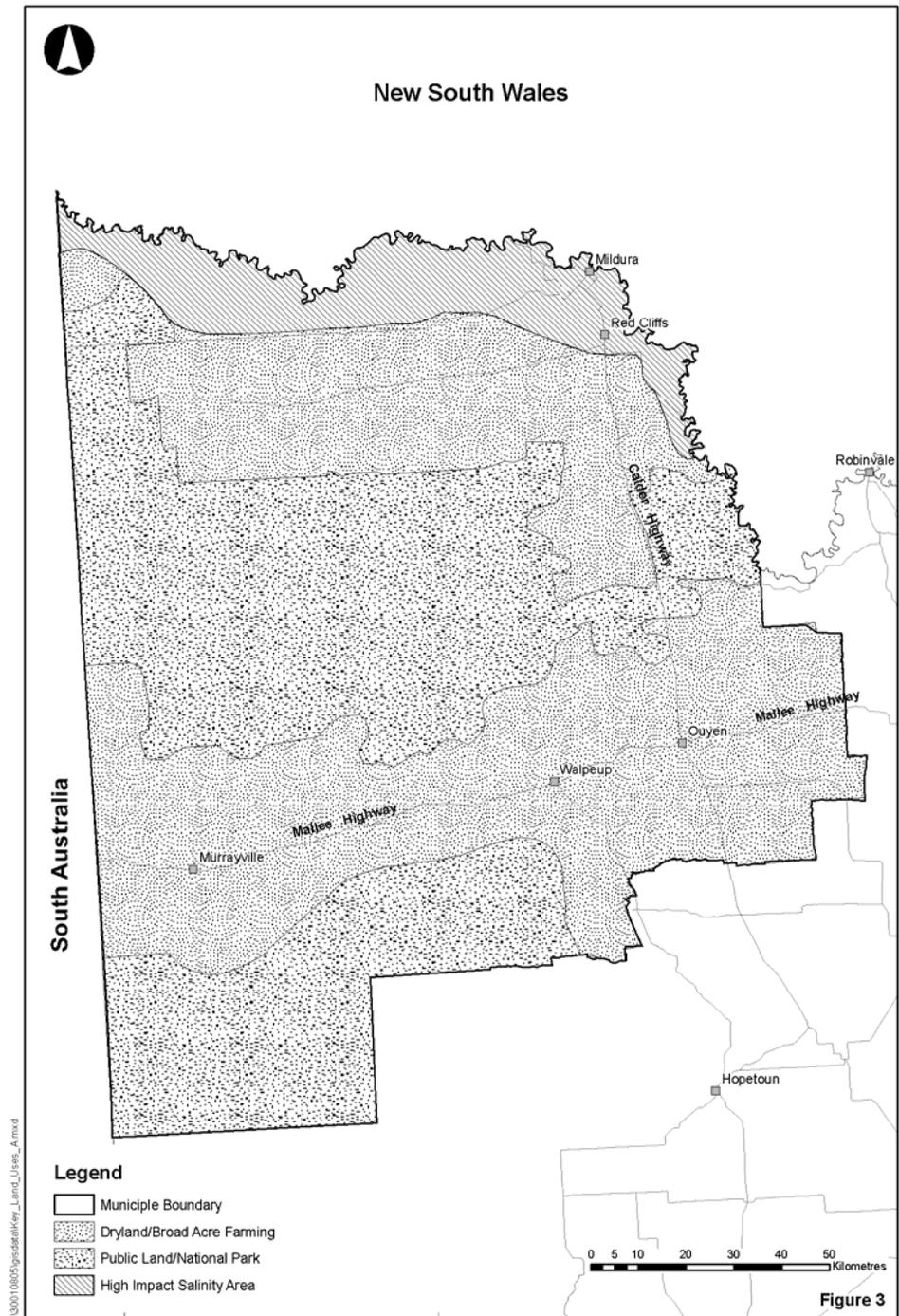
- Development of vision for Ouyen which provides clear direction for future planning and growth of residential, commercial, industrial and community/tourism related uses in and around the Ouyen Township;
- Identification of opportunities to promote the Town Centre by overcoming the existing physical barriers/impediments such as VicTrack land.
- Identification of land use precincts;
- Future use of excess railway land;
- The availability of appropriately serviced land;
- Identification of opportunities to improve access and safety both to and within the study area through adoption of traffic management treatments;
- Identification of environmental constraints such as salinity, groundwater, flora and fauna, soils and native vegetation;
- Identification of important social and cultural icons/landmarks such as Roxy Theatre and Ouyen Regional Saleyards;
- Identification of opportunities to improve infrastructure provision and services; and
- Consideration of outcomes of the *Urban Design Advice* recently undertaken by KLM Kerner Consulting Group and Daryl Jackson Architects.



2.0 Profile and Context Setting

Ouyen Township is in a prime position in the Mildura Murray Outback region, at the crossroads of the Mallee Highway connecting Adelaide with Sydney and the Calder Highway linking Melbourne with Mildura. This busy dry-land farming town with a population of more than 1,157 (*Victoria in Future 2004, Department of Sustainability and Environment*) is surrounded by a beautiful array of national parks in the heart of the Victorian Mallee. To the south, the Wyperfeld National Park is one of Victoria's most important wilderness areas, and to the north, the Hattah Kulkyne and Murray Kulkyne National Parks showcase the arid nature of the region.

The northern area of Wyperfeld National Park is sixty (60) kilometres to the south-west, Hattah Lakes (Hattah Kulkyne National Parks) are only forty (40) kilometres north and the Pink Lakes part of the Murray Sunset National Park, are only seventy (70) kilometres to west. All three parks have an abundance of drought-resistant wildflowers (as many as 100 varieties), unique wildlife and breathtaking landscapes.



2.1 Places of Interest and Annual Events

Ouyen is home to the Great Australian Vanilla Slice Triumph held annually in September. During this event other activities are also scheduled, including the Murray Tour of Sunraysia, The Mallee Art Show and Patchwork Display. Other key events include:

- Wildflower Bonanza;
- Bush Tucker Diorama;
- Guided 4WD Tours;
- Self-guided walks/tours; and
- Art & Craft Stalls.

Equally strong sporting and cultural activities add to the appeal of the town with football, netball, harness racing, cricket, baseball, lawn bowls, tennis and golf clubs which attract players and guests from around Australia. Accommodation is available in three motels, a caravan park and the historic Victoria Hotel.

2.2 Settlement

The reason the Mallee was the last region to be settled in Victoria is evident in the town's choice of symbols. Beside the Calder Highway, in the heart of town, lies the largest mallee stump in Australia. It is a reminder of not only the difficulties faced by European settlers in clearing the area, but also of the agricultural basis of the region. The scrubby territory was once covered in the drought-resistant Mallee Eucalyptus species (root system lignotuber), which proved immensely difficult to uproot and destroy. Any remnant of the subterranean root system led to regeneration and a heartbreaking renewal of efforts at clearing. Today the dense wood is used for wood turning, wood burning and charcoal Industry.

Before European settlement, the area is thought to have been occupied by the Wergaia Aborigines. Some believe the name Ouyen derives from the Wergaia term 'wuya-wuya', the name of a pink-eared duck, presumably once common in the area. Others say it means 'Ghost Waterhole'.

Ouyen developed around a railway station, which was established in 1906 after the Melbourne to Mildura line was built. Blocks in the area were sold in 1910 and cleared for sheep, wheat and oats.

Ouyen is now a transport and service centre for a vast area occupied by agricultural and pastoral properties. Large convoys of trucks line up at harvest time to transport grain to sea port terminals, grain stock suppliers and mills, (wheat, oats and barley); oil seed and legume crops are sown when early Autumn breaks occur. Sheep sales occur over a nine month period with average head of stock numbers (Prime Mallee Lamb) 250,000, stock are transported from Ouyen to various buyers in Victoria and interstate

2.3 Demographic Snapshot

The population of Ouyen was approximately 1,157 persons in 2001.

Age Group and Household Size.

Key issues emerging from the stakeholder consultation included the need for a more diverse range of housing to accommodate change in demographic profile of the population. In particular, as illustrated in Tables 1 and 2, households are getting smaller and older. This has implications in terms of housing choice as smaller and older households typically require low maintenance, smaller dwellings with easy access to services and facilities.

Table 1 Age Group

Age Group (Years)	1981	1986	1991	1996	2001
0-4	143	115	115	96	61
5-17	382	334	253	232	211
18-24	168	145	96	72	61
25-34	229	233	188	166	110
35-49	242	263	259	278	246
50-59	138	146	132	123	161
60-74	153	163	181	170	168
75+	72	105	113	115	140
TOTAL	1,527	1,504	1,337	1,252	1,158

Source: Towns in Time 2001

Table 2 Household Size

Household Size	1981	1986	1991	1996	2001
1 person	78	125	109	128	133
2 persons	117	134	144	145	167
3 persons	75	67	66	81	56
4 persons	79	87	87	46	48
5 persons or more	100	86	63	54	40

Source: Towns in Time 2001

Labour Force and Employment

In the development of the Structure Plan it is imperative to have an understanding of the key characteristics of the labour force. Tables 3 and 4 provide an overview of these characteristics, which are summarised below.

Key characteristics relevant to the development of the Structure Plan include a relatively high level of employment for Ouyen with the majority of

employment in the dryland agricultural (cropping and lamb production), the wool industry, forestry, and retail related industries. This reinforces the importance of Ouyen Township in servicing the surrounding areas. Also of interest is the increase in employment from 1981 to 2001 in accommodation, café and restaurants, possibly reflecting an increase in visitors to the town centre and surrounding region.

Table 3 Labour Force

Labour Force	1981	1986	1991	1996	2001
Employed	651	634	556	529	519
Unemployed	24	52	53	37	17
Unemployment rate (%)	3.6	7.6	8.6	6.6	3.2
Participation Rate (%)	62.1	60.8	59.6	57.8	58.4

Source: Towns in Time 2001

Table 4 Employments by Industry

Employment by Industry	1981	1986	1991	1996	2001
Agriculture, Forestry and Fishing	152	103	93	76	73
Mining	0	0	0	0	3
Manufacturing	9	3	8	3	16
Electricity, Gas and Water Supply	33	27	14	10	16
Construction	42	50	31	30	31
Wholesale Trade	28	14	14	30	20
Retail Trade	97	94	85	82	89
Accommodation, Cafes, Restaurants	31	32	30	36	40
Transport and Storage	68	82	59	30	34
Communication	13	13	14	15	7
Finance and Insurance	14	16	18	13	9
Property and Business Services	3	4	7	15	12
Government Admin and Defence	22	35	19	51	22
Education	45	61	56	50	45
Health and Community Services	83	83	82	68	67
Cultural and Recreational Services	3	3	8	3	6
Personal and Other Services	9	14	19	16	19
TOTAL	652	634	557	528	519

Source: Towns in Time, 2001

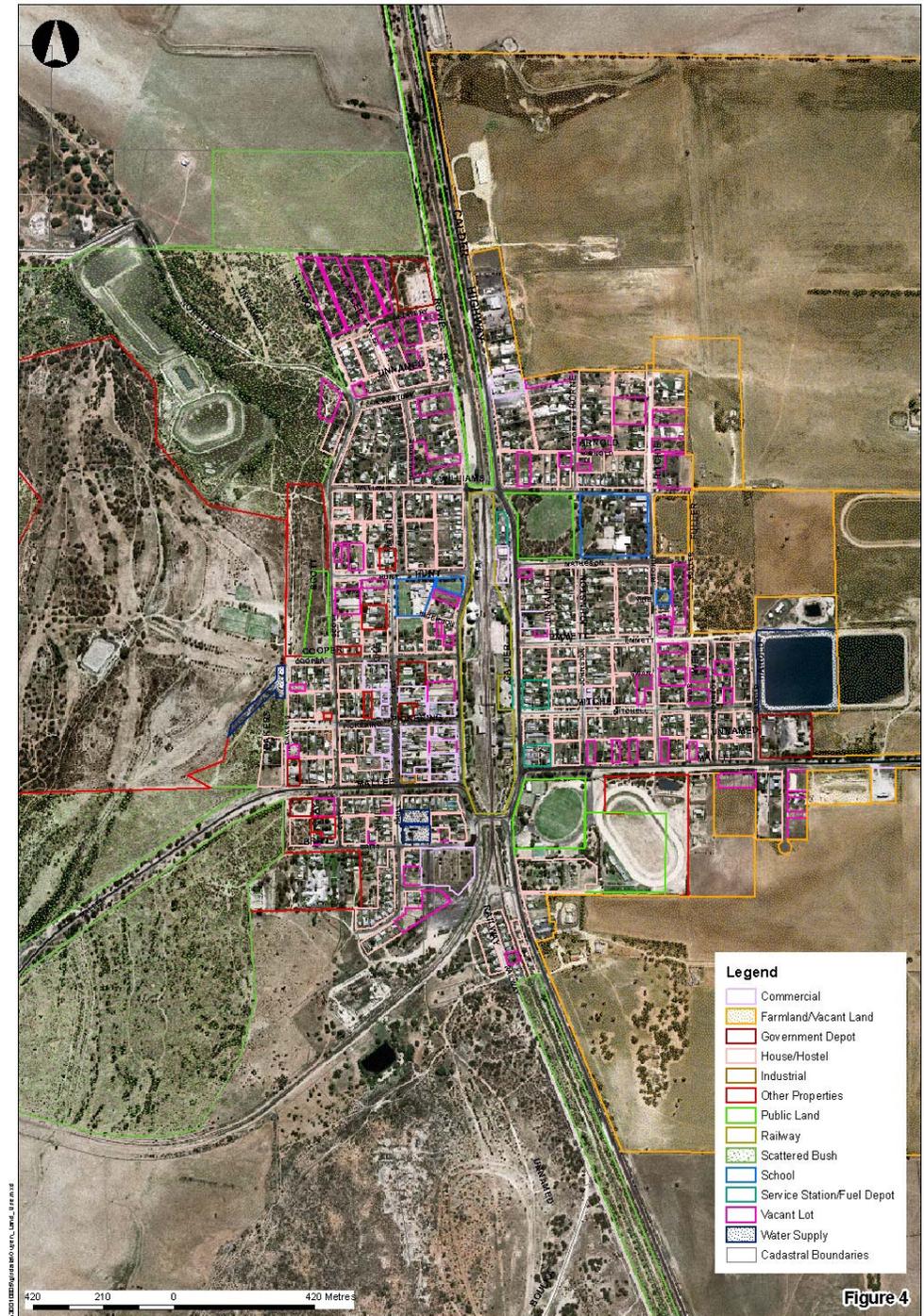
3.0 Land Use Audit

3.1 Ouyen

3.1.1 Land Uses

The land uses located in Ouyen are a mix of rural industry and commercial uses as illustrated in figure 4. The types of companies/industries located in the Ouyen Township zone include:

- Plumbing supplies;
- Water authority depot;
- Saleyards;
- Grain supplies;
- Rural depot;
- Rural Machinery Sales;
- Petrol depot;
- Farm supplies;
- Works depot;
- Town Water Storage;
- Recreational facilities cater for Golf, Football, Netball, Basketball, Bowls and Tennis;
- Educational facilities; and
- Grain storage facilities.



3.1.2 Zoning

Figure 5 shows the land use zoning in the Ouyen area, pursuant to the Mildura Planning Scheme.

The majority of the Ouyen Township is within the Township zone. The purpose of the zone is to provide for residential and a range of commercial, industrial and other uses in small towns and encourage residential development that respects the neighbourhood character. The Ouyen Livestock Exchange Inc is located in a township zone. The area surrounding the Township zone is predominantly zoned rural.

To the north of the existing Golf Course and tennis courts is a Public Use zone – Schedule 1 Service and Utility (PUZ1) in accordance with the Mildura Planning Scheme, which affects the old water storage areas (redundant reservoirs).

To the east of the Calder Highway is the Public Use Zone – Schedule 2 (PUZ2) Education pursuant to the Mildura Planning Scheme, which affects the Ouyen Secondary College.

The Golf Course and Tennis Clubs are zoned Public Park and Recreation (PPRZ) pursuant to the Mildura Planning Scheme. To the west of the Public Park and Recreation zone is the Public Conservation and Resource zone (PCRZ), which represents Crown land.

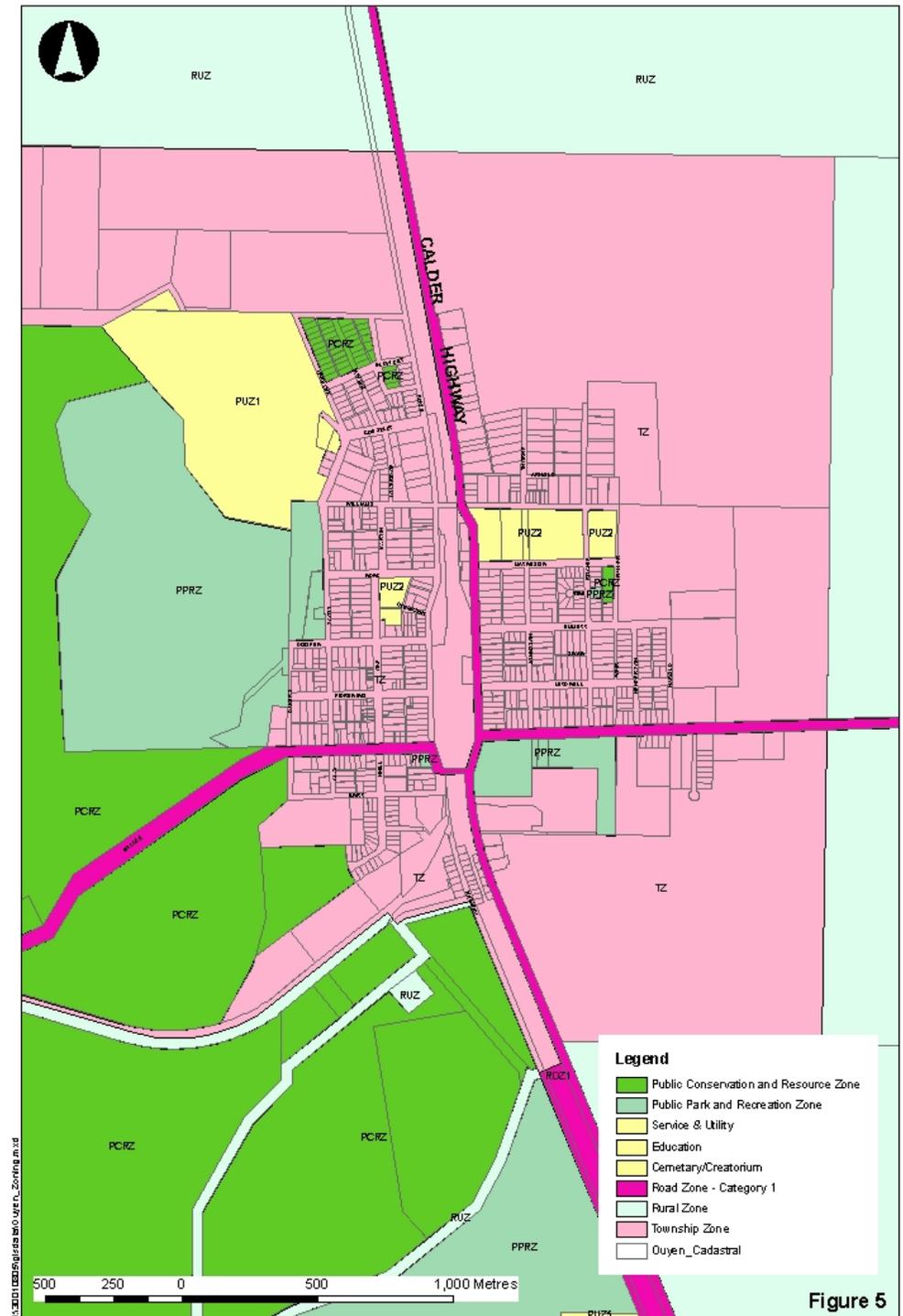


Figure 5

A search of environmental and cultural heritage features for Ouyen was conducted using the Department of Environment and Heritage's *Environment Protection and Biodiversity Conservation (EPBC) Protected Matters Search Tool* and *Australian Heritage Database* and the Heritage Council of Victoria's *Heritage Register Online*. The search results are summarised below.

Ouyen is located within the Murray Mallee Region in an area described as Murray Sunset Country. There are two main reserves located near the town:

- Ouyen 182 Natural Features Reserve
- The Annuello Flora and Fauna Reserve (100448)

Ouyen is situated within the Mallee Catchment Management Authority area. Hattah National Park to the north of Ouyen is known as a Biosphere Region and RAMSAR site.

Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregion, an endangered ecological community may occur in the area.

The following table summarises potential EPBC threatened species that may occur within the area.

Threatened Species	Status	Type of Presence
Birds		
<i>Lathamus discolor</i> Swift Parrot	Endangered	Species or species habitat may occur within area
<i>Leipoa ocellata</i> Malleefowl	Vulnerable	Species or species habitat likely to occur within area

Threatened Species	Status	Type of Presence
<i>Manorina melanotis</i> Black-eared Miner	Endangered	Species or species habitat may occur within area
<i>Pachycephala rufogularis</i> Red-lored Whistler	Vulnerable	Species or species habitat likely to occur within area
<i>Polytelis anthopeplus anthopeplus</i> (incorrect subspecies) Regent Parrot (eastern)	Vulnerable	Species or species habitat likely to occur within area
<i>Rostratula australis</i> Australian Painted Snipe	Vulnerable	Species or species habitat may occur within area
Fishes		
<i>Maccullochella peelii peelii</i> Murray Cod	Vulnerable	Species or species habitat may occur within area
Plants		
<i>Swainsona pyrophila</i> Yellow Swainson-pea	Vulnerable	Species or species habitat likely to occur within area
Migratory Terrestrial Species – Birds		
<i>Haliaeetus leucogaster</i> White-bellied Sea-Eagle	Migratory	Species or species habitat likely to occur within area

Threatened Species	Status	Type of Presence
<i>Hirundapus caudacutus</i> White-throated Needletail	Migratory	Species or species habitat may occur within area
<i>Leipoa ocellatta</i> Malleefowl	Migratory	Species or species habitat likely to occur within area
<i>Manorina melanotis</i> Black-eared Miner	Migratory	Species or species habitat may occur within area
Migratory Wetland Species – Birds		
<i>Gallinago hardwickii</i> Latham's Snipe	Migratory	Species or species habitat may occur within area
<i>Rostratula benghalensis s. lat.</i> Painted Snipe	Migratory	Species or species habitat may occur within area
Listed Marine Species – Birds		
<i>Apus pacificus</i> Fork-tailed Swift	Listed – overfly marine area	Species or species habitat may occur within area
<i>Ardea alba</i> Great Egret	Listed – overfly marine area	Species or species habitat may occur within area
<i>Ardea ibis</i> Cattle Egret	Listed – overfly marine area	Species or species habitat may occur within area
<i>Gallinago hardwickii</i> Latham's Snipe	Listed – overfly marine area	Species or species habitat may occur within area

Threatened Species	Status	Type of Presence
<i>Haliaeetus leucogaster</i> White-bellied Sea-Eagle	Listed – overfly marine area	Species or species habitat likely to occur within area
<i>Hirundapus caudacutus</i> White-throated Needletail	Listed – overfly marine area	Species or species habitat may occur within area
<i>Lathamus discolor</i> Swift Parrot	Listed – overfly marine area	Species or species habitat may occur within area
<i>Merops ornatus</i> Rainbow Bee-eater	Listed – overfly marine area	Species or species habitat may occur within area
<i>Rostratula benghalensis s. lat.</i> Painted Snipe	Listed – overfly marine area	Species or species habitat may occur within area

3.1.3 Cultural Heritage and Archaeological

The following heritage sites were listed on the Victorian heritage inventory. Although, these sites are not within the study area boundaries, it is important to note their location:

- Ouyen North-West State School site (H7327-0005) located on the corner of North West Road and Pooles Road.

The Victorian Heritage Registry Statement of Significance – School operated between 1894 –1938.

Department for Victorian Communities has advised that there are four registered stone artefact sites in Ouyen.

3.1.4 Infrastructure

The following comments are related to infrastructure provision:

- Origin Energy has indicated that gas supply is not currently available, and is subject to local demand.
- Powercor indicated that radial power supply into Ouyen is poor but if there is a sudden increase in local demand, upgrades to the line would be able to meet expectations.
- A reliable potable water supply is available to the area. Ouyen water supply finishes at the boundary of residential area.
- Stormwater is collected through a series of pipes and open channels. Stormwater runoff is collected in a storage basins located south – west and south – east of the township.
- Telstra advised that there are existing telecommunications to the area. It is expected that Ouyen telephone exchange will be upgraded to handle Victoria's fibre optic cable roll out planned for the next three years.
- Reticulated sewerage is available to the area.

3.1.5 Transportation and Traffic Management

Regional Overview

Transportation plays a key role in the economy and future development of Ouyen and the surrounding region. Ouyen represents an important transport node for both road and rail. The township is located approximately 100 kilometres south of Mildura, at the confluence of the Mallee (Adelaide-Sydney) and Calder (Melbourne-Mildura) Highways, and is effectively the main gateway into the Mildura region. Murray-Sunset National Park located north-west of Ouyen offers recreational activities such as nature-study, walking and camping. The Pink Lakes, located

within the Park, are also popular photography subjects. The Mildura region offers a warm climate and numerous attractions and recreational activities including vineyards and citrus groves, houseboats on the Murray, fishing, golf, horse racing, wineries, craft, pottery, antiques, galleries, museums and historic buildings.

Ouyen Township also acts as an important service centre and is a major rail freight centre for a vast surrounding area, which comprises agricultural and pastoral properties.

No train passenger services operate on the rail line although the State Government has undertaken preliminary analysis on the feasibility of reintroducing passenger services between Melbourne and Mildura. To date no decision has been made on whether passenger services will be reintroduced. In the absence of passenger trains, there are bus services, Ouyen – Ballarat Bus route and Albury – Pinnaroo Bus route (that are operated by V-Line) that provide regional linkages. Also the Mildura – Melbourne bus service stops at Ouyen.

Note, road development projects on either the Calder Highway or the Mallee Highway in the vicinity of the Ouyen Township currently have a low priority when compared to other projects in Victoria.

Freight

The main freight movement along both highway corridors is the transportation of grain, which is moved by road and rail freight. Much of the grain is destined for the ports of Geelong, Portland and Melbourne but it is also moved to central receival points in the Wimmera-Mallee, in particular to a large number of storage sites along the highway corridors, with some cartage direct to flour and stock food mills throughout the region and to Melbourne and surrounding areas.

The freight quantities vary greatly from year to year being dependent on the quantity of the grain harvest.

Typically it is by the number of tones which is represented by the number of truck movements. There are also other locations where truck movements occur during harvest time and bunker unloading including:

- Test Bridge
- Weigh Bridge – Tone/Gross
- Bunkers – Calder Highway
- Silo's – Rowe Street

Other important freight movements along the Calder and Mallee Highways are:

- Backloading of fertilizer and quarry products from Melbourne, Geelong and Portland
- Fruit & vegetables and other non-cereal crops to Melbourne, Geelong, Portland and into South Australia
- Cattle, sheep and pigs to abattoirs in a number of centres
- Grapes and grape juice from Sunraysia to wineries in Avoca and Great Western
- Gypsum from the Mallee for agricultural purposes
- Sand, gravel and quarry products for road making
- Fuel from Geelong and Portland
- Horses (harness racing) and goats for abattoirs
- Hay from north to south west to east depending on the drought areas
- Recycling materials (steel, glass, paper) from Mildura, Ouyen to Melbourne
- Wool, wood and charcoal products
- Mineral sands
- Automotive vehicles and products from Adelaide, Sydney, Melbourne and Mildura
- Agricultural supplies including plastic tanks, agricultural pipe, fencing wires etc.

- Grain Cartage
- Manufactured Goods
- General Freight

In summary, the Calder and Mallee Highways serve a number of important industries in the region, which include agriculture (cereal grains, vegetables, orchard fruit, wool, livestock), viticulture, food processing, winemaking and tourism. The Calder and Mallee Highways in particular forms an important link for these industries to markets and ports in the south of the state and South Australia.

The Highways

The Calder Highway was declared a Road of National Importance in 1995. The Highway serves a number of regional centres and carries 20,000 vehicles a day at Diggers Rest, and 7,000 vehicles a day between Kyneton and Bendigo. Between Bendigo and Mildura, including the section through Ouyen, the traffic volume is generally under 2,000 vehicles a day – the lowest volume at around 1,300 vehicles per day north of Ouyen. The Mallee Highway carries less traffic than the Calder Highway at around 700 vehicles per day to the west of Ouyen towards the South Australian border. The general trend indicates an increase in traffic over the last 20 years.

The statistics were provided by VicRoads.

The highways intersect near the centre of the town and there are no existing or proposed bypasses for Ouyen.

Internal Road Network & Local traffic Management

The condition of Ouyen's main internal road and street network varies greatly from unsealed urban streets to fully sealed and kerbed streets. The network of smaller laneways (which is predominantly found in the business and civic heart of Ouyen) is generally not sealed.

The following issues were identified in the review of road and street infrastructure;

- Concern was expressed at the poor state of number of roads and streets located in residential areas. Whilst streets in the commercial area bounded by the Mallee Highway, Rowe Street, Scott Street and Williams Street are mostly fully sealed from kerb to kerb, a number of streets fronting existing residential properties are either unsealed or partially sealed. The immediate environmental concerns include dust control and stormwater quality associated with rainfall runoff.
- A priority is to manage these issues either by reducing the carriageway width and increasing the footway / landscaped area and the implementation of water sensitive urban design concepts to capture and reuse or treat surface water.
- Drainage management issues including treatment of surface runoff, water capture and reuse, salinity, water recharge and ground water issues should form part of a stormwater management plan for Ouyen.
- Concerns were expressed about the poor pedestrian connectivity between major public buildings. The absence of a constructed walkway between the hospital and the town centre is an example. In order to address this issue, the existing footpath on the west side of Clay Street should be extended to the Mallee Highway. A new crossing should be constructed across Clay Street at the Mallee Highway and a sealed footpath continued along the south side of the Mallee Highway service Road to the existing pedestrian crossing at Nhill Street. This action will link the Hospital / Medical precinct in Clay Street to the town centre.
- Another issue of concern is the absence of properly constructed railway pedestrian crossings at the Mallee Highway and the northern town entrance. The result is that pedestrians are forced to move on the road carriageway to cross the railway line. This practice is undesirable and should be addressed in conjunction with VicTrack.
- Concerns were expressed about the poor pedestrian connectivity between the east and west part of the town, in particular the standard of pedestrian infrastructure between schools precincts located on both

sides of the railway line. It is recommended that pedestrian crossings be upgraded where they cross railway lines and that the footpath along Rowe Street be also upgraded and constructed where no path currently exists to provide safe all weather access for pedestrians in particular school children accessing the school precinct west of the Rowe Street.

- Concerns were expressed in relation to poor drainage infrastructure servicing the township in particular the railway precinct as the major drainage route for the town. The area is well serviced by drainage infrastructure resulting in the retarding of flows in the railway precinct and anecdotal evidence suggests the water table in the area is recharged during storm events resulting in ingress of water to below ground structures. A stormwater management plan is recommended to address surface and groundwater drainage issues in detail.

Traffic movement within Ouyen is generally satisfactory although a number of issues exist. These include:

- The use of the Cooper Street / Oke Street intersection for U-turns. This intersection represents the “end” of the commercial / civic precinct and motorists therefore use this site to turn around. These U-turn manoeuvres are potentially hazardous and a different intersection treatment, such as a roundabout, could be considered at this location.
- Truck movements near the grain silos. At the peak of the grain harvest season there can be considerable activity in this area generating some dust and noise. However, this only occurs over a relatively short period of around 5 to 6 weeks each year. It is therefore a manageable issue.
- The presence of the mobile library in Oke Street. This can create traffic and parking problems, as it is located near the supermarket and shire offices. The opportunity for possible relocation into Cooper Street should be considered.
- Parking for buses and caravans. A dedicated off-street parking area for buses and caravans has been established beside the Roxy Theatre but is poorly utilised. An alternate location should be

explored and the parking area redeveloped to support the community park / theatre activities in this area. It is recommended that indented truck and bus parking be provided along sections of the Mallee Highway between Clay Street and Nhill Street on both sides of the carriageway. This will require the construction of kerb extensions and re alignment of the road centreline. The construction of parking bays will require the realignment of existing kerbing. There is evidence that this area is used extensively in an informal manner by buses, trucks and car-caravan combinations.

- Traffic Control at the Mallee Highway / Oke Street intersection. This intersection forms the southern entrance to Ouyen's principal retail and civic spine. While there are no major traffic difficulties at this site, an opportunity exists to help define this southern gateway and facilitate safe entry / exit movements at this location. A roundabout may address these needs.
- The silo complex at the northern end of Rowe Street presents potential conflict between truck and pedestrian movements such as school children at harvest time and when bunkers are emptied.
- The intersection at the Kindergarden is also potentially problem.

Pedestrians

Pedestrian movement in Ouyen's commercial heart is generally satisfactory with defined footpaths and a legible, easy to navigate network throughout the town. In contrast, the network of footpaths outside the commercial precinct is poorly defined and in poor condition. A number of areas were identified for immediate upgrade:

- Around the Hospital precinct;
- Around school precincts, and
- Railway crossings at the Mallee Highway and Williams Street.

The major difficulty from a pedestrian perspective is the presence of the railway line, which dissects the town and poses both a visual and physical

barrier stifling connectivity and hindering integration between Ouyen's eastern and western precincts. The Calder Highway, which runs parallel to the railway line, also contributes to the "separation" of pedestrians from the eastern side to the western side of Ouyen. In addition to causing difficulty for internal pedestrian movements within Ouyen, the presence of the railway / highway corridor hides Ouyen's commercial centre from north/south traffic on the Calder Highway. Improved pedestrian connectivity across the railway line (both physical and visual) may encourage Calder Highway motorists (who may be stopping for a break) to explore the heart of Ouyen.

In contrast, the Mallee Highway apart from the previously stated concerns at the railway crossing, while being a major road in its own right, does not create the same difficulty for pedestrians as its alignment travels very close to the town centre. Furthermore, its comparatively modest traffic flows enable its effective integration into Ouyen's urban fabric.

3.1.6 Land Tenure

The land tenure arrangements for Ouyen Township are a combination of Crown, freehold and Council owned land. Key characteristics are summarised below:

- The railway land is Crown land leased to Vic Track.
- The VicRoads Depot is owned by MRCC.
- The land identified for future residential west of the hospital is Crown land. Any future development of this land would require negotiation with the Department of Sustainability and Environment (DSE) in relation to potential environmental values and acquisition.
- The land immediately west of the Saleyards is Crown land.
- The land identified for future residential to the north of the township is Crown land zone, DSE have expressed an interest in protecting the potential environmental values of this land.
- The land identified for promotion of future industrial development is one large freehold parcel.

- The majority of land within the commercial precinct are small freehold parcels.
- The majority of land identified as residential and infill development are small freehold parcels.

It is recommended that Mildura Rural City Council approach DSE with the purpose of negotiating the purchase / transfer of Crown land identified in this strategy as suitable for housing development.

4.0 Stakeholder Consultation

An important input to this study has been, and will continue to be consultation with stakeholders. This has facilitated an understanding of the key issues in the study area. Outlined below is an overview of the key issues raised during these initial consultation activities.

Traffic Management

The Mobile Library utilising car parks out the front of the municipal offices is not appropriate as it occupies at least five car spaces. Consequently, there is a need to identify an alternative location. It may be possible to relocate the Mobile Library to Cooper Street beside the Mildura Rural City Council Service Centre MRCC Service Centre.

Car parking for longer vehicles beside the Roxy Theatre in the Community Park is problematic as it conflicts with the overall intent of the area for community purposes. An alternative location needs to be identified as part of this project.

Infrastructure

There are no immediate impediments to growth in relation to infrastructure. The following issues were identified in the review of infrastructure:

- Comparatively poor condition of residential roads and streets outside the commercial centre;
- Poor stormwater management practices leading to high water table and high salinity values in low -lying areas of the township;
- There is no industrial use zoning in the current planning scheme.

Improvements are required in relation to maintenance and management of open drains/waterways, roadways and pedestrian footpaths. Ouyen Inc

currently lobbying to have all open drains piped. There is an opportunity to implement Best Practice in relation to stormwater management.

Sewerage reticulation has recently been completed to service Ouyen Township. Ouyen Inc currently investigating opportunities to use recycled water from new Sewerage Treatment Plant for irrigation purposes. Key facilities that may benefit from this reuse include the Trotting Track, tennis courts, Hospital and two schools, Blackburn Park Recreation Reserve, Ouyen Golf Club, MRCC Parks and Gardens.

Access to town centre

The majority of traffic travelling along the Calder Highway is traffic travelling to and from Mildura and Melbourne. The majority of the commercial traffic travelling along the Mallee Highway is generated by freight companies travelling to and from Adelaide and Sydney. Ouyen town centre is hidden from the Mallee Highway so most commercial traffic only uses toilets, take away food shops, service station and other amenities close to the Calder Highway. Therefore, very limited traffic goes through the town centre.

Also, a significant amount of traffic travelling along the Calder highway is screened from the town centre by the existing railway land.

A refurbished service station will be developed on the south east corner of Calder Highway and Mallee Highway.

Vision and Role of Ouyen

Opportunity to promote Ouyen as the gateway to Mildura.

The key challenge for the community is to overcome the physical barrier of the railway line to the Ouyen Town centre for traffic utilising the Calder Highway.

Is there an opportunity to attract manufacturing industries to Ouyen ?
Importing and exporting industries would be sustainable in Ouyen.

The Town centre is not directly visible from the Calder and Mallee Highways. The railway line and VicTrack land acts as a barrier to the town centre from travellers on the Calder highway.

There is a display centre at Blackburn Park. This display information is visible from the Calder Highway and it is accessible for people travelling along the Calder from Melbourne to Mildura.

The Blackburn Park display centre is less visible for people travelling along the Mallee Highway.



Poor directional signage for Ouyen Town

Other

Mineral Sands (Iluka) located to the east of the town (Kulwin 23 kilometres) will reach full potential production in 2007 (life of 12 to 20 years) and will employ thirty people plus an additional thirty contractors.

Ouyen Livestock Exchange Inc. manages the operation of the Ouyen Saleyards. The Saleyards have a high operational standard which meet all quality assurance standards. These saleyards are linked to the marketing of Ouyen with slogans such as Prime Mallee Lamb.

Future projects for the saleyards include a truck wash facility, surfacing of laneways and pens, extra holding pens, an amenities block and general beautification works.

Saleyards Issues that were raised in the review:

- Amenity, introduction of buffer areas / planting
- Location in relation to residences
- Noise, smell
- Water contamination / runoff
- Truck wash facility
- Importance to town economy (6th largest in Victoria)
- Tenure of existing location / future location
- Traffic generation issues

Ouyen and Mildura Town Centre

Opportunity to promote and restore Roxy Theatre (Oldest Queenslander Style Theatre outside Queensland). Ouyen Inc currently investigating funding opportunities.

Ouyen Events

Ouyen has a number of important events occurring during the year:

- Great Australian Vanilla Slice;
- Tattersalls Tour of Murray – 5 day bike race;
- Farmer Festival held on Melbourne Cup Day (fundraising for Hospital);
- Ouyen Bowls Club Competitions;
- Farm Safety Expo – annual later half of the year;
- Mildura Country Music Festival – annual event; and

- Wildflower Festival – irregular.
- Mallee Football League
- Ouyen Sand Scrapes Championship Golf Tournament
- Tennis Tournament – Labour Day Weekend
- Ouyen Harness Club – Ouyen Cup
- Speed Mallee Machinery Field Days
- Debutant Ball
- Bi - Annual Historic Stream Train Visit
- Ouyen Theatre Group Productions
- Mallee Arts Show

Note: Some events are scheduled in Ouyen or otherwise in Mildura generally.

Freight Gate

Opportunity to clean up the area and uses for land for activities compatible with existing Grain Co operations.

Need to address the issues of trucks queuing in Rowe Street. Provide screening to residential properties in Rowe Street.



Residential

There is a shortage of residential accommodation in Ouyen. The area (Crown land) abutting the hospital has been identified as suitable for accommodating further residential development. The area identified for residential north of the township is not suitable as it is some distance from the town and does not provide very good links back into the town. DSE have indicated that they are interested in this land because of the environmental values and are seeking to rezone this land parcel from Township zone to Public Conservation and Resource zone.

Fuel Storage Facilities

Concerns have been expressed about a number of disused fuel storage facilities (Mobile, Caltex) and disused retail facility (company details unknown) located on the Calder Highway. The facilities occupy prominent locations along the highway and present both a visual blight and possibly an environmental problem that requires resolution. The fuel storage facilities are remnants of the historic system of rail transportation of fuel.

The facilities include above and below ground tanks, office buildings and security fencing. It is recommended that the responsible owners be encouraged to decommission the sites and restore the land to an acceptable condition. The owner of the service station site should be encouraged to remove existing infrastructure and improve the site to an acceptable condition. In the event buildings occupying the site are deemed unsafe, it is recommended relevant legislation be used to achieve an acceptable outcome.

5.0 Draft Structure Plan

Following discussions with key stakeholders, site investigations, review of relevant strategies a draft Structure Plan has been developed which is intended to provide guidance to all stakeholders in relation to the future strategic direction and growth of Ouyen.

The Structure Plan aims to set the strategic and future land use framework for Ouyen having regard to the environmental, transportation, and servicing opportunities and constraints within the study area. The recommendations made within this Structure Plan have taken into consideration feedback from Members of Ouyen Inc. and have also had regard to general market trends associated with Ouyen's growth.

5.1 Vision

The vision for Ouyen needs to reflect the regional and local context and identity by building on and reflecting the foundations and key aspirations of the community.

The unique location of Ouyen on the intersection of the Calder and Mallee Highways provides an opportunity to capitalise and promote the town centre as a short-term rest point for journeys both to and beyond the region. The Mallee Highway forms a link between New South Wales and South Australia. Whilst the Calder Highway links Mildura, Broken Hill and southwest New South Wales with Victoria.

As mentioned earlier in this report, Ouyen is home to numerous events and festivals such as the Great Australian Vanilla Slice, Tour of Sunraysia, Farmer Festivals, Farm Safety Expo, Mallee Wildflower Festival and Murray Sunset National Park and Pink Lakes Trail.

Also, importantly Ouyen is part of the Murray Outback Tourism Region.

The vision for Ouyen needs to capture these important social and cultural activities through the promotion and enhancement of the important role of the town as a gateway to Mildura and the broader region which functions as a convenient and pleasant stopping point providing a range of services and facilities and tourism attractions for people travelling to and from Mildura.

Ouyen is a compact busy town only 100 kilometres south of Mildura on the Calder Highway, it is difficult to access the town centre as it is not directly visible from the Calder and Mallee Highways as there is confusing directional signage. Exacerbating this situation is the physical barrier that the railway land creates to traffic utilising the Calder Highway.

Key components of the Ouyen Structure Plan detailed on Figure 6 are described below.

5.2 Gateway Concept

As illustrated on figure 6 (Ouyen Structure Plan) to promote and encourage people travelling to and from Mildura along the Calder Highway to stop in Ouyen and visit the Town Centre requires the creation of a Gateway Concept at the main entrance to the centre on both the Mallee and Calder Highways. It cannot be emphasised strongly enough the strategic importance on investing in the creation of a gateway which draws travellers along both the Calder and Mallee Highways into the town centre.

MRCC could introduce an urban design competition for the Gateway Concept which could also include eastern approach.

The creation of a Gateway Concept is consistent with the recent Urban Design Advice prepared by KLM Gerner Consulting Group & Daryl Jackson Architects.



Opportunity to redesign Gateway Concept – view of Ouyen town entrance from the Calder Highway travelling south from Mildura to Ouyen.



Opportunity to redesign Gateway Concept - view of Ouyen town entrance from Calder Highway travelling north from Melbourne to Ouyen

5.3 Town Centre Redevelopment

The well-established amenities and streetscape ensure a pleasant experience for local and visitors to the town centre. To further promote and build on the attributes of this important centre which other nearby towns such as Murrayville and Walpeup located further west along Mallee Highway and Manangatang to the east rely upon for services the following modifications have been incorporated into figure 6 Ouyen Structure Plan.

- Installation of two new roundabouts in Oke Street at the Mallee Highway and Cooper Street
- The proposal to install these roundabouts has been developed in response to the local traffic issues discussed in section 3.1.6. The incorporation of the two roundabouts in Oke Street at the Mallee Highway and Cooper Street will have two important benefits. Firstly these roundabouts will help to define the heart of the centre by creating a landmark at either end, and provide the opportunity for appropriate urban design treatments including planting and signage. The roundabouts will therefore further enhance the streetscape, appeal and reinforce / consolidate the town centre's identity. Secondly, the roundabouts will facilitate safer access to the centre and particularly address the U-Turn problem that is prevalent at the Oke Street / Cooper Street intersection. Provision of a roundabout at this site will enable motorists to undertake U-Turns in a safe and controlled fashion. The roundabout at Mallee Highway and Oke Street may require further technical investigations as VicRoads has indicated that this is not the preferred option due to the significant number of large trucks and buses the intersection.
- Relocation of Mobile Library
- The current mobile library location in Oke Street (in front of the supermarket and civic centre) creates parking and traffic problems. The proposed location in Cooper Street, just east of Oke Street has the benefit of still being in a central location but will cause less parking difficulties, as on-street parking in this area is heavily under utilised.



Oke Street

- Relocation of Bus Parking
- The off-street bus parking area beside the Roxy Theatre is underutilised. The location is likely to be perceived as inconvenient and/or difficult to get into and out of. This issue can be addressed by the formalisation of parking arrangements to enable longer vehicles, such as buses, to park on either side of the Mallee Highway, east and west of Oke Street. Options need to be developed in conjunction with VicRoads.



Relocate parking for longer vehicles from Community Park

- Provide the opportunity for enhanced street exposure for the Community Park.
- Provide for additional car parking spaces by reducing the need for long vehicles to park parallel in Oke Street, which occupies at least three to four car parks.

- Contribute to maintaining and enhancing the historic integrity of the Oke Street by reducing the number of long vehicles entering the centre heart.
- Provide safe and convenient environment for users of the long vehicles by formalising the parking arrangements on the Mallee Highway.
- Facilitate the easy and convenient access for longer vehicles with direct pedestrian linkages to the centre heart by upgrading the parking arrangements along the Mallee highway and Community Park.

Other

Council should actively encourage the relocation of any service, light industry from the centre, which does not contribute to maintaining and enhancing the integrity of the street by catering for land uses that make a positive contribution to the streetscape.

The relocation of the Mobile Library from Oke to Cooper Streets will ensure availability of more car spaces in Oke Street for locals and visitors.

The disused VicRoads patrol depot site (former State Rivers and Water Supply) provides an excellent opportunity for redevelopment of land for residential purposes. This site is well-located providing excellent linkages to the town centre and would be suitable for accommodating a higher density residential development.



Community Park



Community Park Shelter

5.4 Rail Precinct Redevelopment

The railway land and existing station buildings including the Grain Corp Operations Ltd facilities act as a barrier to the town centre. The key challenge is to overcome the physical barrier of the railway line to the town centre for traffic utilising the Calder Highway.

The vision for redevelopment of this precinct needs to create an environment that draws and attracts people to the area and importantly provides connectivity and two-way linkages to and from the town centre.

The following opportunities have been identified in the development of the Structure Plan and are reflected in figure 6.

- Redevelopment of the existing station buildings for community and tourism purposes.
- Continue discussions with fuel depot owners in relation to the removal of existing bulk fuel storage facilities and associated infrastructure;
Community requires greater support a pressure from local regional, state and federal government agencies to address unused fuel depots which have occupational Health and Safety concerns for the community and visitors or people travel through Ouyen;
- Incorporate tourist display centre similar to Blackburn Park.
- Encourage uses that will contribute to improved linkages such as community and tourism related activities that will unite rather than separate the town.
- Create clearer linkage with pedestrian bridge in Pickering Street.
- Create a pedestrian link from Community Park to railway precinct.
- Prepare Stormwater Management Plan for Ouyen adopting Best Practice in the management of and potential reuse of stormwater runoff, ie bioretention filters along the railway easement, vegetated buffer strips and wetland treatments (ephemeral).



Opportunity to enhance street exposure for Community Park

- Redevelopment of open stormwater drains incorporating best practice techniques.
- Provide a buffer to residential dwellings on the western side of Rowe Street.
- Construction of pedestrian crossings over the existing railwayline at the Mallee Highway and Williams Street.

The main opportunity to improve the pedestrian linkage between the eastern and western parts of Ouyen is dependent on the upgrade and realignment of the existing pedestrian bridge over the railway line. The current design does little to encourage pedestrian movement between the two sides of the railway line and Ouyen's commercial heart west of the railway line is effectively invisible to pedestrians and motorists on the Calder Highway.

Given the likely cost of a full bridge replacement the improvements to pedestrian connectivity should be staged as follows. In the short term there should be an upgrade to the existing bridge and environs:

- Establish ownership of the bridge and station infrastructure (buildings etc)
- Assess DDA (Disability Discrimination Act) compliance, as this may affect the level and type of intervention that is possible
- Provide clearer ground level links and signage to both bridge approaches
- Improve amenities on the Calder Highway and Station precinct to facilitate stopping of cars and movement of people through this area





Opportunity to redevelop old station and discussed rail facilities for tourism community purposes (viewed from the north)



Opportunity to redevelop old station and discussed rail facilities for tourism community purposes (viewed from the south)

Opportunity to enhance and improve existing pedestrian bridge, encourage relocation of fuel storage and associated facilities as there is no longer a need for fuel storage to locate in a rail precinct as fuel is now transported by road direct to service stations.



Opportunity to enhance and improve existing pedestrian bridge



Encourage relocation of fuel storage and associated facilities as there is no longer a need for fuel storage to locate in a rail precinct as fuel is now transported by road direct to service stations.



Relocate display centre from Blackburn Park to Rail Precinct



Opportunity to improve pedestrian linkage

5.5 Industrial Development

As illustrated in figure 6 approximately 154.9 hectares of land on the eastern side of the Calder Highway has been identified as suitable for accommodating future industrial/service related activities provided buffers to the existing residential community on the southern boundary are created to ensure protection of the amenity to the residential community. This northern strip with frontage to the Calder highway is used for rural industry purposes and the remainder of the site is vacant and is currently one large freehold parcel.

The creation and promotion of this area as suitable for accommodating potential industrial related activities will provide certainty and guidance to all stakeholders in determining the location of industrial related activities for Ouyen.

This site would be suitable to accommodate the service/light industries business from the town centre.



5.6 Residential Development

As illustrated in figure 6 the land abutting the southern perimeter of the hospital and the former Council Depot would provide excellent opportunities to accommodate future residential development with areas of 8.49 and 0.82 hectares respectively. It must be noted that this site may be subject to contamination and intensive site remediation may be required to ensure this site is clean.

These two areas are well located with excellent access to a range of services and facilities and provide the opportunity to create and promote sustainable living communities through the adoption and commitment to sustainable development practices such as incorporation of water sensitive development techniques into overall design, use of local materials for building design and indigenous planting for landscaping and development of pedestrian friendly linkages to the town centre. It is important to note that the land parcel abutting the southern perimeter of the hospital is Crown land. Therefore any future development of this land would be subject to negotiations with representatives from DSE.

The existing residential environment highlighted blue, which has a mixture of old and new building stock should be supported and promoted for infill and redevelopment where possible cognisant of the requirement to preserve historic buildings.



Existing agricultural/light service related uses occupying frontage to the Calder Highway

The VicRoads Patrol Depot located on the eastside of the Township on the Mallee Highway is a potential site for the relocation of the MRCC Works Depot from Nihill Street freeing up the site for residential development.

The Ouyen Livestock Exchange Inc. (livestock lamb trading centre) is located in the southern end of the Township. The saleyards draws buyers from interstate to far northwestern Victoria.

In the short term these saleyards should be promoted as important social and economic contributors to the town and region.

However, in the long term there maybe an opportunity to activity facilitate the relocation Ouyen Livestock Exchange and associated infrastructure out of town as there are already a number of environment considerations in relation to offsite amenity impacts. Importantly the Livestock Exchange occupies a strategically important land parcel suitable for alternative operations move on compatible with the environment.



Potential site for residential development adjacent the Hospital an extension of Nihill Street.

5.7 Infrastructure Services

An assessment of Ouyen's infrastructure and services is documented in the following sections. The collected information suggests that the existing infrastructure has sufficient capacity to service the current short-term projected population. In the longer term some services will require upgrading or development of new infrastructure to sustain the projected population. The structure plan recognises and accommodates these infrastructure requirements.

5.7.1 Wastewater and Water Supply

Grampians Wimmera Mallee Water has recently completed sewerage reticulation scheme within the township boundary. The wastewater treatment plant located within the eastern portion of the Structure Plan area is operating with spare capacity, and there is no short to medium term requirement for expansion of this facility. Existing buffer areas around the wastewater treatment plant have been considered when preparing the Ouyen Structure Plan.



VicRoads Patrol Depot



Ouyen Livestock Exchange Inc.

Development of industrial land on the northeast part of the study area will require extension to the existing sewerage reticulation system and may require installation of sewer pumping station to connect to the existing system.

The Structure Plan is focused on residential area around the southwest part of the town and industrial area on the northeast part of the town. The capacity of water supply mains may be limited and may require upgrading to cater for industrial development.

Detailed planning and time frames for implementation of future water and wastewater infrastructure is dependent on development and in most cases will require funding by the developer. Future development within the Structure Plan area will require consultation with Grampians Wimmera Mallee Water at the preliminary planning stage to determine the Corporation's requirements.

Developers will be responsible for the provision of water supply and sewerage reticulation to future subdivisions and headworks charges that apply within the Structure Plan area.

It is considered that the existing town water supply system and sewerage system has sufficient capacity to cater for future subdivision of land and that the system can be progressively extended through out the study area as required.

5.7.2 Water Reuse

It is understood discussions have taken place between Grampians Wimmera Mallee Water and potential recycled water users within the sewerage district for the purchase up to 80 Megalitres of reclaimed water per annum. Reclaimed water or treated effluent is seen as viable alternative water source for certain approved uses i.e. watering of sporting facilities and gardens

The use of recycled water for irrigation or washdown purposes will require further consultation with Grampians Wimmera Mallee Water, MRCC and EPA approval. Preliminary planning is required to establish the suitability of recycled water for its intended purpose. Assessment will be based on compliance with EPA Victoria's *Guidelines for Environmental Management: Use of Reclaimed Water*.

5.7.3 Gas

No piped natural gas services currently exist within the study area and there are no future plans for infrastructure expansion. The nearest natural gas pipeline extends from South Australia along the Sturt Highway to Mildura. Envestra owns the pipeline. It is doubtful if a commercial case could be put forward to extend the pipeline to Ouyen due the capital cost involved in extending the pipeline and small commercial market opportunities.

5.7.4 Power Supply

The primary power infrastructure feature is the Powercor substation located on the northwest corner of the town centre in Rowe Street. This is of significant importance to the local supply network as it is the sole incoming point of supply.

A 6.6 Kv distribution power line originates at Red Cliffs to provide power for the town and the surrounding rural area. This power line follows the Calder Highway south from Red Cliffs.

The overall power infrastructure within the Ouyen area has the capacity for development but is not unlimited. The basic transmission system is relatively strong but this does not necessarily transfer to the distribution network. The system also suffers because of its single point of entry. Parts of the distribution network may have to be upgraded to cater for additional large residential or commercial loads. It is envisaged that this would occur over a long period of time and that the network would keep pace with future development within the structure plan. Origin Energy indicated that radial power supply to Ouyen is poor but if there were a sudden increase in local demand, upgrades to the line would be able to meet expectations.

Potential future development of land releases around the town will require extension of the existing distribution network into new development schemes.



Powercor Substation

5.7.5 Telecommunications

At present there are no known plans for major Telstra network upgrades within the study area. In all cases headworks may be required to supply infrastructure to any new developments in the area especially where there is non-contiguous development i.e. industrial precincts on the north and south precincts.

Telstra have advised there is copper cable available within the study area. Future development of land within the township is easily serviced from existing networks or extension of existing networks. There is a fibre optic cable network available within the study area.

5.7.6 Stormwater Drainage

Ouyen Township stormwater drainage is serviced by a series of pipe culverts and pits and open channels. The main drainage line (open channel) open runs from the northern part of the township parallel with Farrell Street and the rail line discharging into an open dam at the south western part of the township area. For the western part of the town the stormwater drainage runs from the northern part of the Township parallel with Farrell Street and the railway line discharging to an open dam located on the south western part of the Township. The eastern part of the town is serviced by a series of pipe and culverts that discharge to a dam located opposite Weir Street on the Ouyen- Piangal Road (Hughes Street – Mallee Highway).

The Mildura Rural City Council Stormwater Management Plan makes no specific reference to stormwater issues in Ouyen, stormwater management strategies should focus on a number of management actions aimed at improving the way Council manages stormwater. Council recognises the importance of Best Practice Urban Stormwater Management Practices in environmental management and improving the quality of stormwater runoff.

There is an opportunity to adopt Water Sensitive Urban Design (WSUD) techniques i.e. bioretention filters, constructed wetlands to improve water quality and encourage greater biodiversity and passive recreational activities. New residential development should be encouraged to adopt water sensitive urban design at both lot level and subdivision level.

In addition there is an opportunity to adopt WSUD techniques to alter the function of the existing open drainage channels to act as bioretention filters whilst conveying stormwater.

There would appear to be no natural wetlands located within the study area. There may be an opportunity to redesign existing storage basins to incorporate wetlands.

In the broad sense stormwater runoff should be seen as a useful resource and should be harvested and utilised where possible and not seen as an undesirable waste product.



Piping of open drain in rail precinct has been identified as priority works by the local community.



Unsealed roads in residential precinct

5.8 Urban Design Treatments

The recommendations and urban design proposal *Ouyen Urban Design Advice* prepared by KLM Gerner Consulting Group and Daryl Jackson Architects have also been reviewed and should be adopted.