

Shire of Upper Gascoyne

Local Planning Strategy



Endorsed by the
Western Australian Planning Commission

28 February 2018

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SHIRE OF UPPER GASCOYNE

LOCAL PLANNING STRATEGY

January 2018



Prepared for the Shire of Upper Gascoyne by GHD Pty Ltd



Executive Summary:

The Shire of Upper Gascoyne (Shire) is located within the Gascoyne Region of Western Australia. The Shire covers a significant portion of the region, however contains the lowest population of the four local governments within the region.

This strategy represents the first local planning strategy for the Shire and will be used to guide the Shire's Local Planning Scheme No. 1. This Strategy divides the Shire into two key areas - The Rangelands and the Gascoyne Junction Townsite. The Rangelands area is predominantly made up of pastoral lease areas. The Gascoyne Junction Townsite is the Shire's administrative centre.

The focus for the Rangelands area is to enable the continuation of pastoral activities whilst providing an opportunity for diversification. Tourism has been recognised as a key opportunity for the Rangelands particularly with the presence of the Mount Augustus and Kennedy Range National Parks.

The Gascoyne Junction Townsite will continue to provide administrative support to the Shire. Expansion of the townsite will be limited by availability of services and potential flood risks however further investigation may alleviate some of these limitations.

The strategy recommends that the local planning scheme provide flexibility to enable the Shire to consider applications that will support the development and growth of the Shire. It is also the intention that the scheme not add onerous requirements that will hinder development. Given a large portion of the Shire is impacted by pastoral leases, the strategy and scheme will need consider how the planning framework fits in with these processes.

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PART ONE

THE STRATEGY



Gascoyne Junction

1. PURPOSE

All local governments are required to maintain a local planning scheme in accordance with the *Planning and Development Act 2005* (the Act) and the *Planning and Development (Local Planning Schemes) Regulations 2015* (the Regulations). The local planning scheme sets the rules for planning within the area. As a precursor to the local planning scheme, local governments are to prepare a local planning strategy in accordance with the Regulations which sets out the long term strategic vision for a local government area.

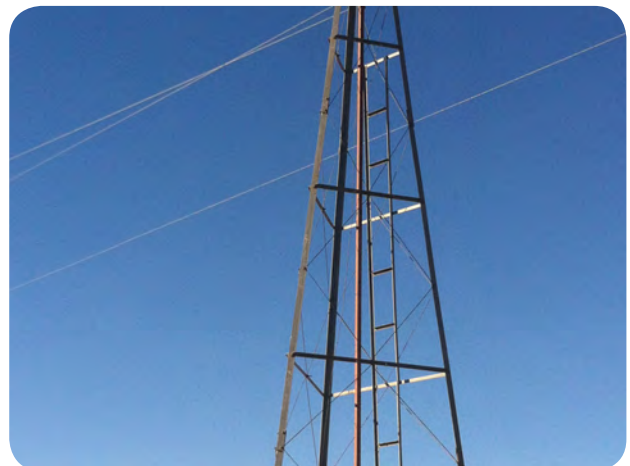
The Strategy can be used as a guide for future planning and development within the local government area and provides the rationale for the zoning and reservation of land in the local planning scheme.

The Strategy is made up of two parts. Part One provides the overall vision for the local government area, setting out the objectives, strategies and actions to be achieved through the framework. Part Two provides the background information, painting a picture of the area.

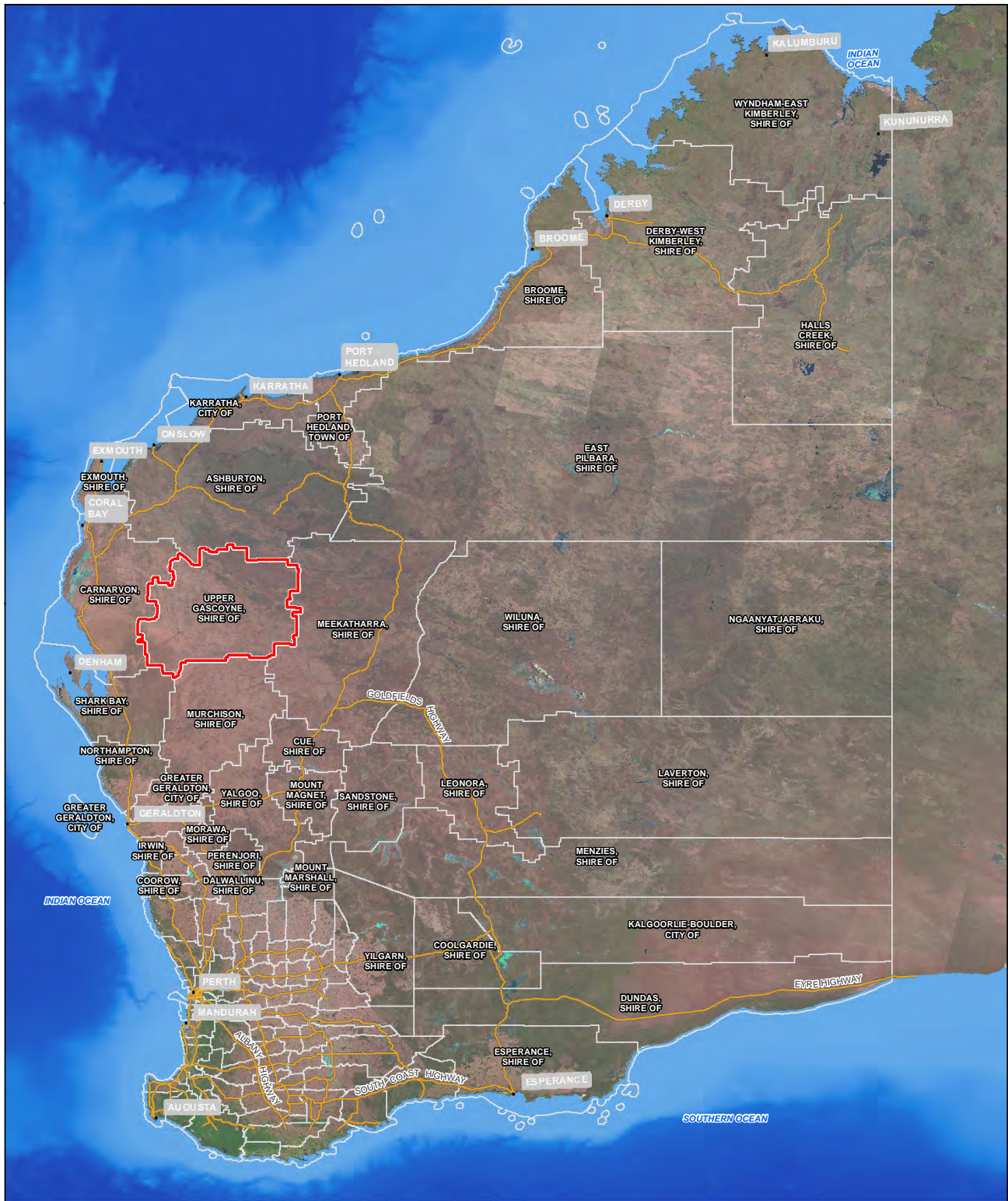
The Strategy is prepared with consideration of existing State policies, the regional planning framework and local strategic documentation. The scheme is informed by the Strategy and provides the rules to achieve the vision. Local planning policies can be prepared pursuant to scheme to provide additional guidance.

Since its formation, the Shire has not had any planning framework in place. This document represents one of the two components which will resolve this void, being the Strategy which sets the vision for the Shire and the other being the local planning scheme, which sets the rules. This Strategy applies to the Shire as a whole as depicted in Figure 1.

The development of the local planning scheme will be based on the Strategy and will be done and prepared in accordance with the model provisions provided at Schedule 1 of the Regulations. The model provisions provide a standardised framework for local planning schemes. Schedule 2 of the Regulations provide a set of deemed provisions that automatically apply to the local planning schemes of all local government areas.

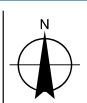
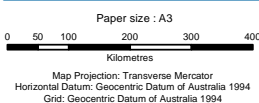


Windmill, Gascoyne Junction



LEGEND

- Town
- ▭ Shire of Upper Gascoyne
- Major Road
- ▭ Local Government Authority Boundary



Shire of Upper Gascoyne
Upper Gascoyne Scheme and Strategy

Job Number | 61-30138
Revision | 0
Date | 18 Jan 2018

Locality

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Data source: GA 250K Topo Series 3 - 2006; Major Road, Town - 2006; Landgate: Local Government Boundary, Shire of Upper Gascoyne - 2015/0708. Created by: afevery

Figure 1: Location Plan

2. VISION AND OBJECTIVES

2.1 Vision

The vision for the future of the Shire has been developed through consultation with the Shire and the local community. It incorporates the desire for growth without compromising the unique character of remoteness that is valued by the community.

The Shire will be a place for sustainable growth and development. The community will prosper through a sturdy economy, diversifying around its ancestry in pastoralism and tourism. The unique environmental landscapes and amenities will be protected and will thrive through the strong environmental values of the community. The tranquil atmosphere draws visitors to the region and the relaxed lifestyle will make people want to stay.

2.2 Objectives

The objectives of the Strategy will support the Shire to develop and function in a sustainable manner that considers the environmental, social, cultural and economic benefits of growth and development.

The objectives have been separated into distinct categories:

- Population and housing
- Economy and employment
- Physical environment
- Cultural environment
- Traffic and transport
- Infrastructure
- Land Uses

Population and Housing

To facilitate sustainable population growth and designate land for housing to accommodate an increase in the Shire's population.

Economy and Employment

To facilitate the continuation of the pastoral industry whilst enabling growth in new industries such as tourism, mining and horticulture.

To facilitate economic growth and diversity to generate employment opportunities in the Shire.

Environment

To identify and protect local fauna and flora in the Shire.

To prepare for and respond to the impacts of climate change.

Cultural

To ensure that future planning within the Shire recognises and protects areas of cultural heritage significance.

Traffic and Transport

To identify priority access routes that facilitate the growth and development of the Shire and improve safe connectivity for the Shire residents and visitors.

To ensure efficient and effective access to the Shire by air to support Royal Flying Doctor Services and tourism.

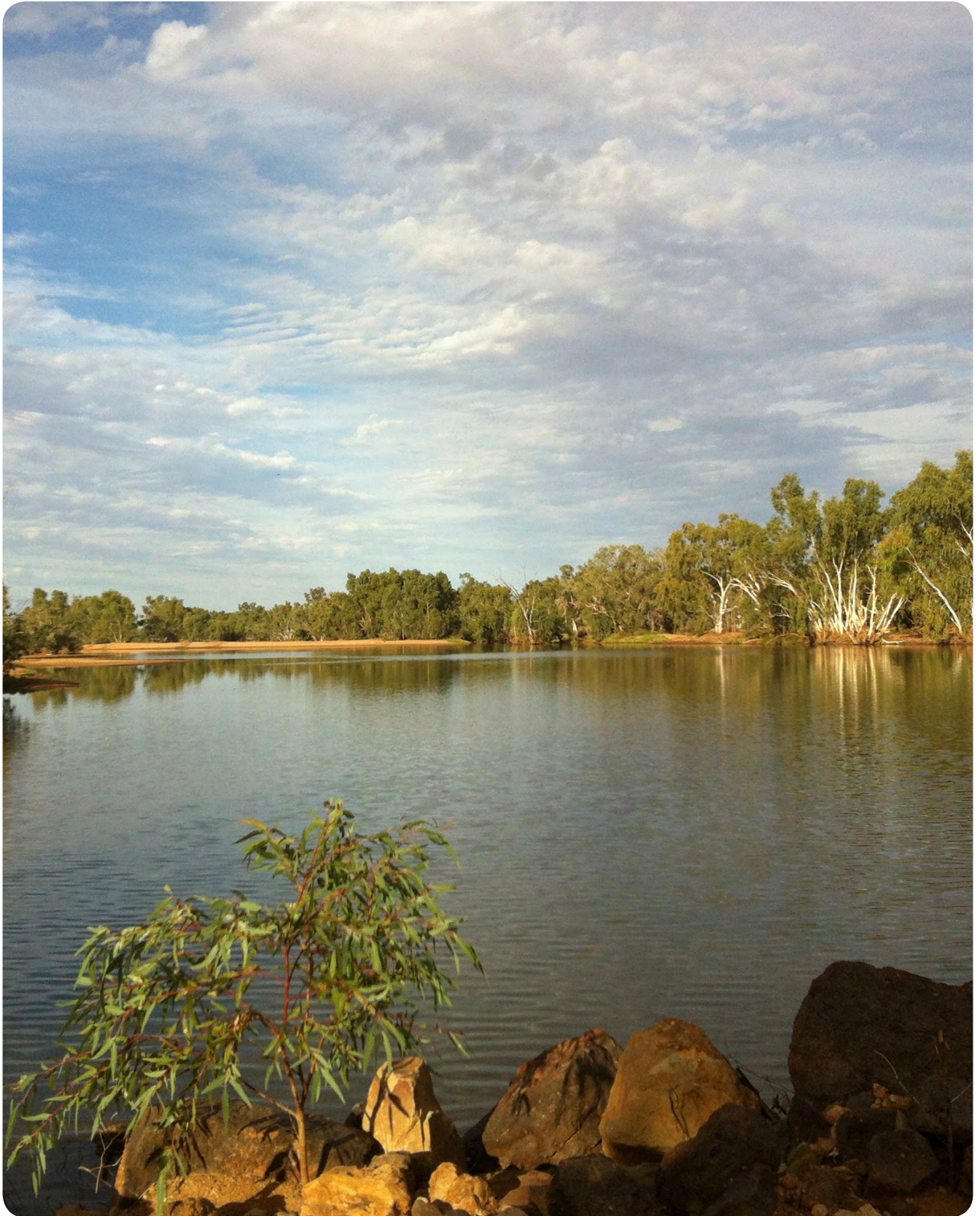
Infrastructure

To provide efficient and affordable access to services within the Shire to facilitate sustainable growth.

To improve telecommunications facilities to respond to growth and tourism within the Shire.

Land Uses

To designate land for appropriate land uses throughout the Shire to facilitate growth and protect major economic industries.



Gascoyne River

3. STRATEGIC PLAN

The Shire has been divided into two key planning areas, to reflect the planning intention of areas in the Shire. The planning areas are Gascoyne Junction Townsite and Rangelands. The purpose of these precincts are:

Gascoyne Junction Townsite - *To provide administrative support for the Shire, rural services and housing for the local population.*

Rangelands - *To support the pastoral and tourism functions of the Shire as well as support cultural heritage and remote settlements.*

The Strategic Plans provide a visual representation of how the Shire is proposed to develop (figures 2 and 3). Broad land use categories are used on the plans to illustrate both existing and future land uses. The land uses that make up the broad categories are set out at section 3.1 and 3.2.

3.1 Rangelands

Figure 2 depicts the strategic plan for the Rangelands area. The plan shows the key economic drivers, those being pastoralism and tourism, as well as key assets such as settlements, roads and natural areas.

Approximately 80 per cent of the Shire is leased for pastoral uses, which has informed the spatial distribution of the 'Pastoral' land use category on the Rangelands Strategy Plan (Figure 2). The other two land use categories are 'Settlement' and 'National Park', reflecting the extent of the Burringurrah community and the Kennedy Range and Mount Augustus National Parks.

In addition to the National Parks, there is approximately 670,000ha of formal pastoral lease land now managed for conservation by the Department of Biodiversity, Conservation and Attractions. This land should be reserved in the local planning scheme for 'Environmental Conservation'.

As the majority of land within the Shire is under pastoral lease arrangement, the use of the land will be determined by the terms of the lease and the provisions of the *Land Administration Act 1997*. In this regard, pastoral land is proposed to be zoned 'Rural' in the local planning scheme.

There are two major National Parks within the Shire - the Kennedy Range and Mount Augustus, both of which are managed by the Department of Biodiversity, Conservation and Attractions. The strategy and scheme will support the Department of Biodiversity Conservation and Attractions' goal of conserving these areas. The application of an 'Environmental Conservation' reserve should be applied.

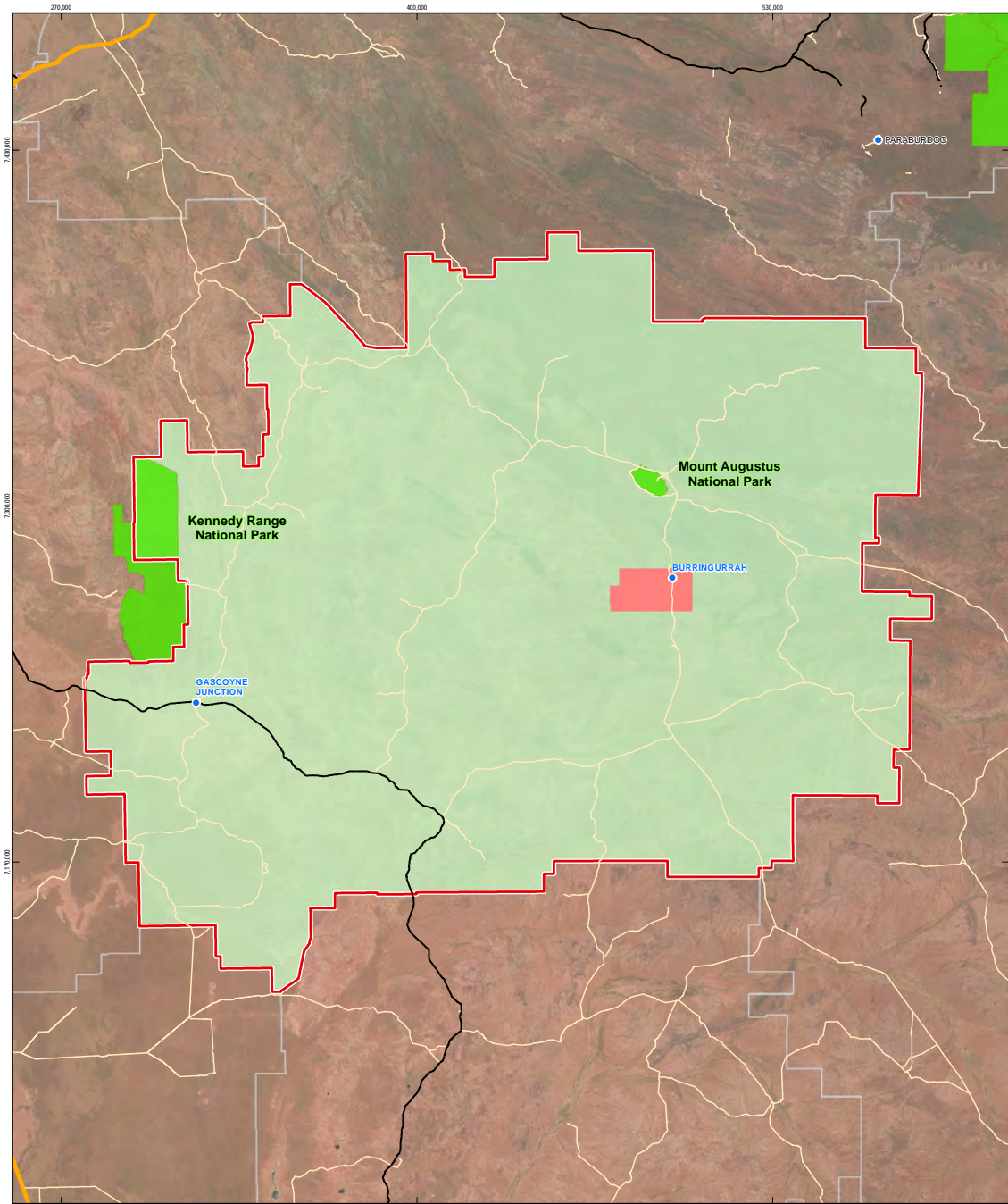
Land uses within the Burringurrah community are to be in accordance with an endorsed Layout Plan. A Layout Plan is prepared and endorsed in accordance with *State Planning Policy 3.2 - Aboriginal Settlements* and provides for development within the settlement. A 'Settlement' zone should be applied to the Burringurrah settlement in the local planning scheme.

3.2 Gascoyne Junction Townsite

While the strategy and scheme will apply throughout the whole Shire, it is likely that the greatest changes in the Shire will occur within the Gascoyne Junction townsite. Future population growth is likely to be accommodated in Gascoyne Junction where community facilities have already been established. As a result a more detailed strategic land use map is provided in Figure 3. This land use plan has resulted from consultation of three land use plan options for the townsite, which are described in greater detail in Part 2 of this strategy.



Gascoyne Junction Race Course



LEGEND

• Town	— Major Road	■ Rangeland	■ National Park
Roads	— Minor Road	■ Shire of Upper Gascoyne	
— State Highway	— Local Government Authority Boundary	■ Settlement	

Figure 2: Shire of Upper Gascoyne Strategic Plan

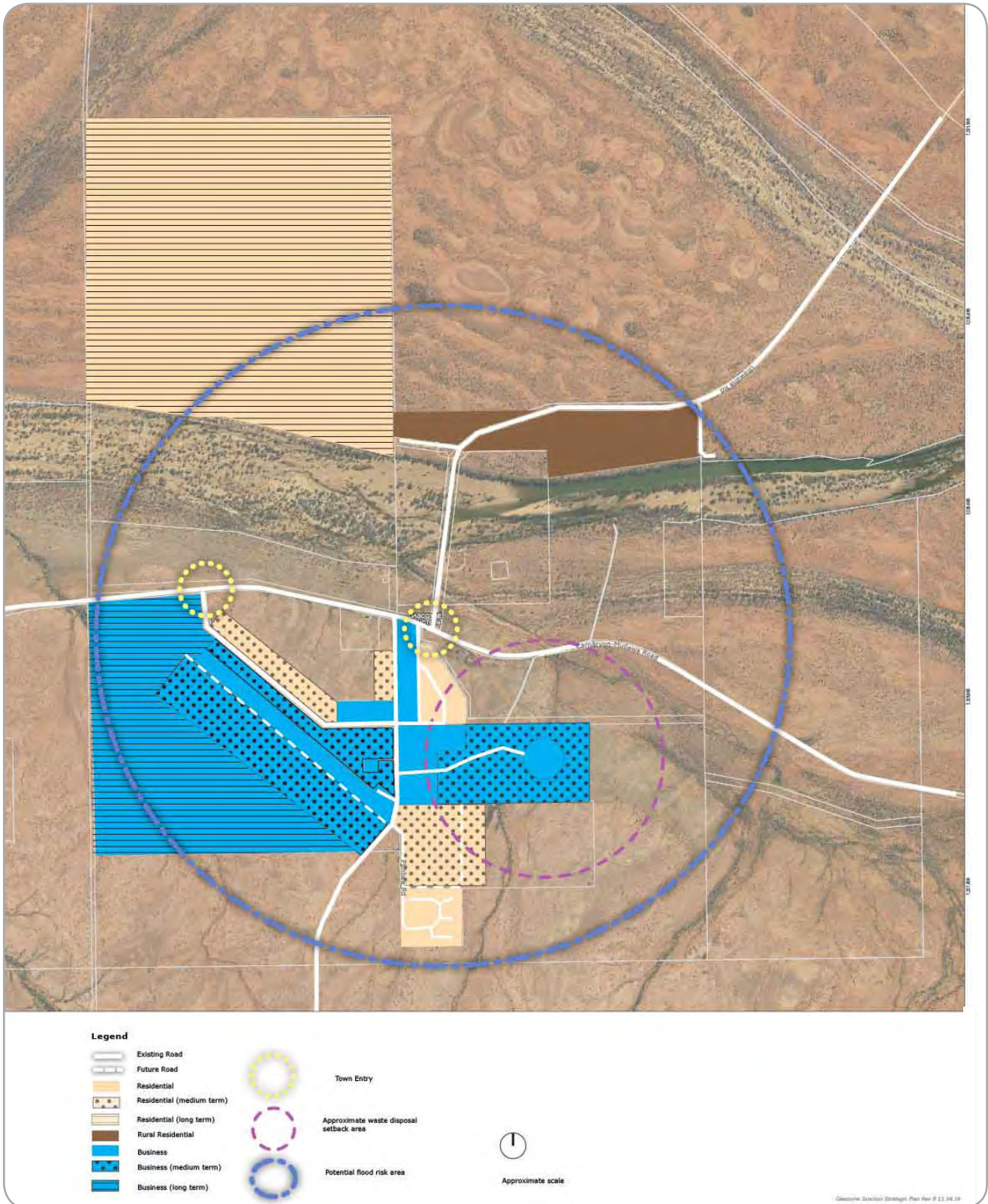


Figure 3: Gascoyne Junction Townsite Strategic Plan

The Gascoyne Junction Townsite Strategic Plan depicts broad land use categories, reflecting both existing and proposed land uses and including areas for potential townsite expansion.

The land use categories incorporate a number of different existing uses. The 'Business' category includes areas proposed to be included in the 'Rural Townsite' zone in the scheme, as well as 'Public Purpose' reserves for the Gascoyne Junction airstrip and a rubbish tip site. The allocation of the 'Business (medium term)' and 'Business (long term)' categories on Figure 3 - Gascoyne Junction Townsite Strategy Plan identify a staged approach to facilitating potential future growth of non-residential land use and development.

The 'Residential', 'Residential (medium term)', 'Residential (long term)' and 'Rural/Residential' categories include existing residential uses and land proposed to be zoned 'Rural Townsite', 'Rural' and 'Rural Enterprise' zone. The extent of the medium and long term expansion areas identify a staged approach to facilitating future residential growth.

There are limitations to growth within Gascoyne Junction, including utility service provision and flood risk. Further detailed site investigation is required prior to development in the expansion areas.

A significant area of the Gascoyne Townsite is included within within a 'Potential Flood Risk Area' on Figure 3. Definitive floodplain mapping has not been undertaken for Gascoyne Junction. Specific recommendations to address flood risk are included in section 3.3.4 of Part 1 and section 4.3.7 of Part 2 of the Strategy.

An 'Approximate Waste Disposal Setback Area' has also been included on Figure 3, surrounding the existing rubbish tip site. The tip may impact on future development of sensitive uses within the approximate 500m setback area.

Proposed Zones and Classifications for the Scheme

A land use zoning of 'Rural Townsite' is appropriate for the majority of the Gascoyne Junction townsite given its current size and range of land uses. The 'Rural Townsite' zoning will encompass a range of residential and non-residential uses.

Residential subdivision and development within the

townsite should be in accordance with the Residential Design Codes. Based on the existing lot sizes of approximately 1000m² and above, a coding of R12.5 is in keeping with the character of Gascoyne Junction.

There are existing vacant lots within Gascoyne Junction along Hatch and Cream Streets. This strategy recommends that these lots be developed for future residential development within the town prior to further land being released for residential development. Should there be a demand for additional residential lots within the town, expansion should be concentrated on Pimbee Road and Viveash Way, north of Scott Street, subject to land suitability assessments being undertaken to ensure there are sufficient services available to support growth and that the flood risk areas has been accurately determined.

Future non-residential expansion is proposed to be located along Pimbee Road and Viveash Way, south of Scott Street, subject to a land suitability assessment being undertaken to ensure there are sufficient services available to support future growth. Accurate flood risk mapping should also be undertaken prior to releasing land for development.

Should there be demand for future residential or commercial land within Gascoyne Junction, a scheme amendment can be undertaken to rezone the lots from 'Rural Townsite' as required.

To minimise land use conflicts, a separate light industry zone should be included to accommodate those uses in the southern part of town. Future expansion of industrial uses can be considered in the southern portion of the town, subject to a site suitability assessment and subject to the industrial uses not encroaching on the Woodgamia community.

Whilst the properties on the northern side of the Gascoyne River have a predominantly residential use, other functions are occurring on site, including business and storage. The 'Rural Enterprise' zone will provide for lots between 1- 4 ha that can accommodate both residential and rural business/industrial uses. Setback and frontage requirements for residential development within the 'Rural Enterprise' zone will be in accordance with the requirements for the R2 coding.

Reserves will be applied in the scheme in the Gascoyne Junction townsite for public purpose uses, public open space and local roads.

3.3 Model Provisions Considerations

The model provisions set out in the *Planning and Development (Local Planning Schemes) Regulations 2015*, do not automatically apply and can be added to or varied to meet local context, provided the variations are satisfactorily justified and are consistent with orderly and proper planning and the broader planning framework.

3.3.1 Development Provisions for Pastoral Lease Areas

A vast majority of the Shire is affected by pastoral leases. Where works are being undertaken in accordance with the pastoral lease, and that the development is not visible from the public road, planning approval should not be required.

Where development is proposed that requires the pastoralist to seek a diversification permit, or the development and/or use is not in accordance with the pastoral lease, then it is appropriate that development approval is sought.

3.3.2 Residential development

All residential development within the 'Rural Townsite' zone is to be in accordance with the R12.5 provisions of the R Codes. This coding is appropriate given current residential lot sizes. The strategy does not recommend any variations to the R Codes or any supplementary provisions.

Residential development in the 'Rural Enterprise' zone should be in accordance with the R2 provisions of the R Codes.

3.3.3 Non-residential development

General development requirements such as design elements, parking, setbacks, landscaping requirements, fencing, should be considered by Council on a case by case basis or alternatively managed through the local planning policy framework, if the Shire wish to manage these elements.

3.3.4 Special control areas

Special control areas provide an additional level of planning control to manage particular matters. In the Gascoyne Junction townsite there are three areas which will require additional planning control. These are the potential flood risk areas, the drinking water protection area and the chlorine buffer associated with the water treatment plant.

The flood risk area is based on the high water marks recorded during a major flood event in December 2010. Definitive floodplain mapping has not been undertaken for the Gascoyne Junction townsite and it is recommended that the special control area provisions include a requirement for referral of development applications to the Department of Water and Environmental Regulation.

The drinking water protection area special control area is based on the existing gazetted Priority 1 and Priority 2 Public Drinking Water Source Protection Areas and a portion of proposed Priority 1 drinking water reserve. It is recommended that the special control area provisions also include a referral requirement to the Department of Water and Environmental Regulation.

The chlorine buffer special control area surrounding the wastewater treatment plan applies to land within a 60m radius of the site and is based on the advice of the Water Corporation. It is recommended that development applications within the special control area be referred to the Water Corporation for comment.

3.4 Deemed Provisions Considerations

There is no scope to amend the deemed provisions set out in the *Planning and Development (Local Planning Scheme) Regulations 2015*. These remain uniform across local government areas. Notwithstanding this, there are opportunities to supplement the deemed provisions in the model provisions and through other mechanisms.

3.4.1 Development Approval Exemptions

As it is not the intention of the scheme to create additional planning controls over pastoral lease areas, some types of development may be exempt from

the requirement for development approval under Part 8 of the deemed provisions. In addition to the exemptions already afforded under clause 61 of the deemed provisions, the following may be appropriate for inclusion in the scheme via supplemental provisions:

- Development associated with a permitted use in the 'Rural' zone that is in accordance with a pastoral lease;
- Development or extension of a single house if a single house is a permitted use in a zone;
- Development of outbuildings, fencing and external fixtures such as carports and/or swimming pools if a single house is a permitted use in a zone;
- Certain signage; and
- Urgent works as required for public safety that falls outside the definition of a 'public work' or for the safety or security of plant or equipment or for the maintenance of essential services.

3.4.2 Notification of Planning Matters

A number of policy and planning proposals require advertising/notification to neighbours and the community. These procedures include:

- Making, amending or revoking a local planning policy;
- Designating a heritage area;
- Advertising structure plans;
- Advertising activity centre plans;
- Advertising local development plans; and
- Advertising applications.

The deemed provisions require notices to be published in a newspaper circulating in the locality. The Shire does not have a local newspaper that circulates solely in the locality. The most relevant local newspaper is the 'Northern Guardian' which circulates through the Gascoyne Region. It is recommended that the Shire also supplement notices in the local paper with:

- Letters /emails to affected landowners;
- Notices on the Shire's website; and
- Notices in the Community Resource Centre.

This can be managed by developing a planning consultation policy or local procedures for planning consultation.

4. STRATEGIES AND ACTIONS

The Shire's isolation presents a number of challenges for growth, however the unique landscapes create a major attraction for the area. Growth is required to continue the viability of the region; however sustainable growth is the key to ensure environmental, social economic and cultural prosperity.

This section of the Strategy presents priority actions and more general strategies and actions to achieve the objectives of Section 2. The strategies and actions have been broken up into those that relate to the local planning scheme, priority actions and other actions which do not relate directly to the planning framework.

4.1 Scheme Actions

The Strategy identifies a number of strategies which can be addressed through the local planning strategy. The key strategy areas are:

- Population and housing
- Economy and employment
- Physical environment
- Cultural environment
- Traffic and transport
- Infrastructure
- Land uses

The following pages describes each of these and strategies and the associated action to address these.



Jimba Jimba Station with Kennedy Range in the distance

4.1.1 Population and Housing

The Shire has a small population base and although it is relatively stable, it has an aging demographic. Limited access to diverse employment reduces the desire to remain in or relocate to the region. These limited employment opportunities make it challenging to retain and attract youth and young families.

Already constructed housing is limited, however there are existing undeveloped lots in the townsite on Hatch and Cream Streets. These lots should be developed in the first instance.

The strategic plan for the Gascoyne Junction townsite identifies land for investigation for future urban expansion. Once these investigations are carried out (considering service capacity and land capability) scheme amendments can be progressed.

Local schools are established in both Gascoyne Junction and Burringurrah. In order to maintain an adequate service, the population must be sustainable.



Gascoyne Junction housing

Strategy	Action	Relevant Area
Identify mechanisms to generate employment opportunities .	Ensure flexibility in the scheme to enable new investment opportunities.	Whole of Shire
Identify land within the town appropriate for residential expansion.	Apply zonings that enable residential development on already created lots. Consider future scheme amendments where the appropriate investigations have been undertaken. Bushfire risk assessment and mitigation will be required where development intensification or rezoning is considered in bushfire prone areas.	Gascoyne Junction Townsite
To enhance the public health of the local community	Consider land use impacts arising from environmental health requirements when considering planning applications.	Whole of Shire

4.1.2 Economy and Employment

The pastoral industry is the major economic driver, with numerous pastoral stations across the vast landscapes of the Shire. This industry should be maintained, however, being reliant on a single main industry makes the Shire vulnerable to changes in the agricultural markets and climatic changes.

There are opportunities to facilitate further development of the tourist industry and support employment growth in the Shire, where this is currently not being captured.

Mining and horticulture ventures are currently being explored in the region. These industries could facilitate diversity in the local economy, generating more employment opportunities and ensuring the Shire is more resilient to change.



Livestock from pastoral stations

Strategy	Action	Relevant Area
Support ongoing pastoral activities	Apply appropriate zonings to encourage ongoing pastoral activities.	Rangelands and Gascoyne Junction Townsite
Enable the consideration of a range of employment opportunities.	Enable flexibility in the local planning scheme to allow consideration of a range of land uses.	Rangelands and Gascoyne Junction Townsite

4.1.3 Physical Environment

The Shire has extensive natural landscapes with few built up areas. The region is characterised by mulga woodlands with spinifex occurring on shallow stony loams. There are protected flora and fauna species throughout the Shire which will need to be considered where major changes are proposed to natural landscapes.

Climate change will play a significant role in the Shire and have potentially detrimental impacts on the pastoral industry, as well impacting on water sources.

The Shire also has opportunities to investigate new alternative energy and water sources. Such opportunity may assist the region prepare for the impacts of climate change.



Gascoyne River

Strategy	Action	Relevant Area
Identify opportunities to minimise the impacts of flooding on the Gascoyne Junction townsite.	Implement planning controls in Gascoyne Junction that manage development in flood prone areas.	Gascoyne Junction Townsite
Identify mechanisms to ensure the protection of flora and fauna.	Apply appropriate zones and/or reserves to protect known areas of environmental conservation.	Rangelands
Identify the extent of the drinking water source to determine the area to be protected.	Implement planning controls in Gascoyne Junction that manage development in drinking water source areas.	Gascoyne Junction Townsite

4.1.4 Cultural Environment

The region is rich in cultural history which should be preserved for future generations to enjoy an historical understanding of the Shire’s beginnings.

There are 20 properties and locations identified as having heritage significance within the Shire. In addition there are 152 known registered Aboriginal Heritage sites and an additional 152 known lodged heritage places.

Native Title claims are evident throughout the Shire, which will need to be considered in accordance with the *Native Titles Act 1999*.



Former Police station, Gascoyne Junction

Strategy	Action	Relevant Area
Identify properties in the Shire that require heritage protection.	Prepare a heritage list as a basis for planning controls.	Rangelands and Gascoyne Junction Townsite

4.1.5 Traffic and Transport

One of the Shire’s major asset is its extensive road network. These roads are vital to support the pastoral industry as well as the tourist industry. Identification of major routes and upgrades will facilitate improvements in these industries.

Access to the Shire via air is also important for emergency response and providing alternative access for tourists.



Gascoyne Junction airstrip

Strategy	Action	Relevant Area
Identify key access routes to be upgraded to facilitate efficient movement through the Shire.	Apply road reservations under local planning scheme where appropriate.	Rangelands and Gascoyne Junction Townsite
Ensure well maintained airstrips throughout the Shire to enable use by the Royal Flying Doctor Service.	Apply a public purpose reserve over the airstrip in the Gascoyne Junction Townsite.	Gascoyne Junction Townsite

4.1.6 Utility Services and Community Facilities

The provision of permanent community facilities in the Shire is limited. Travel outside of the Shire is necessary in order to access some community and medical services.

The provision of service utilities such as water and electricity is limited. Investigation of alternative solutions may be required to support townsite expansion. Specific Strategies and Actions are further outlined in section 4.3.5.



Community pavilion, Gascoyne Junction

Strategy	Action	Relevant Area
Protect land identified for essential services.	Apply Public Purposes reserves as appropriate over land identified for community facilities, such as the Shire offices, school and services such as water and electricity infrastructure.	Gascoyne Junction Townsite

4.1.7 Land Use

In developing a new planning framework, it is important not to introduce overly onerous requirements on the Shire. The Shire does not have the current resources to manage and enforce a complex local planning scheme. There is a risk that by introducing provisions and procedures that are complex or seen as cumbersome, that it may encourage unauthorised works. This is not the intention of the scheme, therefore this strategy proposes a simplistic approach to the scheme and should only impose specific development provisions where considered necessary.

The scheme should also remain flexible to allow for diversification of land uses and enable the Shire to be open to new investment opportunities. For this reason, the strategy recommends that the scheme allow for a range of appropriate land uses.



Inggarda Yarning Spot and picnic area

Strategy	Action	Relevant Area
Minimise onerous planning provisions within the scheme.	Only include scheme provisions where required. Allow flexibility in the scheme to reduce complexity of the scheme.	Rangelands and Gascoyne Junction Townsite
Maintain flexibility in the scheme.	Apply only a few scheme zones from the model scheme text that allow consideration of a range of uses. Zones include: <ul style="list-style-type: none"> • Rural • Rural Townsite • Rural Enterprise • Light Industry • Settlement 	Rangelands and Gascoyne Junction Townsite
Protect land for essential services and land uses that support the local community.	Apply reserves from the model scheme text where appropriate, including: <ul style="list-style-type: none"> • Public open space • Environmental conservation • Public purpose • Local road 	Rangelands and Gascoyne Junction Townsite

4.2 Priority Actions

The community and Council have identified three priority actions to achieve the Strategy objectives. They are:

- Roads
- Tourism
- Bridging the river

These priority actions will be important to facilitating continued growth and development of the Shire. These actions are considered to be outside the control and management of planning framework. Whilst the planning framework may be able to support some of the actions through zonings and development provisions, it will not necessarily provide the mechanism to initiate these strategies and actions.

Each of the three priority actions is described in the following pages with more specific strategy and actions outlined that have been identified through consultation and review of existing literature.



Gascoyne Junction Tourist Park



Gascoyne Junction road network



Gascoyne Junction road network

4.2.1 Tourism

There is an opportunity for the Shire to further develop the existing tourism industry. The Shire also offers a unique outback experience that draws tourists to the region.

Mount Augustus and the Kennedy Range are the Shire's major tourist attractions, with each national park receiving approximately 6,000 visitors annually. There is an opportunity to capitalise on these attractions and facilitate the growth of the Shire's tourist industry.

Tourism for the Shire is also highlighted in the Gascoyne Tourism Strategy (Gascoyne Development Commission, 2014), further demonstrating the opportunities to grow this industry.

Tourism opportunities should be supported by Shire, however the responsibility to action tourism

strategies are not always the responsibility of the Shire. A list of tourism strategies and actions are outlined below, including the relevant responsibility authority/ personnel.

The Shire should continue to work with the Gascoyne Development Commission, Tourism WA and the Department of Biodiversity, Conservation and Attractions to investigate and promote tourism opportunities in the Shire.

Investigations have begun into the 'Mount Augustus Base Camp' however there is currently no proponent or co-investor. As outlined in the Gascoyne Tourism Strategy, the business case should be further reviewed by the Gascoyne Tourism Board and if supported, the State Government should be encouraged to fund its progress.

Strategy	Action	Relevant Area	Responsibility
Support tourist activities in the Shire.	Improve and maintain tourist facilities at key locations such as the Kennedy Range and Mount Augustus National Parks. Investigate improving road network to improve access to tourist locations.	Rangelands	Department of Biodiversity, Conservation and Attractions State Government or private proponent (Mount Augustus)
Promote tourism within the Shire.	Develop a tourist brochure detailing the major features and destinations in the Shire - 'Where to go', 'What to see', 'How to get there', 'Where to stay' etc.	Rangelands and Gascoyne Junction Townsite	Shire of Upper Gascoyne
Support Indigenous tourism industry at Mount Augustus.	Investigate opportunities for Indigenous tourism at Mount Augustus as part of any development at the 'Mount Augustus Base Camp'.	Rangelands	State Government and/or private proponent
Support small tourism ventures.	Investigate small tourism operations in Gascoyne Junction such as Kayaking on the River, astronomy tours, dirt bike riding tracks.	Gascoyne Junction Townsite	Private proponent
Promote station stays within the Shire.	Investigate mechanisms to develop and promote station stays in the Shire.	Rangelands and Gascoyne Junction Townsite	Private proponent and Department of Planning, Lands and Heritage (for approval)

4.2.2 Roads

Roads are a critical asset in the Shire as they provide vital links for residents, pastoralists and tourists. The majority of the roads are unsealed, with the exception of Carnarvon-Mullewa Road between Carnarvon and Gascoyne Junction.

The sealing of major transport routes would facilitate the growth of the tourist industry and open the Shire up to major connections to Meekatharra, Wiluna Kalgoorlie to the east and Tom Price, Karratha and Karijini to the north. Some of these routes are shown in Figure 4 with the approximate road distances.

None of the roads within the Shire are under the jurisdiction of Main Roads WA, therefore the Shire is the responsible authority for maintaining the road network. The road network in the Shire is extensive. There may be opportunity to investigate funding options for improving the road network.



Unsealed road network

Strategy	Action	Relevant Area	Responsibility
Seal the priority road network.	<p>Investigate sealing key road links such as:</p> <ul style="list-style-type: none"> • Gascoyne Junction to Mount Augustus • Gascoyne Junction to Meekatharra • Gascoyne Junction to Kennedy Range • Mount Augustus to Karijini • Mount Augustus to Meekatharra • Mount Augustus to Kennedy Range <p>Investigate funding mechanisms to assist with sealing of roads.</p>	Rangelands and Gascoyne Junction Townsite	Shire of Upper Gascoyne
Facilitate a more direct link between Mount Augustus and Karijini.	Investigate the opportunity to create a more direct link between Mount Augustus and Karijini.	Rangelands	

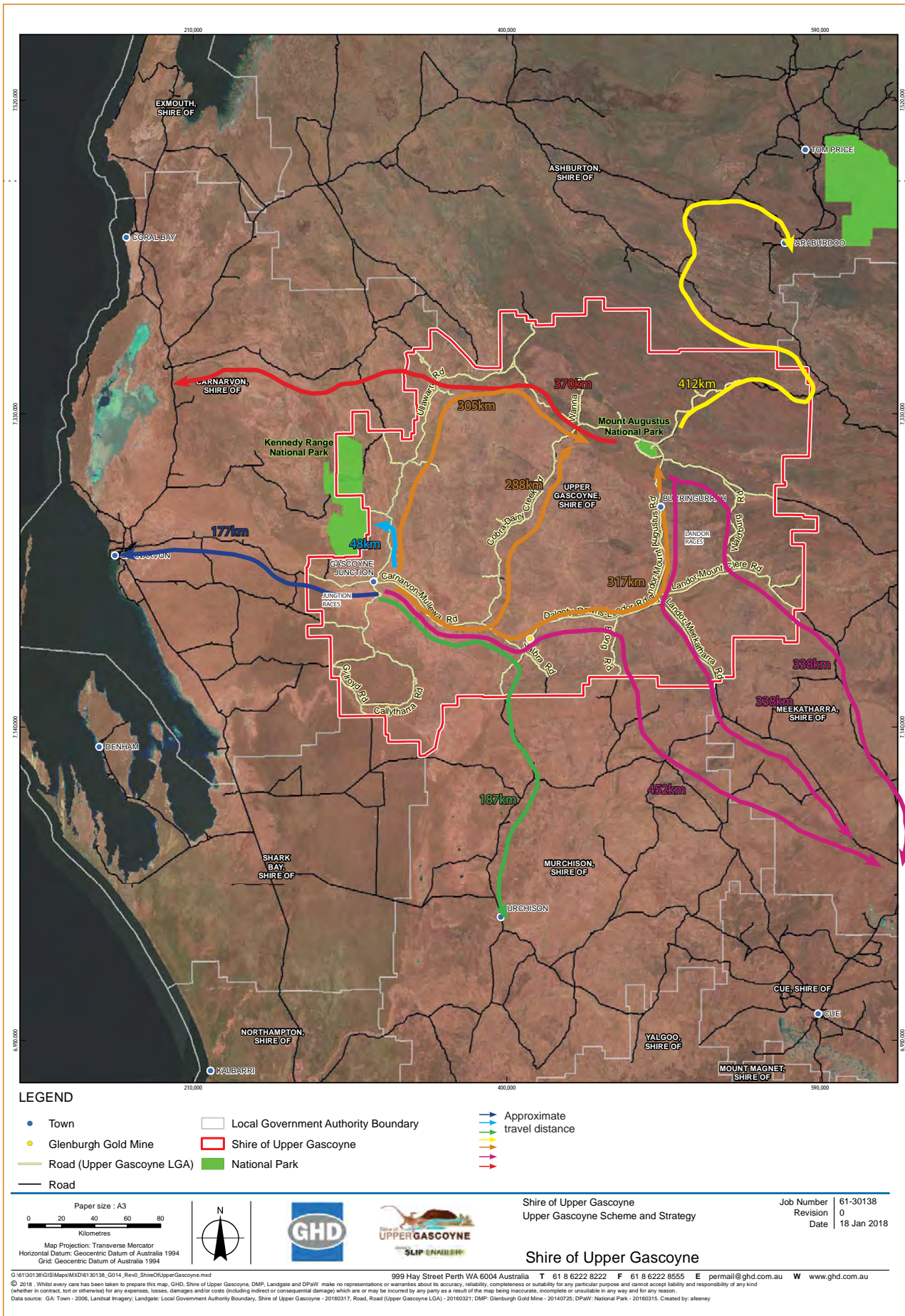


Figure 4: Key Tourist Links throughout the Shire of Upper Gascoyne

4.2.3 Bridging the river

The Gascoyne River is the main water way through the Shire. There is an existing crossing at Gascoyne Junction which provides access from the main townsite to rural residential properties on the north side of the river and to the Kennedy Range from Gascoyne Junction.

During flood periods, the water level of the river rises and restricts access across the existing river crossing causing the properties on the northern side of the river to be isolated from the main townsite during times of flood.

Addressing this issue will not only improve the safety of the residents on the north side of the river but will enable access to the Kennedy Range.

Options to 'bridge' the divide created by river should be investigated to enable access between the north and south. Other options that could be investigated include developing an airstrip or obtaining a helicopter to provide safe movement over the area. The cost or feasibility of these options are unknown and would require further investigation.

The Shire has provided a funding proposal to the State Government for consideration.

Strategy	Action	Relevant Area	Responsibility
Facilitate safe crossing over the Gascoyne River.	Investigate options for crossings over the Gascoyne River. Further review the business case for river crossing.	Gascoyne Junction Townsite	Shire of Upper Gascoyne and/or Gascoyne Development Commission



Existing Gascoyne River crossing

4.3 Other Strategies and Actions

In addition to those strategies and actions that are managed under the scheme or considered to be priorities for the Shire, the following strategies and actions have been identified. These strategies and actions are not matters which can be managed under the scheme but will assist with the Shire's growth and development.



Gascoyne Junction town centre

4.3.1 Housing and population

Strategy	Action	Relevant Area	Responsibility
Identify mechanisms to generate employment opportunities to increase the permanent population.	Consider opportunities for alternative investment in the Shire where appropriate.	Rangelands and Gascoyne Junction Townsite	Shire of Upper Gascoyne and/or private proponents

4.3.2 Economy and Employment

Strategy	Action	Relevant Area	Responsibility
Enable pastoralists to respond to change and diversify their land.	Investigate diversification permits where appropriate.	Rangelands and Gascoyne Junction Townsite	Leaseholders
Support the development of the tourism industry.	Investigate small and large tourism opportunities for the Shire.	Rangelands and Gascoyne Junction Townsite	Shire of Upper Gascoyne, Gascoyne Development Commission, Tourism WA and/or private proponents.
Support the tourism industry through improvements to the road network and telecommunications facilities.	Investigate opportunities to upgrade the road network and improve telecommunications network.	Rangelands and Gascoyne Junction Townsite	Shire of Upper Gascoyne Telstra
Identify opportunities for the Shire to capitalise on the potential mining industry presence to capture and retain positive economic returns.	Liaise with relevant Government Departments to investigate mining opportunities in the Shire where appropriate.	Rangelands	Shire of Upper Gascoyne and Department of Mines, Industry Regulation and Safety

4.3.3 Physical Environment

Strategy	Action	Relevant Area	Responsibility
Identify mechanisms to access sustainable forms of energy and alternative water sources.	Attract investment to investigate alternative energy and water sources.	Rangelands and Gascoyne Junction Townsite	Private proponent
Protect flora and fauna	Implement recommendations of State and Federal Government legislation.	Rangelands and Gascoyne Junction Townsite	Shire of Upper Gascoyne, land owners and/or lease holders.

4.3.4 Traffic and Transport

Strategy	Action	Relevant Area	Responsibility
Improve access and movement through the Shire.	Upgrade identified roads	Rangelands and Gascoyne Junction Townsite	Shire of Upper Gascoyne
Ensure well maintained airstrips throughout the Shire to enable use by the Royal Flying Doctor Service.	Upgrade airstrips where required.	Rangelands and Gascoyne Junction Townsite	Land owners and lease holders.
Enable access to Mount Augustus via aircraft.	Review and revisit business case for the development of the 'Mount Augustus Base Camp'.	Rangelands	State Government or private proponent



Gascoyne Junction Race Course



Gascoyne Junction tourist facility

4.3.5 Utility Services and Community Facilities

Strategy	Action	Relevant Area	Responsibility
Increase number of services available in the Gascoyne Junction townsite.	Investigate opportunities to increase employment to increase permanent population.	Gascoyne Junction Townsite	Private proponents
Ensure efficient responses to emergency situations.	Implement the Shire of Upper Gascoyne emergency plans.	Rangelands and Gascoyne Junction Townsite	Shire of Upper Gascoyne
Ensure adequate water supply in the Gascoyne Junction townsite.	Investigate water availability for the Gascoyne Junction townsite. Undertake land capability studies.	Gascoyne Junction Townsite	Shire of Upper Gascoyne land owners and lease holders
Ensure adequate energy supply for the Gascoyne Junction townsite.	Investigate mechanisms for alternative energy supply. Undertake land capability studies.	Gascoyne Junction Townsite	Horizon Power land owners and lease holders
Improve telecommunications in the Shire.	Investigate opportunities to improve telecommunications coverage.	Rangelands and Gascoyne Junction Townsite	Telstra
Ensure community facilities are suitably located.	Consider relocation of the public cemetery to minimise flood risk and encroachment of expansion areas.	Rangelands and Gascoyne Junction Townsite	Shire of Upper Gascoyne

4.3.6 Land use

Strategy	Action	Relevant Area	Responsibility
Identify land for future townsite expansion.	Undertake land capability studies.	Gascoyne Junction Townsite	Landowners

PART TWO

BACKGROUND INFORMATION AND ANALYSIS



Gascoyne River

1. INTRODUCTION

As described in Part 1, all local governments are required to maintain a local planning scheme in accordance with the *Planning and Development Act 2005*.

The Strategy provides the strategic framework to guide the development of the scheme. The strategy is informed by a number of documents including State planning policies, strategy documents prepared by various government departments.

The local planning scheme sets the rules for development in the local government area, however further guidance can be provided through the local planning policy framework.

This relationship is illustrated in Figure 5.



Figure 5: Planning Framework

2. STATE AND REGIONAL PLANNING CONTEXT

In the process of preparing a Strategy, consideration must be given to existing state and regional planning documents, including state planning policies, strategies and plans. It is essential that the planning vision aligns with the broader planning framework. The key documents that influence the Strategy are outlined below.

2.1 State Planning Policies

State Planning Policy No. 1 – State Planning Framework Policy (SPP 1)

The State Planning Framework Policy outlines the key principles that guide future planning decisions. The principles relate to the environment, the community, the economy, infrastructure and regional development. This policy sets the overall framework for planning within Western Australia. The five key principles should be applied when preparing a local planning framework such as local planning strategies and schemes are:

Environment: *To protect and enhance the key natural and cultural assets of the State and deliver to all West Australians a high quality of life which is based on environmentally sustainable principles.*

Community: *To respond to social changes and facilitate the creation of vibrant, safe and self-reliant communities.*

Economy: *To actively assist in the creation of regional wealth, support the development of new industries and encourage economic activity in accordance with sustainable development principles.*

Infrastructure: *To facilitate strategic development by making provision for efficient and equitable transport and public utilities.*

Regional Development: *To assist the development of regional Western Australia by taking account of the special assets and accommodating the individual requirements of each region.*

State Planning Policy No. 2 – Environment and Natural Resources Policy (SPP 2)

This policy examines how the environment and natural resources should be considered in land use planning

and decision-making. The policy covers key areas including air quality, soil and land quality, biodiversity, agricultural land and rangelands, minerals, petroleum and basic raw material resources, marine resources and aquaculture, landscape, greenhouse gas emissions and energy efficiency.

The vast majority of the Shire is covered by natural landscapes, with only a small proportion of the land being built up. Planning within the Shire will need to ensure that the environment and natural resources are given a high priority and considered an asset in the local economy.

State Planning Policy 2.5 – Land Use Planning in Rural Areas (SPP 2.5)

This policy provides guidance for the protection and use of rural land. The location of rural land should be appropriately planned for and land identified as priority agricultural land should be indicated in local planning strategies and schemes. The policy also provides guidance on the location of rural living areas. The policy applies to land zoned for rural or agricultural purposes and land identified or proposed for rural living. These are likely to be predominant uses within the Shire and the proposed local planning scheme.

State Planning Policy 3 – Urban Growth and Settlements (SPP 3)

This policy sets the framework to facilitate urban growth and settlements in a sustainable manner. In regional areas, it expresses the need for planning to align with regional strategies that should account for changes to population and housing needs, providing an indication of the settlement's future.

State Planning Policy 3.1 – Residential Design Codes of Western Australia (R-Codes) (SPP 3.1)

The R-Codes provide the minimum standards for residential development throughout Western Australia. They set a framework for development application approvals and the minimum requirements for consultation. The R-Codes provide two options for approval, either through a design principles approach or a deemed-to-comply approach. The R-Codes will be the key document used within the Shire to guide residential development once a local planning scheme

has been adopted.

State Planning Policy 3.2 – Aboriginal Settlements (SPP 3.2)

The key objective of this policy is to provide a framework for planning Aboriginal settlements, including the process of preparing a Layout Plan. The policy outlines the key characteristics of Aboriginal settlements and planning issues that exist. This state planning policy prescribes that where a Layout Plan has been endorsed and the area is clearly defined, the land is to be zoned as 'Settlement' under the local planning scheme. One recognised settlements (Burringurrah) exist within the Shire which should be appropriately zoned with development to be in accordance with the approved layout plan.

State Planning Policy 3.5 – Historic Heritage Conservation (SPP 3.5)

Applying to Historic Heritage Conservation, SPP 3.5 sets out policy measures including identification and assessment, designation of heritage areas, differentiation between heritage areas and urban character areas, establishment of heritage lists, considerations for development assessment, development control principles and considerations for planning schemes and strategies.

The Shire's local planning scheme will include standard provisions for heritage places in accordance with the *Planning and Development (Local Planning Schemes) Regulations 2015*. The Shire does not currently have a local heritage register, therefore the local planning strategy will make recommendations in regards to appropriate heritage protection.

State Planning Policy 3.7 – Planning for Bushfire Risk Management (SPP 3.7)

This policy requires that land use planning considers the importance of bushfire risk management. SPP 3.7 includes associated guidelines.

The bushfire-prone area map, prepared by the Office of Bushfire Risk Management illustrates that the majority of the Shire is identified as bush fire prone areas. The policy will not come into effect for the Shire until such

time that a local planning scheme has been adopted. Development within bushfire prone area is subject to additional controls to manage bushfire risk.

2.2 Other State Policies

Draft Government Sewerage Policy (2016)

This policy has been drafted and is managed by the Department of Health. The policy aims to protect public health and water resources. It provides options for subdivision control where reticulated sewerage is unlikely to be available in the immediate future, which is particularly relevant in the Shire.

Liveable Neighbourhoods

Liveable Neighbourhoods is a Western Australian Planning Commission operational policy that guides the structure planning and subdivision of greenfield and large brownfield (urban infill) sites.

It emphasises the importance of thorough site and context analysis in underpinning the design of well defined, sustainable, self sufficient and healthy urban communities.

2.3 Regional Planning Framework

Gascoyne Regional Planning and Infrastructure Framework (2015)

This framework has been prepared by the former Department of Planning. The aim of the framework is to guide future planning and infrastructure. The framework identifies four vision themes, these being; 'diversity', 'liveability', 'connectedness' and 'collaboration'. The framework is intended to guide local governments in relation to schemes and strategies.

The framework identifies some potential Gascoyne infrastructure projects. The key projects applicable to the Shire are:

- *Ullawarra Road upgrade – seal from Gascoyne Junction to the eastern entrance of the Kennedy Range National Park;*
- *Inland Gascoyne Road Infrastructure Planning, including:¹*
 - A. *identifying an indicative route between Mt Augustus and Paraburdoo;*
 - B. *Gascoyne River Crossing upgrade; and*
 - C. *an east-west road link between Carnarvon and Wiluna*
- *National Broadband Network – optical fibre rollout and next generation wireless coverage to Gascoyne towns*
- *New and upgraded facilities in Department of Biodiversity, Conservation and Attractions managed lands in the Gascoyne, including:*
 - A. *Kennedy Range National Park visitor facilities – including development of campgrounds, walk trails and day use sites.*

¹ Outcomes of proposed infrastructure planning projects may result in further scope development for potential Gascoyne regional infrastructure projects.

Gascoyne Regional Investment Blueprint (2015)

The Gascoyne Development Commission has prepared the Regional Investment Blueprint. The vision for the Gascoyne Region is 'an internationally recognised tourism destination, a reliable global provider of quality food products and a maritime hub for energy project supply chains.' The vision for the region is to reach a population of 23,000 by the year 2050. The Blueprint creates a framework for guiding the progress of the region to 2050.

Four imperatives were identified which reflect areas of the economy and society where prioritising investment will help achieve the vision. These four imperatives are 'Food Production', 'Tourism – Destination First Choice', 'Population Services and Resources Services' and 'Supply Chains.' These four imperatives are supported by six transformational pillars. Specific projects will be identified through these pillars.

The Shire can assist to achieving the Region's visions by creating a strategy and scheme that supports these imperatives.

Central Regions Land Capacity Analysis - Shire of Upper Gascoyne

The Central Regions Land Capacity Analysis provides a broad overview of existing and future land capacity of settlements in the Mid-West, Gascoyne and Goldfields-Esperance regions with respect to population growth.

This report identifies a potential shortfall of residentially zoned land to cater for the population growth anticipated in the *Western Australia Tomorrow 2026* population forecasts, under certain scenarios.

The strategy identifies a number of options for the expansion of the Upper Gascoyne townsite, recognising that future population trends in the region will be largely dependent on economic investment and the creation of employment opportunities to stimulate growth. Without employment opportunities, the desire to remain in or move to the Shire are reduced.

3.0 LOCAL PLANNING CONTEXT

The Local Planning Strategy for the Shire has been prepared concurrently with Local Planning Scheme No. 1. Prior to these documents being prepared, there was no local planning strategy, local planning scheme or local planning policy in place. Development within the Shire was primarily guided by the National Building Code of Australia and the *Health Act 1911*.

Shire of Upper Gascoyne Strategic Community Plan 2012/13 – 2022/23

The Shire's Strategic Community Plan outlines the long-term vision, values, aspirations and objectives for the area. It provides a local context to the region and background to how the plan was developed. A community survey outlined the priorities for the community which have helped to shape the visions, values, objectives and strategies of the Strategic Community Plan. There are four interest areas – economic, environmental, social and civic leadership, which each have a strategic objective, outlined below.

Economic: To encourage greater diversity in the commercial sector, so as to grow a broader local economy. To develop and maintain an efficient road transport system.

Environmental: To actively protect the environment, promote ecological sustainability, protect water quality,

pursue water and energy conservation and manage future built development.

Social: Develop, co-ordinate, provide and support services and facilities which enhance the quality of community life in the Shire.

Civic leadership: To provide Good Governance to the Upper Gascoyne Shire area through:

- Detailed and professional administration;
- High levels of accountability;
- Compliance with statutory requirements;
- High-quality forward planning, particularly for assets and finances;
- Openness and transparency and enhanced consultations and public participation;
- Provision of quality customer services, good financial management and pursuit of excellence in professional administration and communication.

The Shire's Strategic Community Plan has informed the preparation of the Strategy to ensure that the values of the community are considered in the document.



Gascoyne River



Gascoyne Junction Race Course

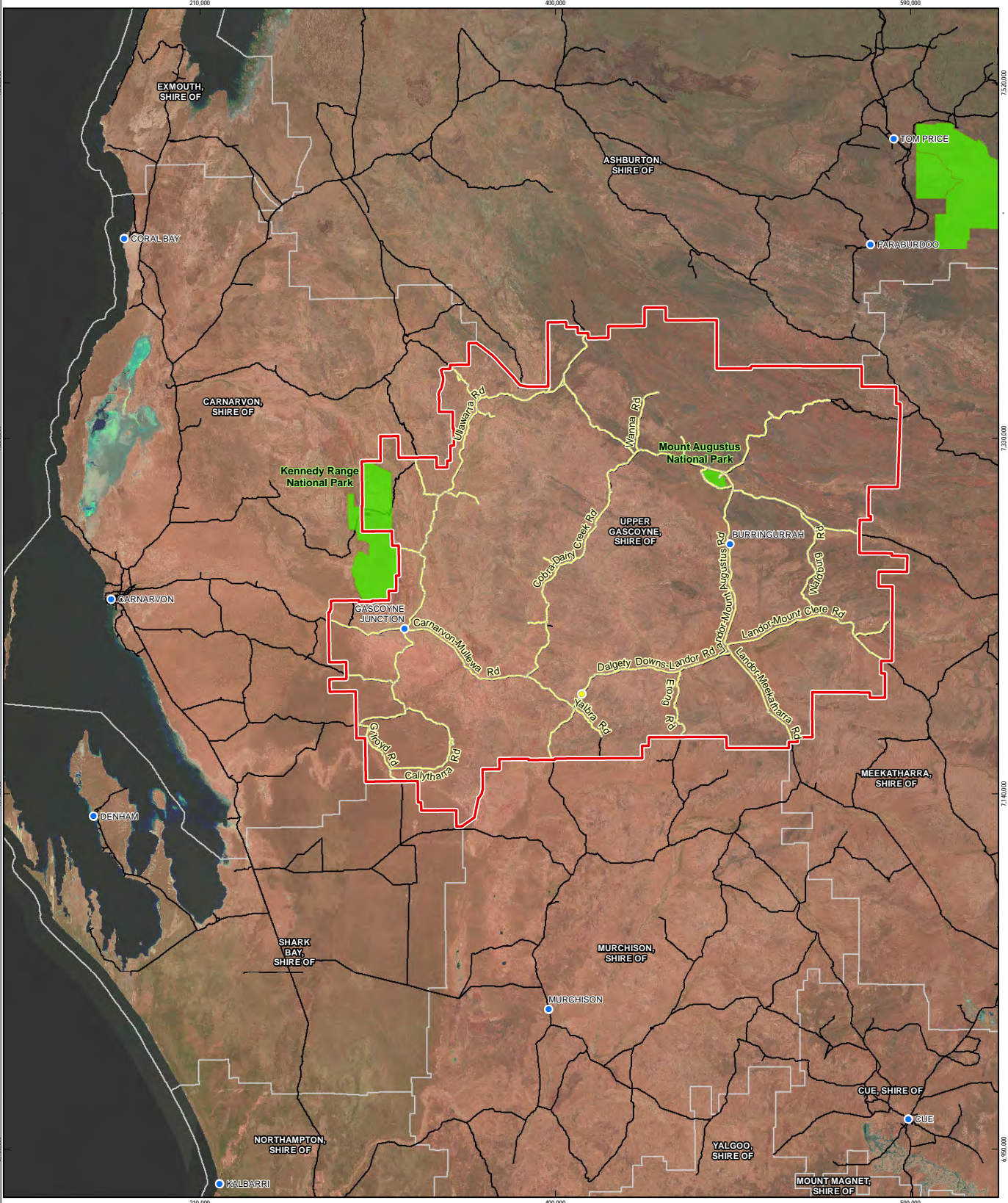
4.0 LOCAL PROFILE

The Shire is located in the Gascoyne Region of Western Australia, approximately 1,000 kilometres north of Perth and approximately 800 kilometres south of Karratha. Gascoyne Junction is the main town within the Shire and is located approximately 180 kilometres east of Carnarvon. The Shire covers an area of 46,602 square kilometres.

Access to the Shire is primarily via Carnarvon-Mullewa Road which provides a direct connection from Carnarvon to Gascoyne Junction. A number of other minor and local roads traverse the Shire, connecting other towns and settlements within the Gascoyne and Pilbara region, including Murchison, Meekatharra and Paraburdoo.



Gascoyne sky

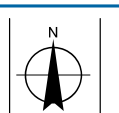


LEGEND

- Town
- Glenburgh Gold Mine
- Road (Upper Gascoyne LGA)
- Road
- Local Government Authority Boundary
- ▭ Shire of Upper Gascoyne
- ▭ National Park

Paper size : A3

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Geocentric Datum of Australia 1994



Shire of Upper Gascoyne
Upper Gascoyne Scheme and Strategy

Job Number | 61-30138
Revision | 0
Date | 18 Jan 2018

Shire of Upper Gascoyne

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 2018. Whilst every care has been taken to prepare this map, GHD, Shire of Upper Gascoyne, DMP, Landgate and DPaW make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind
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 its source: GA: Town - 2006, LandSat Imagery, Landgate: Local Government Authority Boundary, Shire of Upper Gascoyne - 20160317, Road, Road (Upper Gascoyne LGA) - 20160321, DMP: Glenburgh Gold Mine - 20140725, DPaW: National Park - 20160315. Created by: ateeney

Figure 6: Shire of Upper Gascoyne

4.1 Population and Housing

4.1.1 Demographics

The Shire recorded a total population of 278 at the time of the 2016 census. Of the 278 people living in the Shire, 81 stated they lived in Gascoyne Junction and 125 in Burringurrah. The collection of census data has varied since 2001, therefore population trends are difficult to predict. Figure 7 depicts the changes in the total population and male and female population in the Shire since 2001.

The Shire’s population has been relatively stable between 2006 and 2016 with a loss of only seven people over this ten year period, representing a 2.5 percent decline in population.

The Indigenous population made up more than half of the Shire’s total population in 2016 (approximately

58.4 percent). This is significantly higher than Western Australia as a whole, where the proportion of Aboriginal and Torres Strait Islander people was only 3.1 percent. Similarly the Shire has a higher proportion of people with Australian Aboriginal ancestry (39.1 percent) compared to that of the whole state (0.6 percent).

There is a higher proportion of males than females within the Shire. In Gascoyne Junction 58.4 percent of the population are male. This is likely due to the major industries in the region such as pastoralism, mining and agriculture being male dominant industries. In Burringurrah this trend is less apparent with only 51.2 percent of the population being male.

In 2016 the median age in the Shire was 26 years, however this median varies considerably between Gascoyne Junction and Burringurrah where the median age is 34 years and 16 years, respectively. This is lower

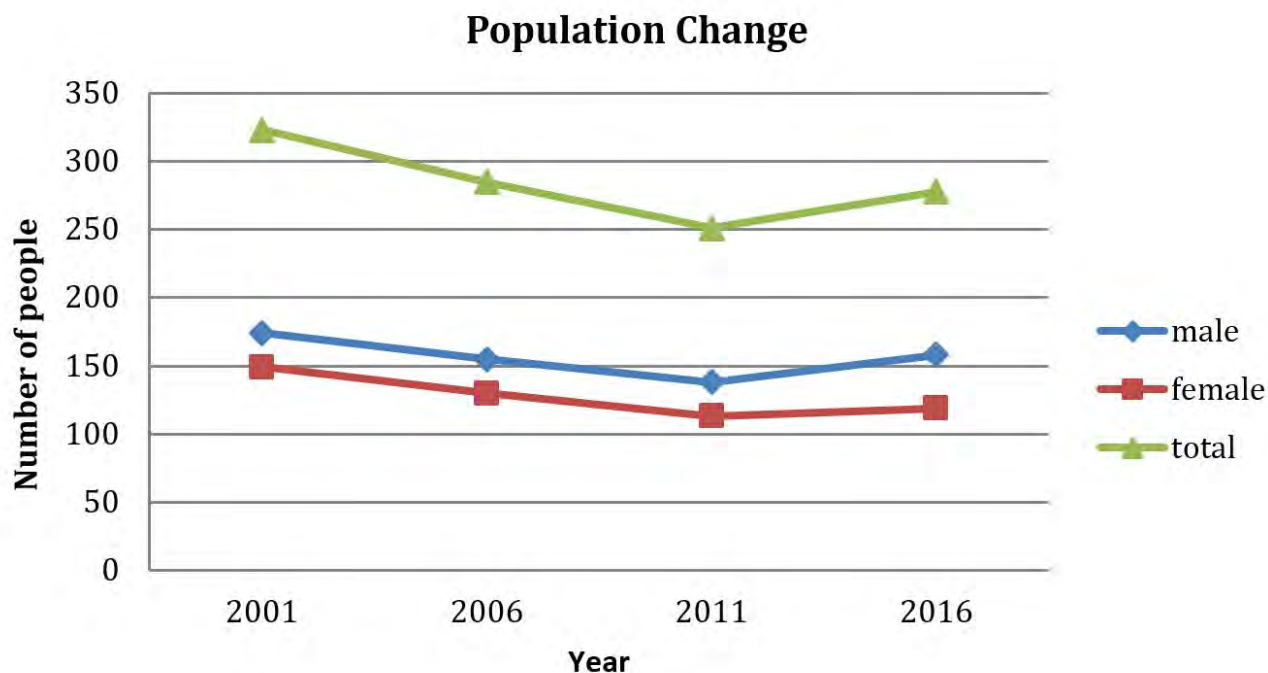


Figure 7: Population Change in the Shire of Upper Gascoyne (Data Source: ABS Census)

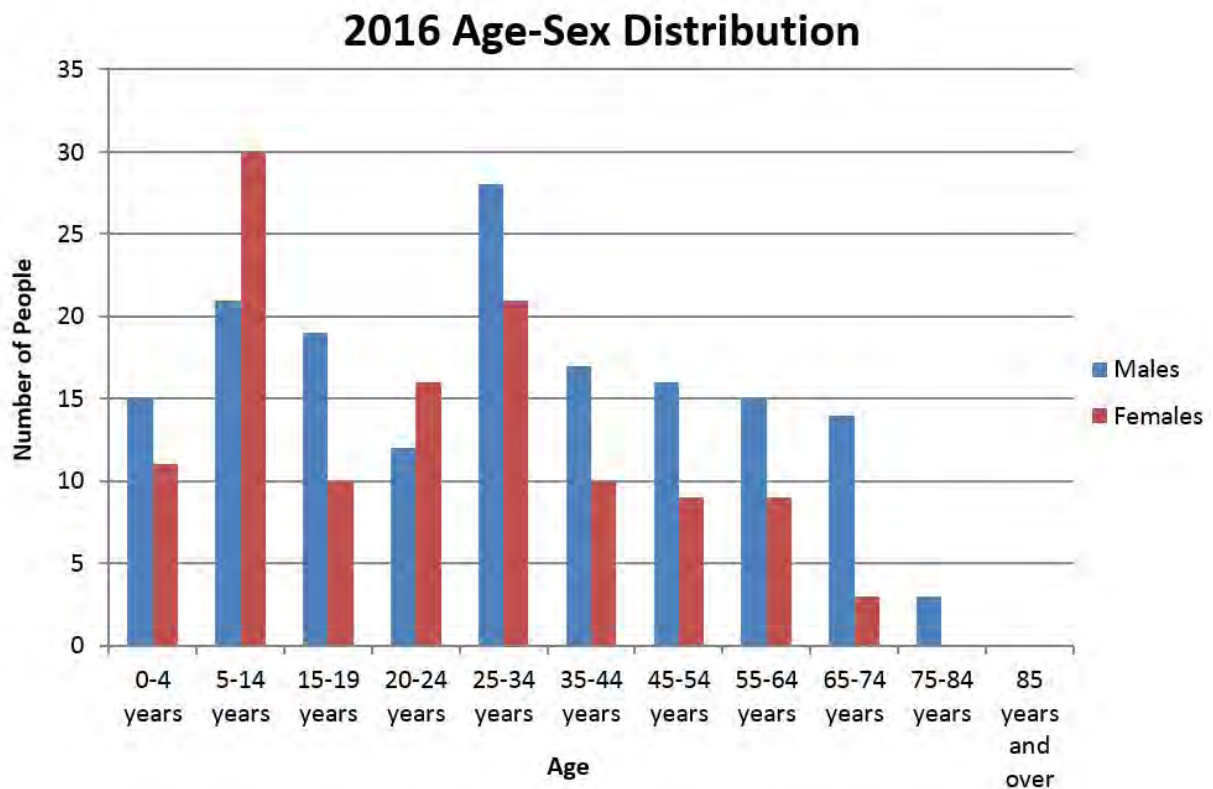


Figure 8: Age-sex Distribution for the Shire of Upper Gascoyne (Data source: ABS Census 2016)

than the 2011 Census which recorded median ages of 27 and 44 in the whole Shire and Gascoyne Junction, respectively. The median age in Burringurah has remained unchanged since the 2011 census. This could be attributable to the lack of aged care or retirement facilities in the Shire, which could lead to people moving out of the Shire. In addition, an aging population reduces the working age population.

Within the Shire, most of the population is of working age, between 15 and 54. There are very few people over retirement age (Figure 8). This is likely due to the lack of retirement and aged care facilities available in the Shire.

Whilst census recording methods have changed since 2001, there have been similar trends in age distribution in the Shire in 2006, 2011 and 2016 (Figure 9), with the greatest proportion of the population aged 25-54 in all three collection years.

WA Tomorrow is a population forecast document prepared by the Western Australian Planning Commission that examines population trends and provides a variety of forecasts to the year 2026. There are five bands which provide varying scenarios for population growth. The forecast figures for the Shire vary considerably between Band A and Band E as shown in Figure 10.

Population figures vary between documentation and therefore should be treated with caution. Anecdotal evidence suggests that population counts may vary or be somewhat unreliable due to the seasonal movement of Aboriginal communities in the region.

This variation in information presents a challenge when determining accurate population forecasts. However, future population trends in the region will be largely dependent on economic investment and the creation of employment opportunities to stimulate growth. This

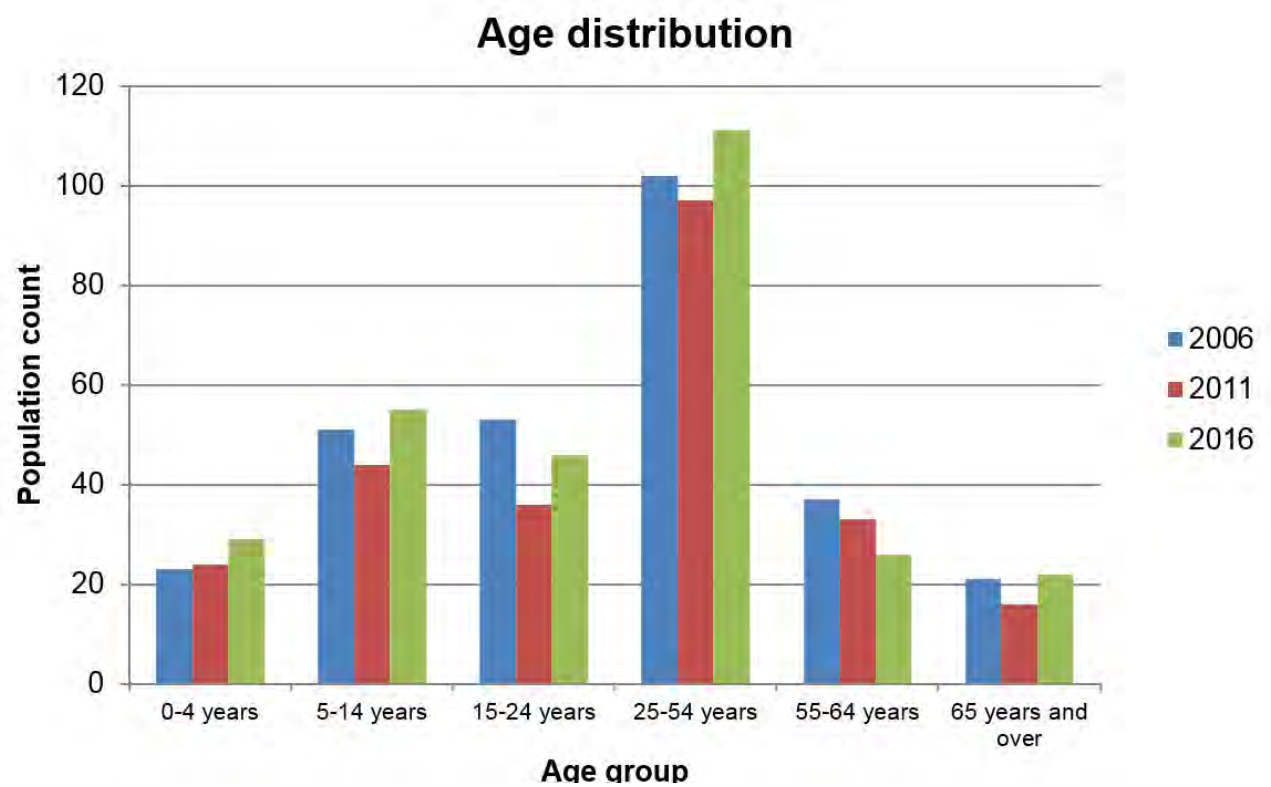


Figure 9: 2001, 2006 and 2011 Census Age Distribution for the Shire of Upper Gascoyne (Data source: ABS Census)

uncertainty in population growth creates challenges for planning for infrastructure and services to support the population. Without employment opportunities, the desire to remain in or move to the Shire are reduced.

4.1.2 Housing

The 2016 census recorded 63 occupied private dwellings and 16 unoccupied private dwellings. Of the occupied dwellings, 87.3 percent are separate houses and 12.7 percent were listed as an 'other' dwelling (in the form of a caravan, cabin, houseboat).

The majority of the houses are rented (64.2 percent), followed by those owned outright (19.4 percent). Houses that are owned with a mortgage account for 6 percent, 4.5 percent were 'other' tenure and 6 percent were not stated.

Housing within Gascoyne Junction is primarily concentrated on Gregory and Hatch Streets. Larger residential lots exist on the north side of the river along Riverside Drive and Killili Road. Seven houses are located at Woodgamia, the local Aboriginal community. At Burringurrah community there are approximately 100 lots allocated for residential use in the Layout Plan. Most lots are located east of Landor-Mount Augustus Road within close proximity to the school and commercial uses.

Anecdotal evidence suggests there is a desire for people to move to the Shire and retire in Gascoyne Junction. Housing opportunities are currently limited, with little subdivided freehold lots available in town.

Townsite expansion should be concentrated in areas where there is good access to services and low flood risks.

Housing in the Aboriginal communities is managed

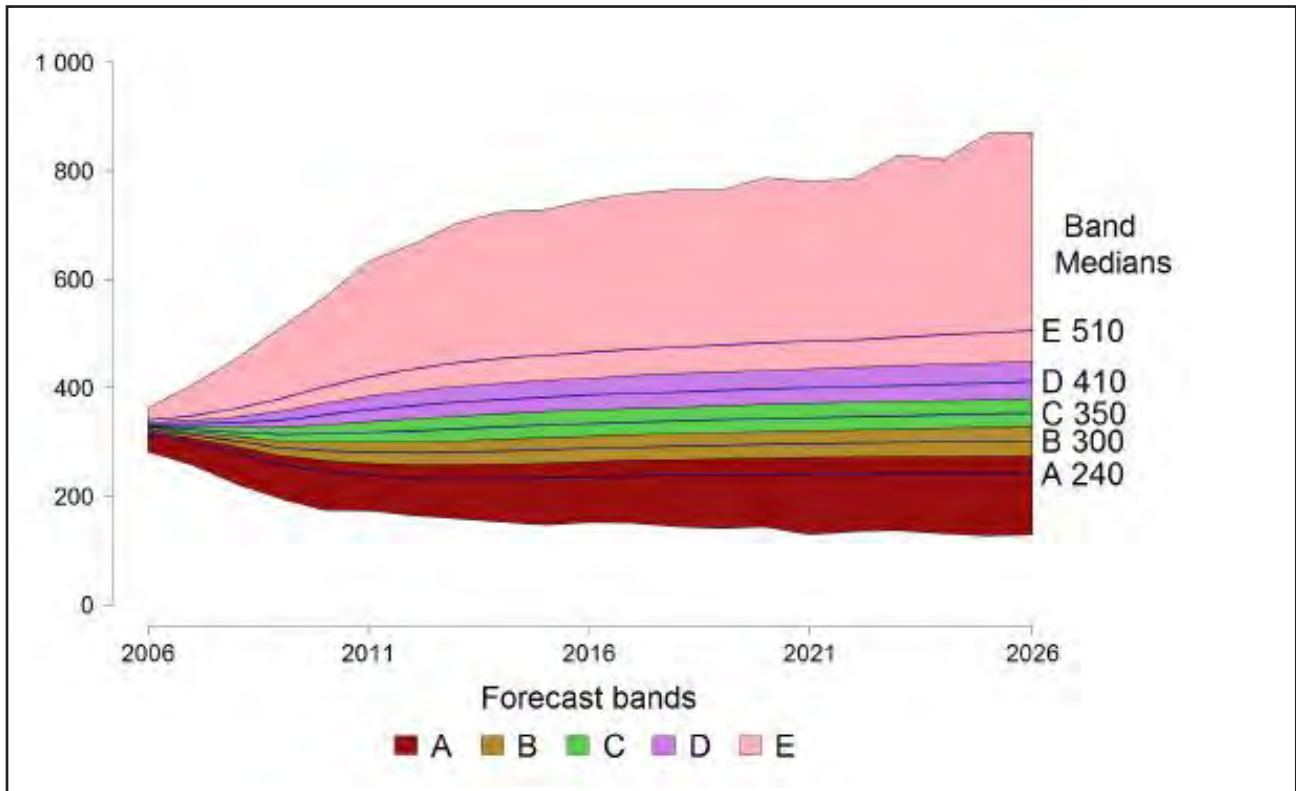


Figure 10: Total Population Forecasts for the Shire of Upper Gascoyne (Data Source: WA Tomorrow, WAPC 2012)

by the Department of Communities. The Shire should engage with the local Indigenous groups to determine potential future expansion.

Future housing provision in both Gascoyne Junction and Burringurrah will be dependent on future investment in the Shire that will lead to permanent residential population growth.

4.1.3 Education

39.2 percent of the Shire’s population is enrolled in an educational facility. A significant proportion of the population did not state the type of education institution (41.7 percent), 24.3 percent of students are enrolled in primary school, 20.4 percent in secondary, 7.8 percent in pre-school and 5.8 percent were

enrolled in tertiary institutions.

The Gascoyne Junction Remote Community School caters for students from kindergarten to year 10 and is located on Gregory Street. High school is provided through the School of Isolated and Distant Education. A school is also located at Burringurrah, providing education from pre-primary to high school.

Future growth in the Shire will need to ensure sufficient capacity at both schools.

4.2 Local Economy

4.2.1 Employment

In the 2016 census there were 86 people who identified as being in the labour force. Of this population, 54.7 percent of people worked full time. There were 15.1 percent of the population who indicated they were unemployed, which is almost double the state which was 7.8 percent and more than double the national rate of 6.9 percent.

Figure 11 illustrates that the major employment industry in the Shire is beef cattle farming, local government administration and road and bridge construction. Primary and secondary education represents a large portion of the employment industry, which is of particular interest given that there are only two educational facilities in the whole Shire. The pastoral industry, being the predominant industry, creates demand for other community services employment.

The majority of the other employment industries relate to jobs associated with the Shire and Shire run facilities.

It is interesting to note that whilst tourism is considered a major industry in the Shire, there are no employment figures associated with the industry. It is recognised that the tourist facility at Gascoyne Junction only opened in 2014.

The majority of the 2016 labour force were employed as managers (28 percent) and labourers (19.5 percent). Other occupations included community and personal services workers (18.3 percent), technicians and trades workers (15.9 percent), professionals (6.1 percent), clerical and administrative workers (6.1 percent) and machinery operators and drivers (6.1 percent), There

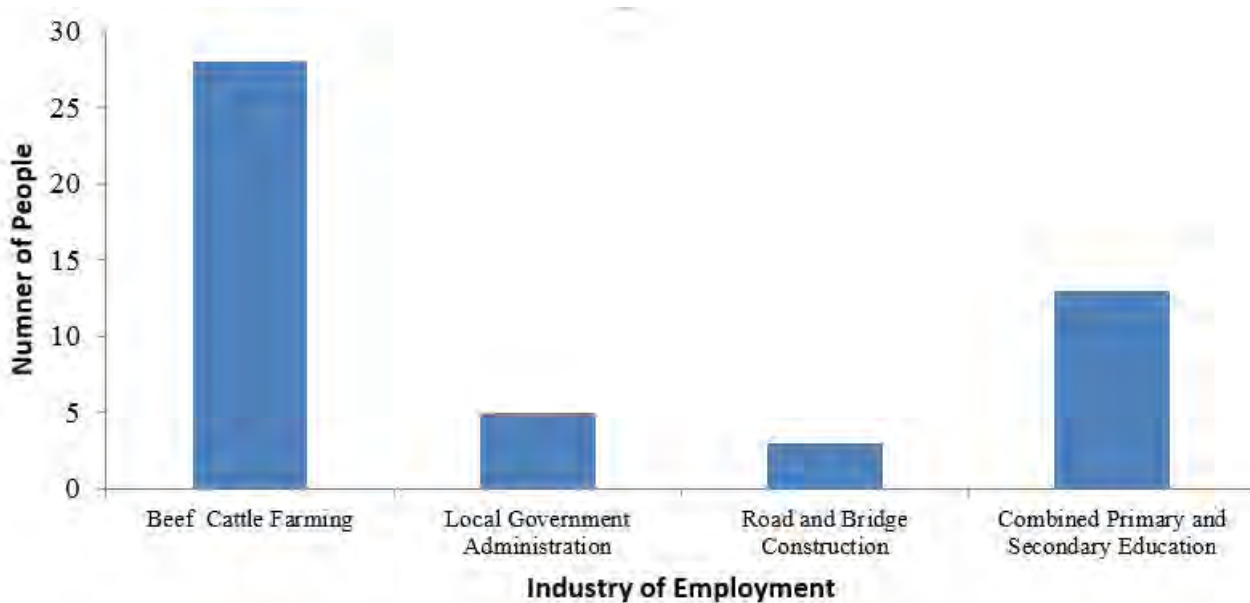


Figure 11: Shire of Upper Gascoyne Industry of Employment (Data Source: ABS Census 2016, Industry of employment)

were no occupations in tourism.

4.2.2 Pastoralism

Agriculture is the major industry of employment in the Shire. Pastoralists mainly use the land for cattle grazing, however permits can be granted through the *Land Administration Act 1997* to diversify land uses, such as tourism ventures. The industry is largely dependent on ideal climatic conditions to provide food, water and shelter for livestock.

Climate change is likely to have a detrimental impact on the agriculture industry, resulting in reduced rainfall, increased temperatures, increased weeds and feral animals. There is an opportunity to develop a land management strategy for the pastoralists to prepare and respond to the impacts of climate change as well as investigate options to diversify the use of their land within the limits of their pastoral lease. Pastoralists are likely to require support and assistance to improve land conditions and capacity to support livestock grazing.

Innovative solutions such as solar or wind farms can provide alternative sources of energy to support the pastoral station and reduce the reliance on non-renewable energy sources. Research in 'green' alternatives could be a source of alternative income for pastoralists whilst providing support to the primary pastoral use.

4.2.3 Tourism

Tourism in the region is predominantly driven by the Kennedy Range and Mount Augustus National Parks, as well as annual community events. It is estimated that approximately 6,000 tourists visit the Kennedy Range and Mount Augustus annually, with access primarily through Gascoyne Junction and Meekatharra. Mount Augustus is best described as an inselberg, meaning 'island mountain' and at approximately 700m above the surrounding plain is twice the height of Uluru.

The Shire forms part of 'Australia's Golden Outback' experience, which promotes tourism through Australia's rural and remote areas. The initiative promotes self-drive trails that traverse the unique landscapes. Discussion with Tourism WA and the Campervan and Motorhome Club of Australia indicates

that information is limited regarding the quality of the roads and facilities in the area, although this would be very easy to improve.

A direct road access from Mount Augustus and Paraburdoo/Karijini National Park would be highly desirable to further support the self-drive market.

There is an opportunity to create employment generating facilities at the major tourist attractions. Proposals to increase and upgrade tourist accommodation at Mount Augustus would facilitate jobs in the region and have potential flow on effects for the development of an airstrip, a small shop, cafe, restaurant and tour guide groups associated with the National Park.

The proximity of Mount Augustus to Burringurrah positions the community to capitalise on this growing industry and establish a local employment industry. The local knowledge of the Burringurrah community would be beneficial for coordinating and managing tours, providing visitors with an understanding of traditional land practices and history.

The Kennedy Range provides unmanned camping sites. Given the proximity to Gascoyne Junction, tours could be run from town. A market could be developed that allows travellers to leave their trailers in town and undertake day trips or camping trips to near by areas. There could be opportunities to increase or upgrade camping facilities at the Kennedy Range.



Camping facilities at Gascoyne Junction tourist precinct

Travellers through the region are trying to capture the outback experience and often opt for station stays. This market could assist pastoralists diversify the use of their land and encourage travellers to stay in the region for longer periods of time.

Gascoyne Junction is the main townsite in the Shire, providing services to the local community and Shire visitors. Severe flooding in December 2010 destroyed many of the Gascoyne Junction tourist buildings and facilities. Royalties for Regions funding was allocated to the town to develop a new tourist facility, incorporating accommodation, a petrol station, a local pub and cafe and basic amenities. The facility provides a range of accommodation styles including bungalows and camping spaces. During peak periods, the facility has been at maximum capacity. The facility has only been operating since early 2014 therefore tourist statistics have not been collated.

Smaller tourism ventures could be developed within Gascoyne Junction to encourage tourists to stay in town for longer periods of time. These are outside the control of the local government, however could include:

- Canoeing and kayaking hire and tours on the Gascoyne River;
- Dirt bike tracks;
- Guided bushwalks;
- Astronomy tours;
- Observation deck showing points of interest and distances to nearby landmarks;
- Local shop to sell locally made goods; and
- Self guided exploration tours for semi precious



Play equipment at Gascoyne Junction tourist precinct

stones.

The Shire is relatively isolated and some tourists may be discouraged to visit the region due to the perception of the road conditions, access to facilities and telecommunication services. Whilst the majority of the Shire's road system is unsealed, the roads are well maintained and should be promoted to encourage visitors to the region. There is an opportunity to improve infrastructure access such as mobile phone reception to improve safety, which can be further investigated through an infrastructure strategy.

To encourage increased tourism, the important links to surrounding towns and tourist attractions should be highlighted and better promoted. These include areas such as Karijini, Meekatharra, Murchison and the Coral Coast.

Mineral Resources

Mining is not a well established industry in the Shire, however there are mineral deposits throughout the Shire with ongoing exploration taking place. Significant deposits could lead to the development of new mining industries in the Shire and have potential flow on employment prospects in the Shire.

It is important to note that mining sites are often fairly self sufficient, with housing and food provided within mining camps. Unless the mine site is within close proximity to a townsite, the economic benefits felt in the town are less significant. Some jobs may be created that support the mining activity however due to the fly in fly out nature of many mines in remote areas, it is unlikely the region will experience significant permanent population growth.

Notwithstanding this, the strategy recognises the importance of this industry as a source of future employment and economic growth in the Shire and contributes to economic diversification and therefore should be viewed as a positive investment in the Shire.

Mining operations are managed by the *Mining Act 1978*. The shire should stay informed about mining investment and proposals and engage with relevant stakeholders.



Jimba Jimba Station



Gascoyne Junction Tourist Park

4.3 Physical Environment

4.3.1 Regional Physical Environment

The climate of the Shire is semi-arid to arid, with hot summers and mild winters. Temperatures are highest between January and February, during this time temperatures generally exceed 39°C. The Shire receives the majority of rainfall during winter, with substantial rainfall events occurring. The table below provides a summary of the climate aspects for the Shire.

Table 1: Climate Summary (Source: BOM, 2014)

Climate Aspect	Range
Temperature	Maximum Range: 23.0 to 40.7°C Minimum Range: 9.3 to 24.4 °C
Rainfall	Annual mean rainfall: 215.5 mm Maximum rainfall: 31.5 mm (June) Minimum rainfall: 3.0 mm (September) (BOM 2017 Station No. 6022 Gascoyne Junction)
Evaporation	2 977 mm

Land Condition

The Department of Primary Industries and Regional Development indicated that the pasture conditions between 2002-2009 were:

- 10% good
- 35% fair
- 55% poor

The Department of Primary Industries and Regional Development commissioned a publication in 2012 titled 'A report on the Gascoyne River catchment following the 2010/2011 flood events. The report was prepared to provide 'illustrative evidence on the role that perennial vegetation groundcover management has in influencing the risk of flooding and soil loss in the catchment.' Amongst other things, the report suggested that improving the catchment condition (perennial groundcover), will assist to reduce impacts of minor and moderate flood events.

Geology and Landforms

Much of the region is described as hardpan wash plains with hills, stony plains, calcrete plains and floodplains on alluvial deposits. Underlying the alluvial deposits are gneiss and volcanic rocks which forms the southern part of the Gascoyne Complex. The soils of the region are described as red to brown hardpan shallow loams with red deep sands, often with red shallow sandy duplexes and red loamy earths with some brown clays and stony soils (Tille, 2006). Figure 12 depicts the Shire's topography, showing a more undulating terrain as you move east through the Shire.

Surface Water and Wetlands

The watercourses of the Gascoyne only flow following significant rainfall. Three major rivers traverse the Shire including:

- Gascoyne River;
- Lyons River; and
- Wooramel River

National Parks and Conservation Reserves

The Shire includes two iconic national parks. These are:

- Kennedy Range National Park
- Mount Augustus National Park

The Shire also includes several former pastoral lease areas managed for conservation (within or bordering the Shire). These are:

- Wanna (part)
- Cobra
- Mt Phillip (part)
- Dalgety Downs (part)
- Waldburg
- Mooka
- Mardathuna (part)
- Middalya (part)
- Williambury (part)
- Minnie Creek (part)
- Lyons River (part)
- Jimba Jimba (part)
- Pimbee

All the above former pastoral lease areas have reverted to Unallocated Crown Land. Pending their formal reservation under the *Land Administration Act 1997*, these areas are managed under agreement between the Department of Planning, Lands and Heritage and the Department of Biodiversity, Conservation and Attractions.

Extreme Weather Events and Flooding

Extreme weather events, including flooding, can have significant impacts on movement through the Shire particularly on the Shire's unsealed road networks. It is important to understand the climatic conditions, geology and water movement. In addition, understanding the current and future climatic patterns helps to gain an understanding of water resourcing, particularly as access to potable and non-potable water is obtained via bores.

4.3.2 Fauna

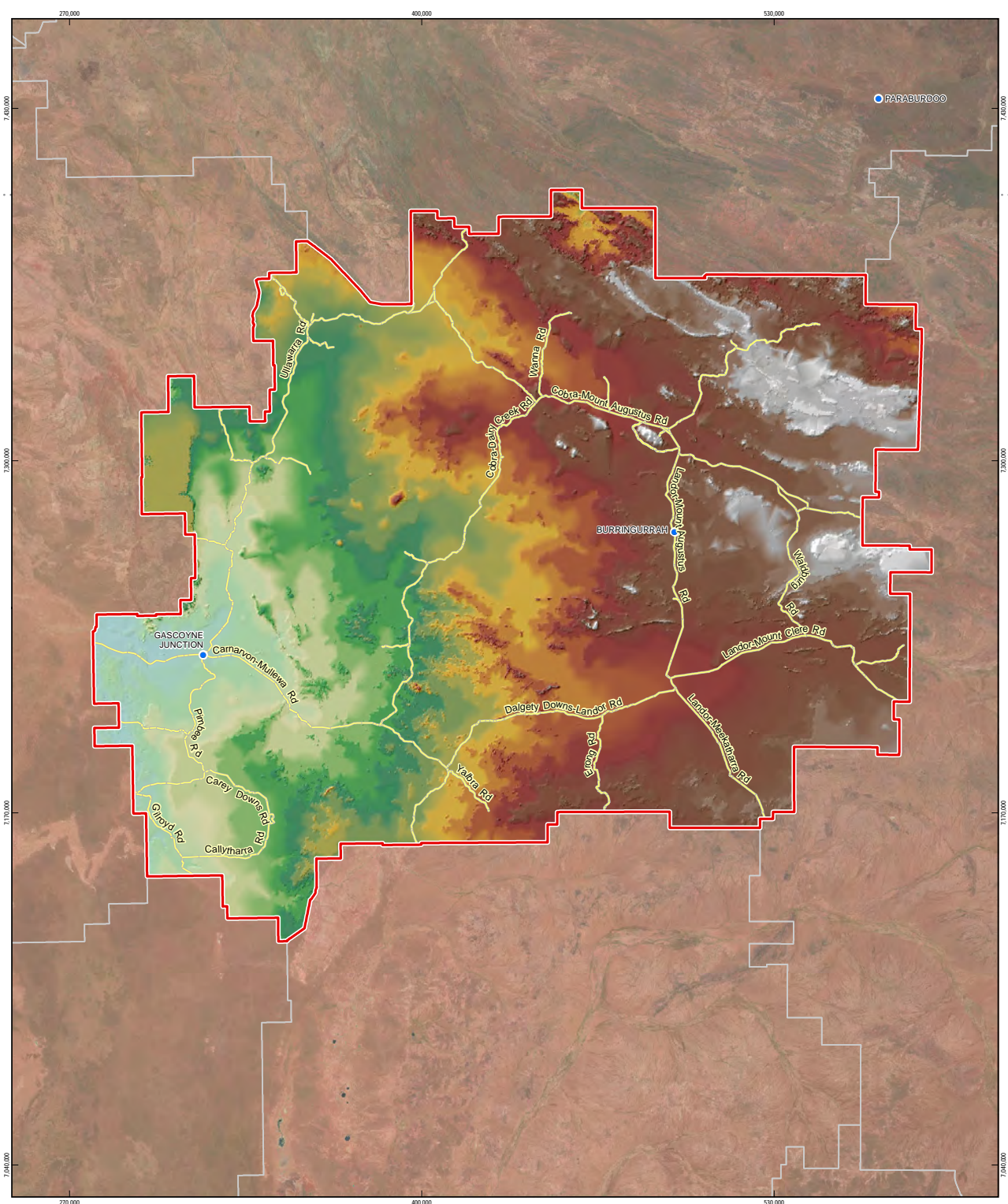
The Shire region is home to a number of conservation significant species. A wide diversity of birds, both resident and migratory inhabits the Gascoyne.

Conservation Significant Fauna

The conservation status of fauna is assessed under Commonwealth and State legislation. Under Commonwealth legislation, species are assessed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Under state legislation, species are assessed under the *Wildlife Conservation Act 1950* (WC Act) and the *Biodiversity Conservation Act 2016*.

It should be noted that the *Biodiversity Conservation Act 2016* will eventually replace the WC Act (and also the *Sandalwood Act 1929*). Specific provisions of the Biodiversity Conservation Act will be progressively brought into effect over 2017-2018 by proclamations published in the Government Gazette - as the necessary administrative arrangements and regulations are made. In the interim, the WC Act and *Sandalwood Act 1929* and their associated regulations will remain in force.

Under the WC Act, the assessment of the conservation status of a fauna species is based on its national extent and ranked according to its level of threat using the International Union for Conservation of Nature (IUCN) Red List categories and criteria. These threat categories relate to Schedules 1-7 (Table 2). With regard to Schedule 1-3 fauna, a 'Wildlife Conservation Notice (Specially Protected Fauna)' is published annually in the Government Gazette. With regard to Schedule 4 fauna, a 'Wildlife Conservation Notice (Specially Protected Fauna) for Presumed Extinct Fauna' is also published annually in the Government Gazette.



LEGEND

- Town
- Road
- Local Government Authority Boundary
- Shire of Upper Gascoyne

Elevation

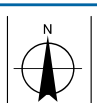
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Low : 70

Paper size : A3

0 20 40 60
Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Geocentric Datum of Australia 1994



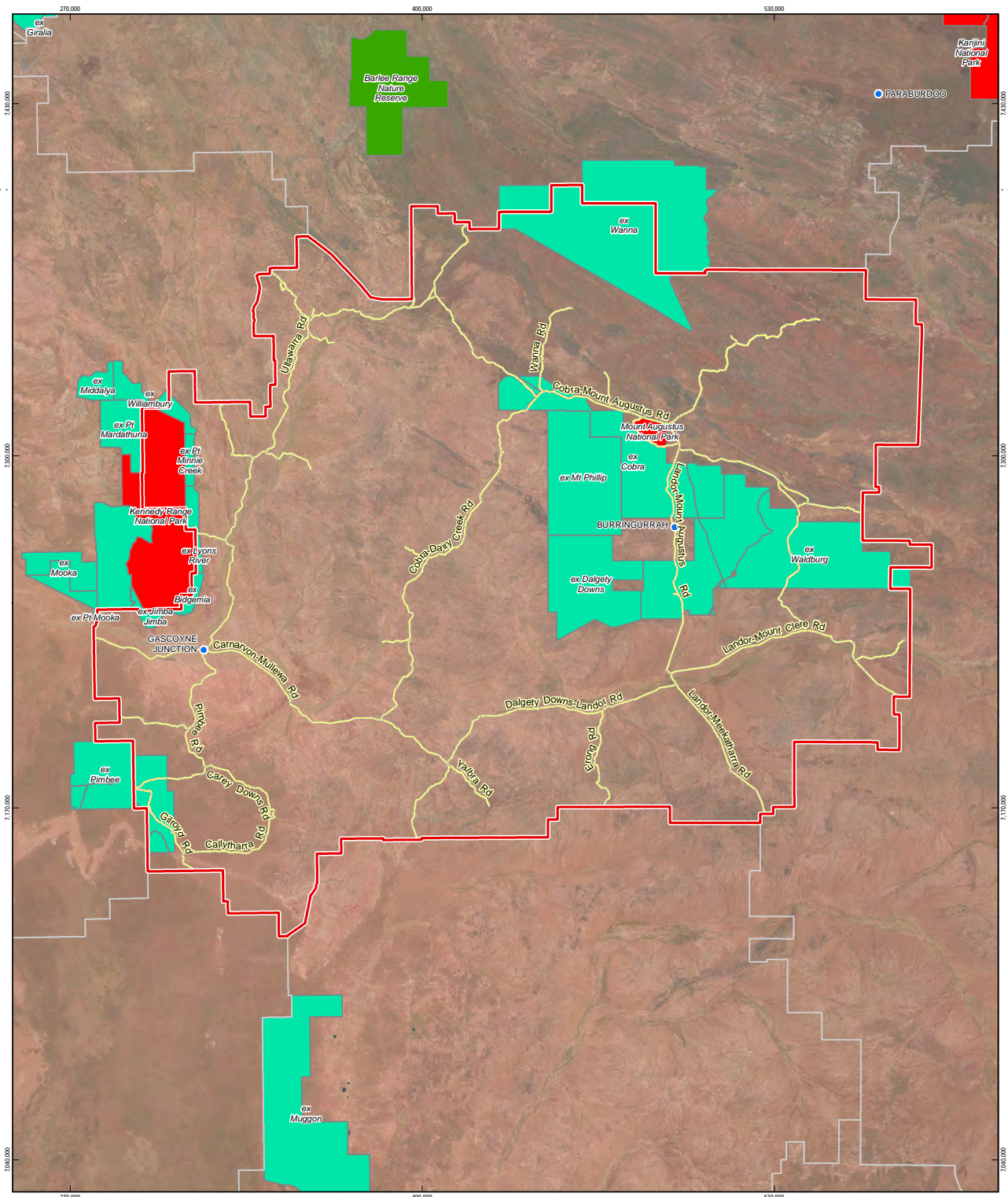
Shire of Upper Gascoyne
Upper Gascoyne Scheme and Strategy

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Revision | 0
Date | 18 Jan 2018

Shire of Upper Gascoyne

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Data source: GA: Town - 2006; Landsat Imagery; Landgate: Local Government Authority Boundary, Shire of Upper Gascoyne - 20160317; Road - 20160321; GHD: Elevation - 20160317. Created by: aagency

Figure 12: Shire of Upper Gascoyne Topography

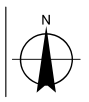


LEGEND

- Town
- Road
- Local Government Authority Boundary
- Shire of Upper Gascoyne
- DPaW Managed Lands**
- National Park
- Nature Reserve
- Former Leasehold

Paper size : A3

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Geocentric Datum of Australia 1994



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DPaW Managed Land

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Data source: GA; Town-2006; LandSat Imagery; Landgate; Local Government Authority Boundary; Shire of Upper Gascoyne - 20160317; Road - 20160317; DPaW; DPaW Managed Land and Water - 20160315. Created by: afeeney

Figure 13: Shire of Upper Gascoyne Department of Biodiversity, Conservation and Attractions Managed Land

Table 2: Threat categories, schedule numbers and status of fauna (under the Wildlife Conservation Act).

Category	Schedule	Status
CR - Critically Endangered	1	Threatened
EN - Endangered	2	
VU - Vulnerable	3	
EX - Presumed extinct	4	
IA - Migratory birds protected under an international agreement	5	
CD - Conservation dependent	6	
OS - other specially protected fauna	7	

The Department of Biodiversity, Conservation and Attractions produces a supplementary list of priority fauna. These species are of concern for one reason or another and generally need survey work to formally define their conservation status. These species have no special legislative protection, but their presence should be considered in any assessment of the conservation status of an area.

Assessment of Priority codes is based on the Western Australian distribution of the species - unless the distribution in WA is part of a contiguous population extending into adjacent States.

The Shire supports several terrestrial conservation significant species under the EPBC Act and WC Act and also non-legislative species. These are:

- 1 x Critically Endangered fauna(WC Act);
- 1 x Endangered fauna (WC Act);
- 3 x Vulnerable fauna (all WC Act and two overlapping with the EPBC Act);
- 4 x International Agreement fauna (WC Act);
- 1 x Conservation dependent fauna(WC Act)
- 1 x Other specially protected fauna (WC Act)
- 1 x Priority 1 fauna(Department of Biodiversity, Conservation and Attractions)
- 1 x Priority 2 fauna(Department of Biodiversity, Conservation and Attractions)
- 4 x Priority 4 fauna (Department of Biodiversity, Conservation and Attractions)

Source: Fauna Data - Department of Parks and Wildlife, 15 February 2017. This search data includes a 20km buffer around the Shire.

Migratory Fauna

The EPBC Act legislates protective status to all species that migrate to Australia (and/or its territories), and/ or fly over/travel through Australia’s marine waters. Specifically, any species listed under international agreements and conventions pertaining to migratory species are protected under the Act. Such agreements include:

- Convention on the Conservation of Wild Animals (Bonn Convention);
- Japan-Australia Migratory Bird Agreement (JAMBA);
- China-Australia Migratory Bird Agreement (CAMBA); and
- Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA).

Migratory species are identified using the EPBC Protected Matters Search Tool and are also often identified as “International Agreement” species on the State Naturemap search tool.

55 listed migratory and marine birds may be present in the Shire, all of which are EPBC listed species. The Shire may provide habitats for 40 species protected under International Agreements.

Invasive Species

Invasive fauna species include but are not limited to:

- Dingo or wild dog (Canis lupus dingo, Canis lupus dingo x Canis lupus familiaris, Canis lupus familiaris feral);
- Camel (Camelus dromedaries);
- Rabbit (Oryctolagus cuniculus);
- Laughing Dove (Streptopelia senegalensis);
- Horse (Equus caballus);
- Donkey (Equus asinus);
- Feral pig (sus scrofa); and
- Feral goat (Capra hircus feral).

Any major changes to the landscape through development will need to be considerate of the presence of protected species and an environmental assessment may be required.

4.3.3 Flora

The Upper Gascoyne region is characterised by mulga woodlands with spinifex occurring on shallow stony loams on rises. In areas Mulga parklands dominate the shallow earthy loams over hardpans on the plains (Desmond et. al., 2001).

Conservation Significant Flora

The conservation status of flora is assessed under the Commonwealth and State legislation. Under Commonwealth legislation, species are assessed under the EPBC Act. Under State legislation, species are assessed under the WC Act and the *Biodiversity Conservation Act 2016*. See section '4.3.2 Fauna' for more details about the new Biodiversity Conservation Act.

Under the WC Act, the assessment of the conservation status of a flora species is based on its national extent and ranked according to its level of threat using the International Union for Conservation of Nature (IUCN) Red List categories and criteria. These threat categories relate to Schedules 1-4 (Table 3). With regard to Schedule 1-3 flora, a 'Wildlife Conservation (Rare Flora) Notice for Threatened Flora' is published annually in the Government Gazette.

Table 3: Threat categories, schedule numbers and status of flora (under the Wildlife Conservation Act).

Category	Schedule	Status
CR - Critically Endangered	1	
EN - Endangered	2	
VU - Vulnerable	3	
EX - Presumed extinct	4	

The Department of Biodiversity, Conservation and Attractions produces a supplementary list of priority flora. These species are of concern for one reason or another and generally need survey work to formally define their conservation status. These species have no special legislative protection, but their presence should be considered in any assessment of the conservation status of an area.

The Shire has the following conservation significant flora:

- 3 x Threatened flora (two listed as Vulnerable under the EPBC Act)
- 18 x Priority 1 flora
- 14 x Priority 2 flora
- 26 x Priority 3 flora
- 6 x Priority 4 flora

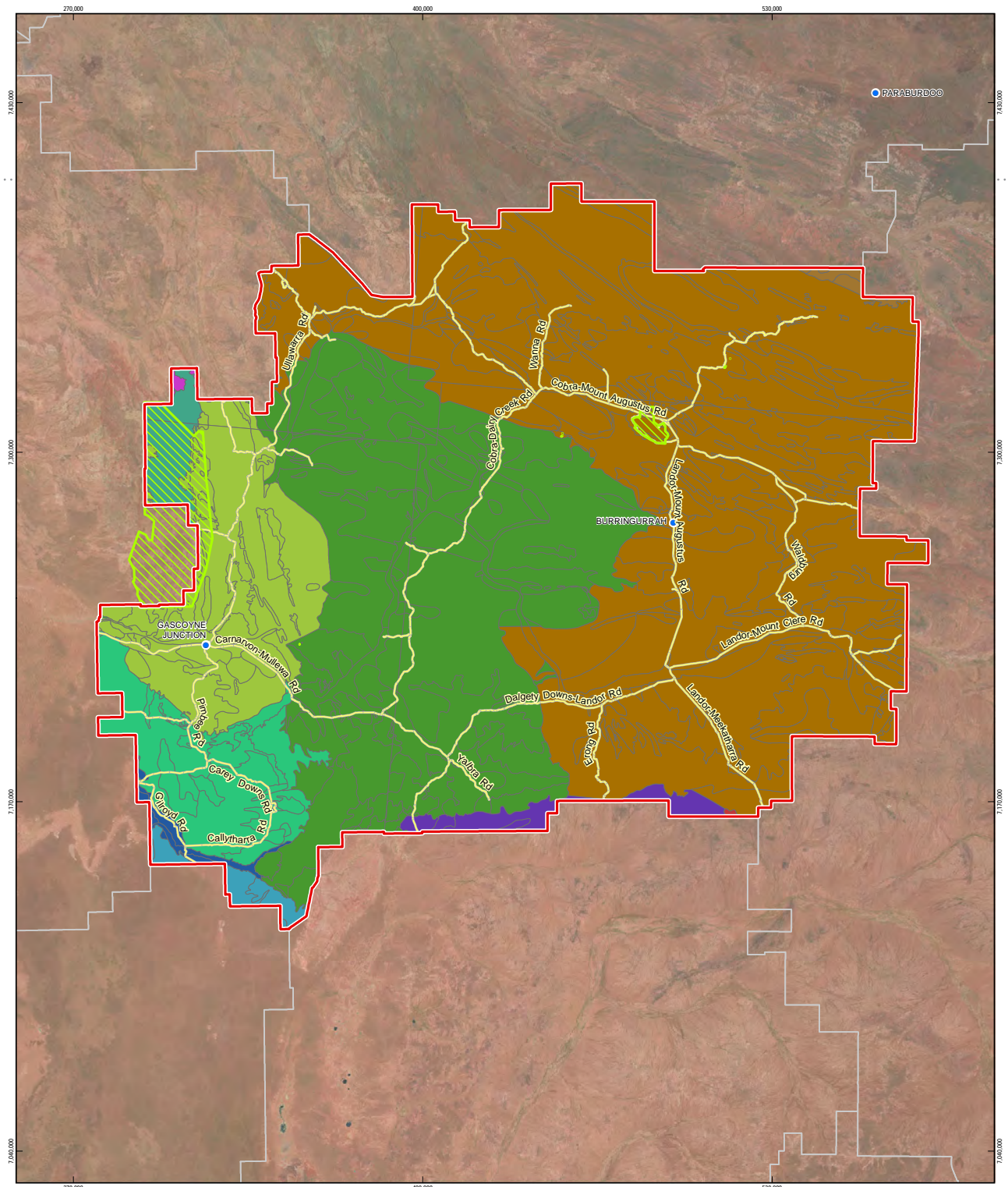
Source: Flora Data - Department of Parks and Wildlife, 21 February 2017. The search data includes a 20km buffer around the Shire.

Invasive Species

A number of invasive species were recorded in the Shire including:

- Kapok Bush (*Aerva javanica*);
- Onion Weed (*Asphdelus fistulosus*);
- Bipinnate Beggartick (*Binden bipinnata*);
- Speedy Weed (*Flaveria trinervia*);
- Common Sowthistle (*Sonchus oleraceus*);
- Common Heliotrope (*Heliotropium europaeum*);
- Lepideium didymium;
- London Rocket (*Sisymbrium irio*);
- Fourleaf allseed (*Polycarpon tetraphyllum*);
- Nettle-leaf Goosefoot (*Chenopodium murale*);
- *Cuscuta planiflora*;
- Morning Glory (*Ipomoea indica*);
- Ulcardo Melon (*Cucumis melo* subsp. *agrestis*);
- *Cyperus hamulosus*;
- Mimosa Bush (*Vachellia farnesiana*);
- Spiked Malvastrum (*Malvastrum americanum*);
- Mexican Poppy (*Argemone ochroleuca*);
- Buffel Grass (*Cenchrus ciliaris*);
- Birdwood Grass (*Cenchrus setiger*);
- Feathertop Rhodes Grass (*Chloris virgata*);
- Couch (*Cynodon dactylon*);
- African Lovegrass (*Eragostis curvula*);
- Annual Beardgrass (*Polypogon monspeliensis*);
- Whorled Pigeon Grass (*Setaria verticillata*);
- *Acetosa vesicaria*;
- Pimpernel (*Lysimachia arvensis*);
- Native Thornapple (*Datura leighhardtii*); and
- Black Berry Nightshade (*Solanum nigrum*).

Any major changes to the landscape through development will need to be considerate of the presence of protected species and an environmental assessment may be required.

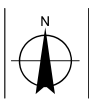


LEGEND

- Town
- Road
- Local Government Authority Boundary
- Shire of Upper Gascoyne
- ▨ Environmentally Sensitive Areas
- Pre-European Vegetation System
- ASHBURTON VALLEY
- BYRO
- GASCOYNE MARSHES
- GASCOYNE RANGES
- KENNEDY RANGE
- LOWER RIVERINE PLAINS - NORTH
- LOWER RIVERINE PLAINS - SOUTH
- TOOLONG PLATEAU
- UPPER MURCHISON
- WOORAMEL
- YABALGO PLAIN
- YINNIETHARRA HILLS

Paper size : A3

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Geocentric Datum of Australia 1994



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Date | 18 Jan 2018

Environmental Constraints

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Data source: GA: Town - 2006; LandSat Imagery; Landgate: Local Government Authority Boundary, Shire of Upper Gascoyne - 20160317; Roads - 20160321; DER: Environmentally Sensitive Areas - 20151210; DAFWA: Pre-European Vegetation System - 20120814. Created by: afeenay

Figure 14: Shire of Upper Gascoyne Vegetation Systems



Gascoyne River and fauna



Flora in the Shire of Upper Gascoyne



Gascoyne River

4.3.4 Threatened and Priority Ecological Communities

Ecological communities are defined as “naturally occurring biological assemblages that occur in a particular type of habitat” (English and Blythe, 1997). Threatened Ecological Communities (TECs) are ecological communities that have been assessed and assigned to one of four categories related to the status of the threat to the community, i.e. presumed totally destroyed, critically endangered, endangered, and vulnerable. TECs are formally listed under the EPBC Act and have legislative protection. TEC’s are also identified in Western Australia but do not have legislative protection. Even though TEC’s in WA have no special legislative protection, their presence should be considered in any assessment of the conservation status of an area.

The Department of Biodiversity, Conservation and Attractions produces a supplementary list of TEC’s called Priority Ecological Areas (PEC’s). These communities are of concern for one reason or another and generally need survey work to formally define their conservation status. Again, these communities have no special legislative protection, but their presence should be considered in any assessment of the conservation status of an area.

According to the Naturemap search tool, no TECs were identified in the Shire. Eight PECs were identified in the Shire.

4.3.5 Natural Resource Management

The Rangelands Natural Resource Management (NRM) is a non-governmental organisation with the purpose of supporting and encouraging sustainable use of the natural resources including land, flora, fauna and freshwater. Rangelands NRM pursues opportunities to establish, manage, evaluate and communicate many natural resources management activities and projects.

4.3.6 Climate Change

Rangelands Natural Resource Management (NRM) provides the following climate change predictions:

- Average annual increase in temperature in the range of 1 to 2°C by 2050
 - Summer: increase of 1 to 2°C
 - Autumn: increase of 1 to 1.5°C
 - Winter: increase of 1 to 1.5°C
 - Spring: increase of 1 to 2°C
- Average annual rainfall to decrease between 2 to 10% by 2050
 - Summer: decrease of 2 to 5%
 - Autumn: decrease of 2 to 5%
 - Winter: decrease of 5 to 10%
 - Spring: decrease of 5 to 10%
- Average annual relative humidity to decrease by 1 to 3% by 2050
 - Summer: decrease of 0.5 to 2%
 - Autumn: decrease of 1 to 2%
 - Winter: decrease of 1 to 3%
 - Spring: decrease of 1 to 2%

Drier, hotter conditions will create challenges for pastoralists in stock and land maintenance. A strategy that provides management solutions to climate change would be highly beneficial to the Shire.

Impacts of Climate Change

The Rangelands NRM identified a number of potential climate change associated impacts including:

- Erosion;
- Overgrazing by stock;
- Impacts caused by human management;



Vegetation in the Shire of Upper Gascoyne

- Fire;
- Feral animal impacts; and
- Weeds.

Erosion

Reduced rainfall will likely lead to a reduced groundcover. Increased intensity of rainfall at irregular times of the year i.e. summer will contribute to erosion and increase sedimentation in rivers, creek and streams. Land degradation through erosion may reduce food supply for livestock and lead to challenges traversing the land.

Overgrazing by Stock

Risk of overgrazing of pasture areas, as a result of a reduction in productivity with the onset of reduced rainfall and increased temperatures may reduce the viability of the land, leading to challenges in subsequent years.

Fire

The onset of climate change is likely to increase the likelihood of unmanaged wild fires. This is extremely dangerous, particularly given the isolation of the Shire.

Feral Animals Impacts

The overgrazing of native vegetation by feral animals such as goats and camels is likely to occur in a drier climate. This may contribute to a reduction in the overall biodiversity in the Shire.

Weeds

Reduction in rainfall could contribute to more disturbed environments. Drier vegetation is likely to lead to an increase of fires and pest weeds are likely to respond to such events. This is likely to have a detrimental impact on native vegetation and viable food sources for livestock.

Climate change presents significant risks to pastoral land. It would be beneficial to develop a strategy for the Shire to manage the risks of climate change that includes options for land diversification, alternative energy sources and emergency management.



Vegetation in the Shire of Upper Gascoyne



Vegetation in the Shire of Upper Gascoyne

4.3.7 Flood Risk

In 2010 the town of Gascoyne Junction was severely impacted by flooding of the Gascoyne River. It caused damage to numerous properties, resulting in the closure of the former Gascoyne Junction Pub and caused residents on the north side of the river to be disconnected from the main townsite.

When considering flood management, the Department of Water and Environmental Regulation advised that their key guiding principles to ensuring acceptable development in floodprone areas are:

- *Proposed development has adequate flood protection*
- *Proposed development does not detrimentally impact on the existing flooding regime of the general area*

No definitive flood mapping has been undertaken for the Gascoyne River, however approximate high water marks from the 2010 flood were recorded throughout the town. These have been used to provide a minimum habitable floor level discussed later in this section.

The Department of Water and Environmental Regulation's recommended floodplain strategy (in relation to major river flooding only) for the area is

- *Proposed development located outside of the December 2010 floodplain is considered acceptable with regard to major flooding. However, a minimum habitable floor level of 0.5 metre above the relevant December 2010 flood level is recommended to ensure adequate flood protection.*
- *Proposed development located within the December 2010 floodplain will be assessed based on its merits. Some of the factors examined include depth of flooding, velocity of flow, its obstructive effects on flow, possible structural and potential flood damage, difficulty in evacuation during major floods and its regional benefit.*



Flood risk signage at Gascoyne Junction

4.3.8 Bushfire

State Planning Policy 3.7 Planning in Bushfire Prone Areas (SPP3.7) provides a policy framework to manage risk of bushfire in land use planning and development. It is supported by Guidelines for Planning in Bushfire Prone Areas, and the deemed provisions of all Western Australian local planning schemes (set out in the *Planning and Development (Local Planning Schemes) Regulations 2015*). Strategic policy objectives look to avoid increasing intensity of development (and therefore risk) within areas of unacceptable bushfire risk.

The majority of the Shire is located within a mapped, designated bushfire prone area as shown on Figure 15. The nature of the vegetation across the Shire is consistent with a moderate bushfire hazard level. The hazard level is defined by Guidelines for Planning in Bushfire Prone Areas which support SPP3.7.

- areas containing pasture or cropping with an effective down slope in excess of 10 degrees for a distance greater than 100 metres;
- unmanaged grasslands;
- open woodlands;
- open shrublands;
- low shrubs on areas with an effective up slope, on flat land or an effective down slope of less than 10 degrees, for a distance greater than 100 metres or flat land;
- suburban areas with some tree cover; and
- forest and woodlands with a permanent grass understorey or at most, a scrub understorey structure consisting of multiple areas of <0.25ha and not within 20 metres of each other or single areas of <1ha and not within 100 metres of other scrub areas.

Strategic planning and development proposals (such as rezoning of new developable land, structure plans, subdivisions, or development applications) are required to be supported by technical information that demonstrates that bushfire protection criteria can be met.

The implementation of the policy to individual

development of habitable buildings is achieved through the deemed provisions. The deemed provisions require that, prior to development of a habitable building, a bushfire attack level (BAL) assessment is undertaken. Bushfire Attack Level (BAL) as set out in the Australian Standard 3959 Construction of Buildings in Bushfire-Prone Areas (AS 3959), as referenced in the Building Code of Australia (as amended). BAL provides a category of the level of exposure of a development to bushfire risk.

- BAL-FZ (flame zone)
- BAL-40
- BAL-29
- BAL-19
- BAL-12.5
- BAL-Low

The guidelines strongly recommend that BAL assessments are prepared by accredited Level 1 BAL Assessors. Where the results of the assessment show that a BAL-40 or BAL-FZ applies to the development area, a development application will be required. This removes any exemption that might otherwise be provided in the scheme for the development. The policy measures of SPP3.7 will be applied at the time of a development application. In most instances within the Shire, it is likely that site design and vegetation management can assist in the reduction of BAL on site.

The key policy measure applicable to a development influenced by BAL-40 or BAL-FZ is that development will only be supported if:

- a. the landowner/proponent has provided sufficient reason for why the proposal is considered to represent exceptional circumstances which adequately justifies a deviation from the policy measures;
- b. it greatly improves the bushfire management of the site and surrounding area through the provision of a demonstrably significant reduction in the bushfire-related risk level to the community and property;
- c. the benefits of the proposal going ahead in the area outweigh the costs to adjacent landowners, government and the general community; and



Legend

Western_Australia_Bushfire_Prone_Area_Map

- Overview Towns (LGATE-054)
 - Major Towns
- Geographic POI (LGATE-135)
 - Place
- Property Boundaries
- Local Government Authority (LGA) Boundaries (LGATE-006)
 - LGA
- Roads (Joined) (LGATE-073)
 - Freeways & National Highways
 - Main Roads
 - Sealed
 - Unsealed
 - Minor Roads
 - SE
 - US
- WA Bush Fire Prone Areas DFES

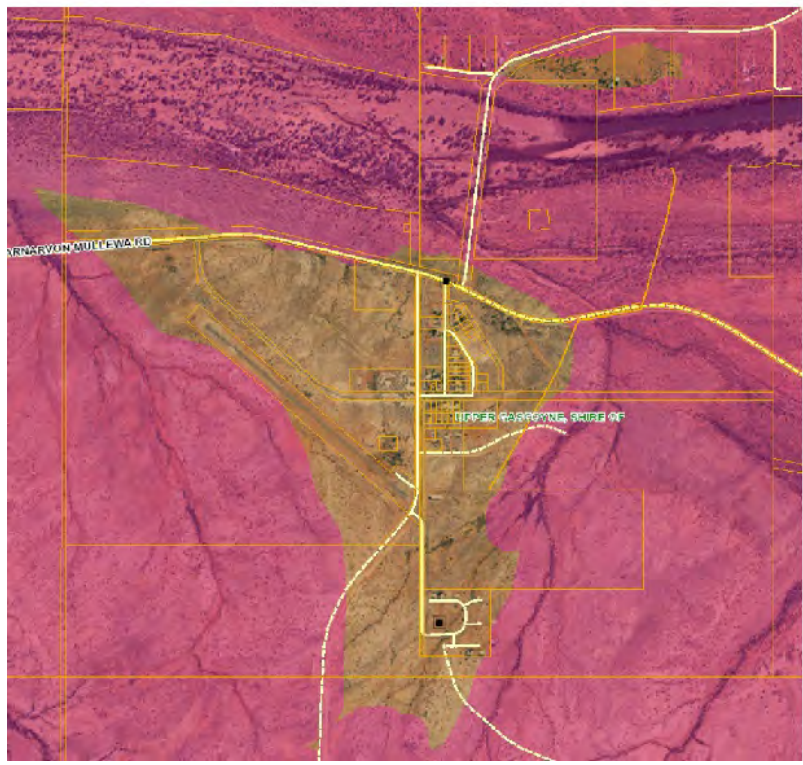


Figure 15: Bushfire prone areas (Source: Department of Fire and Emergency Services, 2017)

- d. it is accompanied by a Bushfire Management Plan, jointly endorsed by the relevant local government and the State authority responsible for emergency services. The Bushfire Management Plan should demonstrate ongoing management measures that will improve the bushfire management of the site and/or surrounding area by minimising the level of
- e. bushfire impact.

AS3959 sets out specific building standards for various BAL categories, where development is compliant and capable of approval against the above policy measures.

4.4 Cultural Environment

There are two reserves within the Shire that are held by the Aboriginal Lands Trust. These are Reserve 39182 Burringurrah Mt James and Reserve 27778 Lot 26 Smith Street Gascoyne Junction.

4.4.1 Native Title

The *Native Title Act 1993* was passed in December 1993 to recognise the native title claims in Australia where the necessary traditional connection to the land has been maintained and not extinguished by the action of Government or the grant of exclusive tenure. In 1996 the High Court ruled that Native Title could also extend over pastoral leases.

Figure 16 details the areas subject to native title claims. There are six registered areas and two determination areas.

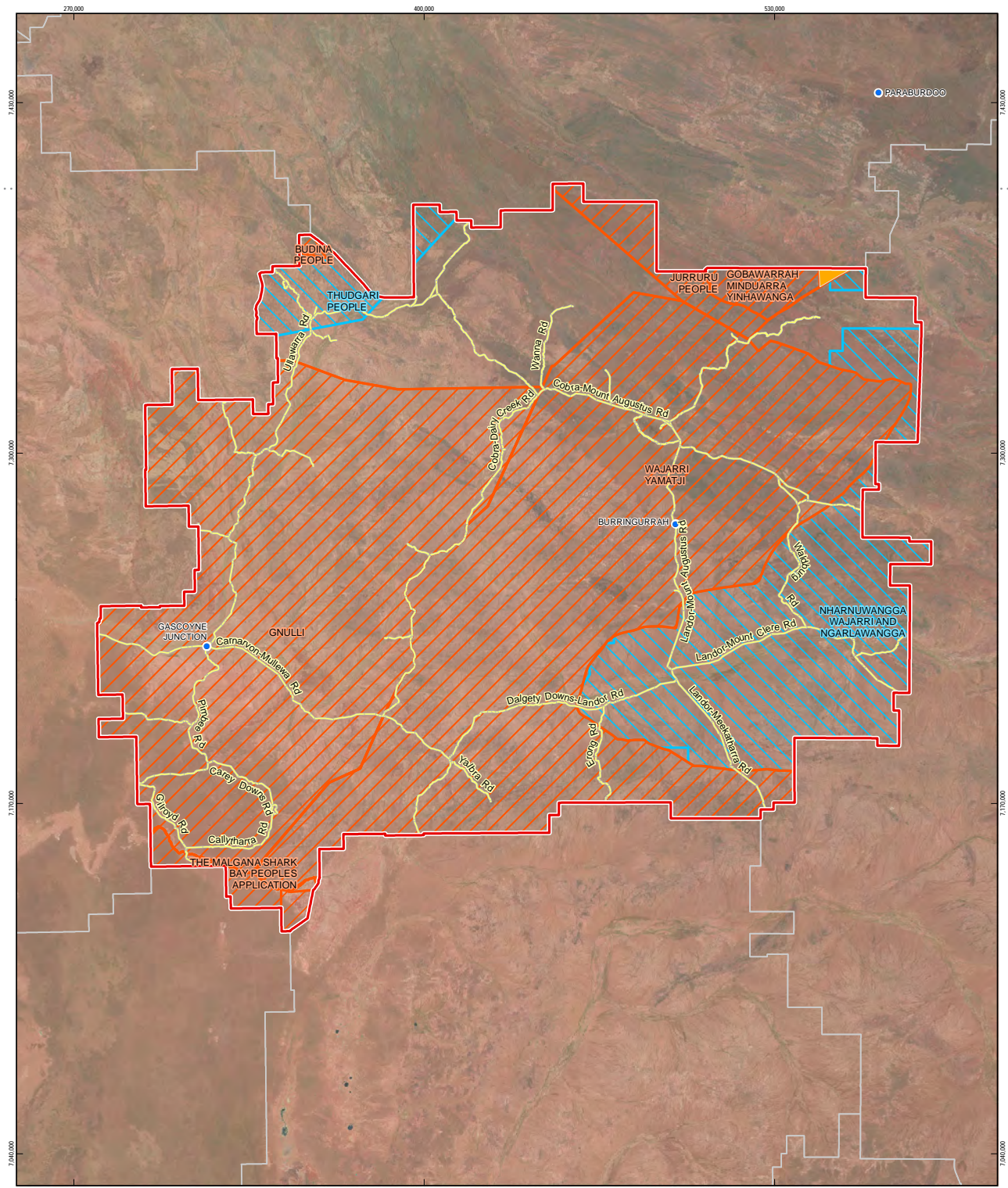
4.4.2 State Aboriginal Heritage

In Western Australia, the *Aboriginal Heritage Act 1972* protects places and objects customarily used by, or traditional to, the original inhabitants of Australia. A register of such places and objects is maintained under the Act, however, all sites are protected under the Act whether they have been entered on the register or not.

In Western Australia, the Department of Planning, Lands and Heritage manages the online Aboriginal Heritage Inquiry System, which identifies any registered indigenous heritage sites within the vicinity of the search area.

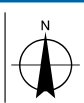
The Department of Planning, Lands and Heritage have advised that there are 152 known Registered Aboriginal Heritage Sites and 152 known lodged heritage places.

Sites of Aboriginal heritage are detailed in Figure 17.



- LEGEND**
- Town
 - Road
 - Local Government Authority Boundary
 - ▭ Shire of Upper Gascoyne
 - ▨ Native Title (Determination)
 - ▨ Native Title (NNTT)
 - ▨ Native Title (Fed Court)

Paper size : A3
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 Kilometres
 Map Projection: Transverse Mercator
 Horizontal Datum: Geocentric Datum of Australia 1994
 Grid: Geocentric Datum of Australia 1994



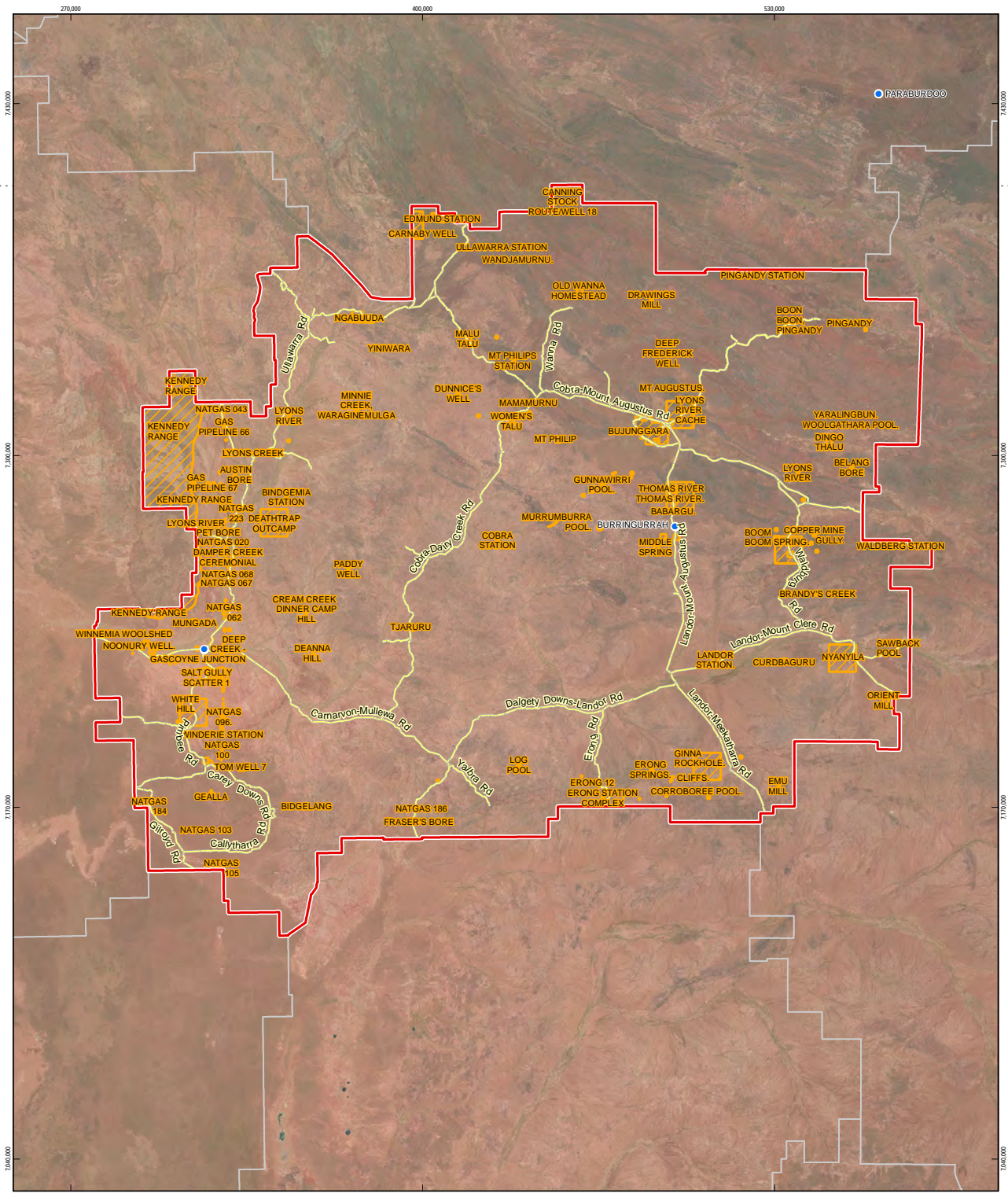
Shire of Upper Gascoyne
 Upper Gascoyne Scheme and Strategy

Job Number | 61-30138
 Revision | 0
 Date | 18 Jan 2018

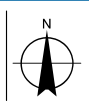
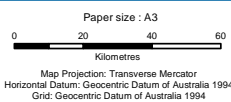
Native Title

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 Data source: GA: Town - 2006, LandSat Imagery; Landgate: Native Title (Fed Court), Native Title (NNTT), Native Title (Determination) - 20150904, Road - 20160321, Local Government Authority Boundary, Shire of Upper Gascoyne - 20160317. Created by: atleeny

Figure 16: Shire of Upper Gascoyne Native Title Claims



- LEGEND**
- Town
 - Road
 - Local Government Authority Boundary
 - ▭ Shire of Upper Gascoyne
 - ▨ Aboriginal Heritage Site



Shire of Upper Gascoyne
Upper Gascoyne Scheme and Strategy

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Revision 0
Date 18 Jan 2018

Aboriginal Heritage

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Data source: GA Town - 2006, LandSat Imagery, Landgate Road - 20140506, Local Government Authority Boundary, Shire of Upper Gascoyne - 20160317, DAA, Aboriginal Heritage Sites - 20100118. Created by: ateeney

Figure 17: Shire of Upper Gascoyne Aboriginal Heritage

4.4.3 Heritage

There are numerous sites of heritage significance throughout the Shire. Table 2 below provides a brief summary of the properties listed on the State Heritage Office's inHerit database.

Many of the listings are at the local government level. Local planning schemes have mechanisms for listing properties of heritage significance in order to provide further protection. Once a local planning scheme is in place, properties on the Heritage List can be formally listed on the Shire Heritage List.

Table 4: Heritage Listings within the Shire of Upper Gascoyne (Data Source: State Heritage Office, inHerit)

Name	Listing	Custodian
Old Cemetery	Municipal Inventory	Shire of Upper Gascoyne and Heritage Council
Star of Mangaroon Mine	Mining Heritage Study	Heritage Council
Gascoyne Junction Police Station	RHP - Does not warrant assessment	Heritage Council
Junction Hotel	Municipal Inventory	Shire of Upper Gascoyne and Heritage Council
Bidgemia Station	Municipal Inventory	Shire of Upper Gascoyne and Heritage Council
Fossil Hill	Register of the National Estate	Heritage Council
Lyons River Station	Municipal Inventory	Shire of Upper Gascoyne and Heritage Council
Carey Downs Station	Municipal Inventory	Shire of Upper Gascoyne and Heritage Council
Mt Sandiman Station	Municipal Inventory and RHP - To be assessed	Shire of Upper Gascoyne and Heritage Council
Cobra Station Homestead - Original	Municipal Inventory and Register of the National Estate, Register of the National Estate	Shire of Upper Gascoyne and Heritage Council
Bangemall Wayside Hotel (fmr), Cobra Station (Euranna Hotel, Cobra Station Homestead (fmr))	Municipal Inventory and Statewide Hotel Survey, Register of the National Estate, Classified by the National Trust	Shire of Upper Gascoyne and Heritage Council
Mt Augustus Station	Municipal Inventory	Shire of Upper Gascoyne and Heritage Council
Minnie Creek Station	Municipal Inventory	Shire of Upper Gascoyne and Heritage Council
Mangaroon Lead Mine	Mining Heritage Study	Heritage Council
Jimba Jimba Station	Municipal Inventory and RHP - To be assessed	Shire of Upper Gascoyne and Heritage Council
Dairy Creek Station	Municipal Inventory and RHP - To be assessed	Shire of Upper Gascoyne and Heritage Council
Winderie Station	Municipal Inventory	Shire of Upper Gascoyne and Heritage Council
Upper Gascoyne Road Board Office (fmr)	State Register for Heritage Places	Shire of Upper Gascoyne and Heritage Council
Landor Station (Nundigo Well and Stockyard)	Municipal Inventory and Register of the National Estate	Shire of Upper Gascoyne and Heritage Council
Fenian Mine (Location - Murchison)	Municipal Inventory	Heritage Council

4.5 Traffic and Transport

4.5.1 Roads

The road network through the Shire is essential to the function of region. Roads are used by the local pastoralists and residents as well as the tourists who visit the region.

The majority of the road network is unsealed. Whilst access by two-wheel drive is manageable, road closures occur during periods of flooding. None of the roads within the Shire are under Main Roads WA jurisdiction.

This road network is shown in Figure 18.

The Shire forms part of the larger outback experience for tourism. There are opportunities to improve and promote linkages that connect the Shire to the greater Gascoyne Mid-West and Pilbara regions, to generate greater visitor numbers in the Shire. These key linkages include:

- Gascoyne Junction to Meekatharra
- Gascoyne Junction to Kennedy Range
- Kennedy Range to Coral Coast
- Mount Augustus to Paraburdoo/Karijini
- Mount Augustus to Meekatharra
- Mount Augustus to Coral Coast

The major industries in the Shire are pastoralism and tourism. Both are highly dependent on a well maintained road network to ensure safety and efficiency in movement.

Current Traffic Generation

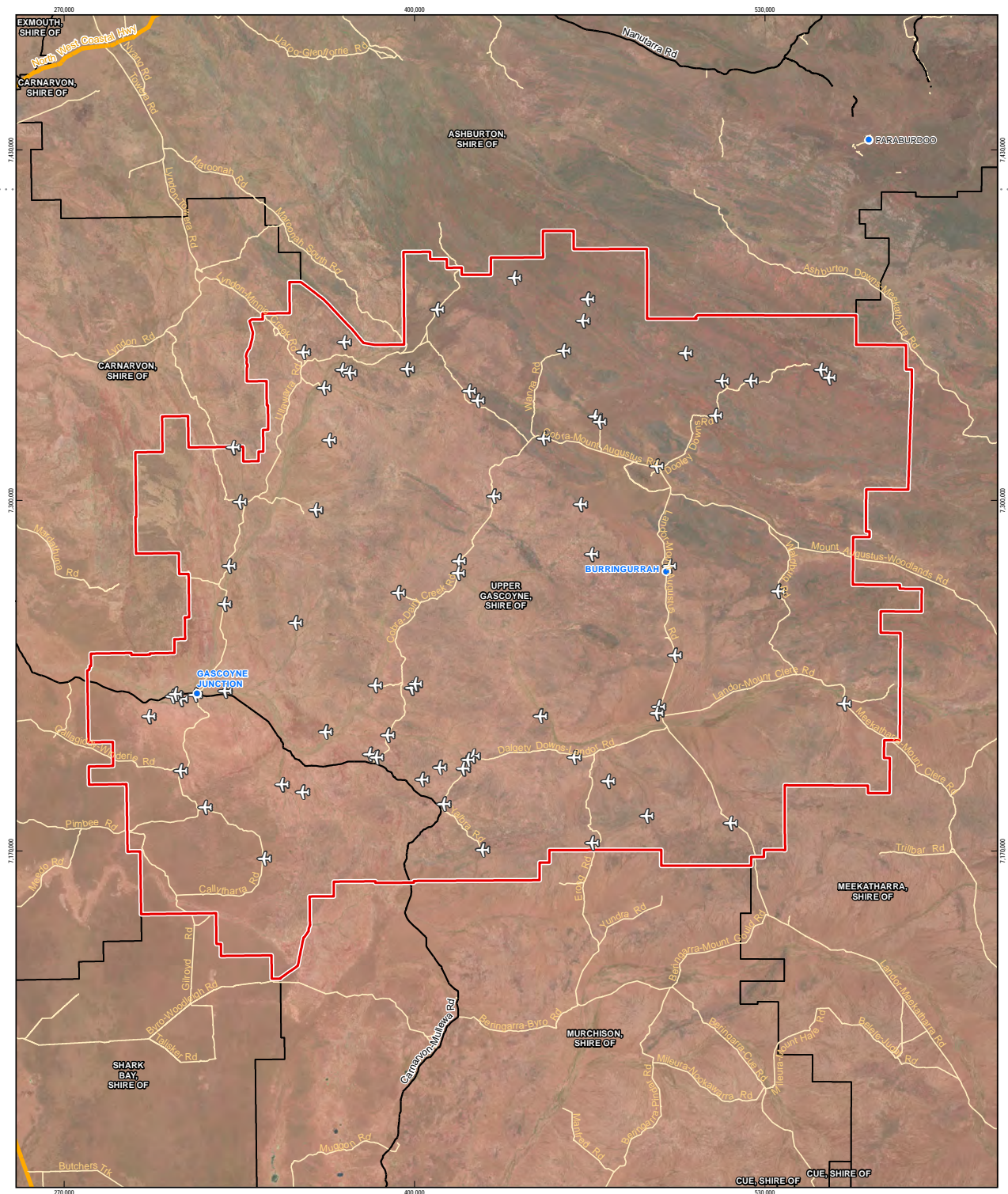
An estimate of the current traffic generation from the residential development in Upper Gascoyne is approximately 250 vehicles per day (28 dwellings x 9 trips per dwelling). Including other trips (servicing, business, tourism etc) results in around 300 - 400 trips per day generated from Upper Gascoyne.

The information outlined in Table 5 has been obtained from the Main Roads web site for traffic volumes on the Carnarvon-Mullewa Road.

Note: The first figure in Table 5 is the daily traffic volume and the second figure in italics is the percentage of heavy vehicles.

Table 5: Traffic Volumes

Road Name	Location	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Carnarvon Mullewa Rd	E of North West Coastal Hwy			60 11.0	50 10.3	30 9.9	60 33.2
	E of Mooka Rd			60 45.6			
	W of Pimbee Rd			50 21.9	30 10.8	20 8.4	50 39.7
	W of Cobra Dairy Creek Rd			20 11.2			
	S of Dalgety Downs Glenburgh Rd			10 28.5			
	N of Nubbaroo Rd	260	490				



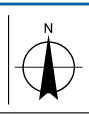
LEGEND

- Town
- ✕ Landing Ground
- Roads
 - State Highway
 - Major Road
 - Minor Road
- ▭ Shire of Upper Gascoyne
- ▭ Local Government Authority Boundary

Paper size : A3

0 20 40 60
Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Geocentric Datum of Australia 1994



Shire of Upper Gascoyne
Upper Gascoyne Scheme and Strategy

Strategic Plan

Job Number | 61-30138
Revision | 0
Date | 18 Jan 2018

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Data source: GA; Town - 2006, Landsat Imagery; GHD; Landing Ground - 20140806; Landgate; Local Government Authority Boundary, Shire of Upper Gascoyne - 20160317; Roads - 20160321. Created by: atlesney

Figure 18: Shire of Upper Gascoyne Road Transport Links



LEGEND

Gascoyne Junction Airstrip

Roads

- Major Road
- Minor Road

<p>Paper size : A3</p> <p>0 75 150 225 Meters</p> <p>Map Projection: Transverse Mercator Horizontal Datum: Geocentric Datum of Australia 1994 Grid: Geocentric Datum of Australia 1994</p>				<p>Shire of Upper Gascoyne Upper Gascoyne Scheme and Strategy</p>	<p>Job Number 61-30138 Revision 0 Date 19 Jan 2018</p>
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Strategic Plan

© 61/30138/GIS/Maps/MXD/6130138_G021_Rev0_GascoyneJunctionAirstrip.mxd
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 Data source: Landgate; Aerial Image, Roads - 20160321; GHD: Gascoyne Junction Airstrip - 20140806. Created by: afeeney

Figure 19: Gascoyne Junction Airstrip Location

Traffic volumes on Carnarvon-Mullewa Road in the vicinity of Upper Gascoyne are in the order of 500 vehicles per day.

Future Forecast Traffic Generation - Gascoyne Junction

Planned future development is anticipated to add 20-30 dwellings which would result in an additional 180 – 270 vehicles per day on to the road network.

The overall traffic generation from Upper Gascoyne on full development is therefore likely to be in the order of 670 vehicles per day.

The current network is sufficient to manage increases.

Impacts to Existing Intersections - Gascoyne Junction

Austrroads Guide to Traffic Engineering Practice indicates the maximum traffic volume thresholds before upgrades are required. These are summarised in the following table.

Table 6: Intersection Capacity - Uninterrupted Flow

Major Road Type ¹	Major Road Flow (VPH) ²	Minor Road Flow (VPH) ³
Two-lane	400	250
	500	200
	650	100
Four-lane	1000	100
	1500	50
	2000	25

Notes:

1. Major road is through road (i.e. has priority).
2. Major road design volumes include through and turning movements.
3. Minor road design volumes include through and turning volumes.

Peak hour traffic volumes are typically 10 percent of daily volumes, the threshold therefore is around 4,000 vehicles per day on the major road and 2,500 vehicles per day on the minor road. These values indicate that upgrades to intersections for capacity purposes are not required in Upper Gascoyne.

Pedestrian and Cycling Facilities - Gascoyne Junction

The existing road network, George Street and Scott

Street has footpaths on one side only. As future development occurs footpaths connections should be completed and include paths on each side of the road.

Crash Data

A review of the Main Roads Crash Data base indicates no reported crashes for the road intersections in the Upper Gascoyne between 2009 and 2013.

Road Network Improvements

Smith Street

The capacity of the existing road network is adequate to accommodate a significant increase in development compared with that existing. However improvements could be made to improve safety and operation. The following images show Smith Street, the road is currently kerbed with no pedestrian facilities. It is recommended that shared paths are provided on each side of Smith Street to include nibs to facilitate pedestrians crossing this road. Drainage will need to be considered as part of any road upgrade.

A suggested cross section is shown in the figure below (Liveable Neighbourhoods) which shows a typical Neighbourhood Connector B.

If the town experiences growth, it is recommended that intersections with Smith Street are controlled with a give way sign and give way marking together with a barrier line on each side road approach.

It is also recommended that a give way sign, give way marking and barrier line are installed in Smith Street and Gregory Street at their intersection with Carnarvon-Mullewa Road in the short term.



Intersection of Smith Street and Scott Street, looking south down Smith Street

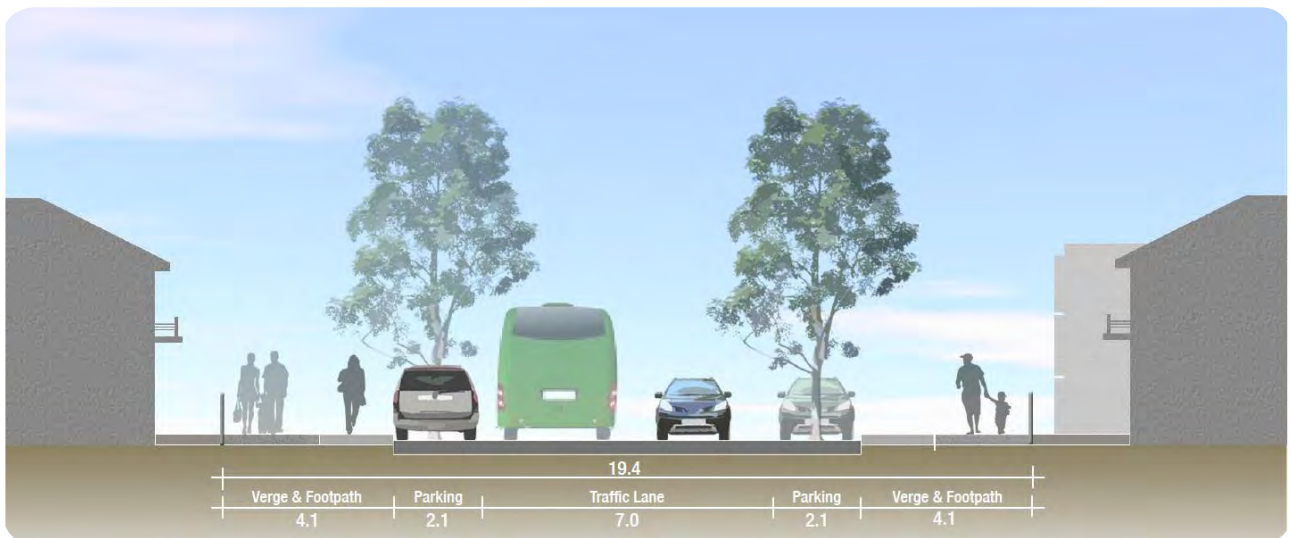


Figure 20: Neighbourhood Connector B - 50km/hr (<3000 vehicles per day)

Public Transport

No provision for public transport is currently provided and is considered to be unlikely to be provided in the future in view of the remote location.

Street Lighting

Street lighting should be considered as part of future development, particularly at major intersections and crossing locations.

Road Reserves – Services

The road reserves need to be protected from encroachment by major services to ensure adequate reserves are available for future road cross sections. Overhead power lines currently exist in Smith Street and any upgrades/modifications to this infrastructure should be mindful of future development plans.

Airports

The Shire contains a number of local airports for pastoral use and Royal Flying Doctor Service access (Figure 18). The closest regional airport is located at Carnarvon. The current population does not warrant the need for a regional airport, however should the population grow significantly, this can be further investigated. The airstrip in Gascoyne Junction is managed by the Shire and is suitable for light aircraft, including the Royal Flying Doctor Service.

Airstrips throughout the Shire should be well maintained to provide the Royal Flying Doctor Services access to remote areas of the Shire.

Airstrips in major tourist sites such as Mount Augustus will increase tourist numbers to the area and increase accessibility for those tourist who are unable to access the region via the unsealed road network.

Parking requirements at the Airstrip will need to be assessed as development and activity increases.

4.6 Infrastructure

4.6.1 Community Infrastructure and Facilities

Local Community Services

The Community Resource Centre (CRC) in Gascoyne Junction delivers a key service to the local community by providing access to training, community capacity building, delivering services and information from government and other agencies. The CRC also provides public internet access, a library, tourist information, small locally made retail goods (including jewellery and bags), government forms, Council minutes and the local mail service.

There are opportunities to increase the functionality of the CRC by providing additional community services including:

- Bill paying facilities; and
- Community programs such as computer lessons.

These additions could potentially be undertaken in the immediate future, however any population growth would assist to further support these community initiatives. Should the population increase, increase demand for community uses, such as a community bank, could support additional services in town.

The cemetery in Gascoyne Junction is located between two tributaries of the Gascoyne River. The cemetery was significantly damaged by the floods in 2010 and is no longer used due to future flood risks.

The cemetery should be relocated to the southern side of the river, potentially adjacent to the airport, where any future townsite expansion is unlikely to encroach and flood risks are minimised.

Burringurrah settlement hosts a wide range of community facilities, including a school, general store, community office, community health clinic, recreation centre, oval, swimming pool, basketball court and workshop.

Beyond the two main settlements of Gascoyne Junction and Burringurrah, very few community



Shire of Upper Gascoyne Administration Centre



Community Resource Centre



Federation Park

services exist across the remainder of the Shire. Camping facilities are available in the Kennedy Range National Park and a caravan park located at Mount Augustus. Informal discussions with the community indicated that most people regularly travelled to Carnarvon to access services and in some cases people would travel as far as Geraldton.

Health

The Royal Flying Doctor Service plays a vital role in the provision of health care within the Shire. An airstrip located at Gascoyne Junction enables access to the region. Previously a doctor regularly visited the Shire, however the low population numbers resulted in the service not being viable and the service has now been ceased. A local doctor and health worker from the Carnarvon Aboriginal Medical Service undertook visits on a fortnightly basis (Community Strategic Plan 2013), however this service was cancelled in July 2014. A local petition has been prepared to reinstate health services in the town. A dedicated doctor's room has been provided at the CRC. The lack of medical services in the Shire was raised as a serious concern amongst many community members.

If the population increases, the presence of a permanent medical practitioner should be investigated. This will provide a highly valuable service to the town and Shire. However it is unlikely that a permanent nurse or doctor could be justified until such time that the population increased significantly.

Burringurrah settlement is serviced by a nursing post managed by the WA Country Health Service. Burringurrah has a larger population making the service more feasible.

Emergency Services

The Shire has a number of emergency plans including:

- Local Recovery Arrangements
- Local Community Emergency Management Arrangements
- Shire of Upper Gascoyne Evacuation Plan

There is no permanent police presence in the town of Gascoyne Junction however a new headquarters has

been established at Burringurrah. The police station has been vacated at Gascoyne Junction and when incidents occur, the first port of call is to Burringurrah, despite Carnarvon being geographically closer. This was raised as a concern by community members. If the population increases, it would be beneficial to have a permanent police presence in town.

The Shire is extremely isolated and the closest hospital is located in Carnarvon. This can be a serious concern when critical accidents occur. The Royal Flying Doctor's would assist in an emergency situation. Informal discussion with the community raised the option of attaining a helicopter to assist in emergency situations.

Floods occur in the Shire, and in the past floods have been so severe that the north and south sides of Gascoyne Junction have become disconnected. Currently the only option to provide food and water to the residents on the north side of town is via a small boat which is not an ideal solution, nor necessarily a safe one. A local helicopter service could be a potential solution to manage these situations. In addition, the community have suggested the option of an airstrip on the north side of town or the construction of a bridge over the river.



Gascoyne Junction Cemetery location

Education

The Shire has two education institutions, one at Burringurrah and one at Gascoyne Junction. The Gascoyne Junction Remote Community School caters for students from kindergarten to a moderated year 10. Currently there are approximately 14 students enrolled at the school who travel from the local Aboriginal community of Woodgamia. Low student numbers have resulted in combined lower and upper level classes consisting of varying age groups. The school contains a number of recreation facilities including a playground, oval and basketball court and a thriving green house. Adjacent to the school is the public pavilion which includes an additional playground, tennis courts and barbeque facilities.

Continued population decline presents a risk to maintaining the school, as it is essential to maintain student numbers to ensure the provision of teachers is feasible.

Should the population in town increase, there will be a need to ensure there are adequate resources at the school to provide educational support to the local residents.

The school at Burringurrah has approximately 60 students between pre-primary and high school level. Similarly in Burringurrah, should the population increase, the school will require additional resources to cater for greater enrolment numbers.

Public Open Space and Recreational Facilities

Gascoyne Junction has two areas of public open space, the school oval and Federation Park, which cover an area of approximately 16,440 square metres.

Gascoyne Junction also has a pavillion which is frequently used for public and private events. The pavillion includes a gym and sporting courts. The pavillion is adjacent to Federation Park which also provides picnic facilities.

In addition to the formal public open space provided by the oval and Federation Park, there are passive recreation spaces and picnic areas provided along the Gascoyne River such as the Inggarda Yarning Spot and



Gascoyne Junction Remote Community School



Gascoyne Junction Pavilion Playground and Tennis Courts



Gascoyne Junction Oval

picnic area.

The current existing active recreational facilities within Gascoyne Junction are considered appropriate to service the existing population. Should the population increase and it is considered necessary to expand the facilities provided at the pavilion and oval, expansion should be concentrated in the area between the existing pavilion and Carnarvon-Mullewa Road subject to flood risks being mitigated.

Festivals and Events

There are a number of community events held in Shire including the Gascoyne River Music Festival, Junction Races, Australasian Safari, Landor Races and Kickstarters Gascoyne Dash. The events attract tourists from beyond the Shire and expose visitors to the unique offerings of the Shire. The events play a vital role in the Shire's tourism industry and should be well promoted to encourage visitors as well as create a sense of community for the Shire.

Additional accommodation units in Gascoyne Junction would be beneficial during peak periods to accommodate the influx of tourists during events.

Community Engagement

One of the major determining factors for limited community resources within the Shire is the low permanent population. However whilst the current population is low, there is an opportunity to enhance existing community facilities and involvement within the Shire with the existing population. These opportunities include:

- Joint initiatives with the local school to facilitate community involvement. e.g. Community Garden;
- Improved promotion of community groups and networks available within the Shire through a community group portal on the Shire's website e.g. promoting the local craft group;
- Enabling access to community groups for all Shire members e.g. mobile craft van that can be used throughout the Shire;
- Facilitation of/support for community programs e.g. computer lessons, yoga lessons;

- Bill paying facilities at the CRC; and
- Investigate obtaining a lifeguard for the local pool and an officer to manage pool cleaning.

Any population growth would further support these community initiatives. The development of a community engagement strategy will assist the Shire to target funding and prioritise project work.



Community initiatives

4.6.2 Utilities and Services

Water

The southern part of Gascoyne Junction accesses water via bore extraction from a superficial aquifer under the Gascoyne River that is then purified through reverse osmosis. This infrastructure is managed and maintained by the Water Corporation, however is costly and the capacity is limited.

The water extracted from the river is extremely saline and at times turbid. Large volumes of water are lost through reverse osmosis to reach a standard that is potable.

Planning and management of the State's water resources is the responsibility of the Department of Water and Environmental Regulation, which proclaims groundwater and surface water catchment areas to manage its use. Water reserve priority areas and protection zones exist in the Gascoyne Junction townsite, as shown in Figure 20. Land use and development in Shire should protect these resources.

Potable water is not accessible to residents on the north side of the river. Residents in this area access water supply by placing bores in the Gascoyne River and would then treat their water prior to consumption.

Water supply is a major constraint in the Shire and will be a determining factor in the growth of Gascoyne Junction. Future expansion of the townsite will be dependent on water source planning to ensure there is adequate resources to cater for the proposed development. Consultation with both the Department of Water and Environmental Regulation and the Water Corporation will be required. Appropriate planning should be undertaken prior to zoning new land for development.

Burringurrah settlement does not have regularised water services. Services are provided by the Remote Areas Essential Service Program.

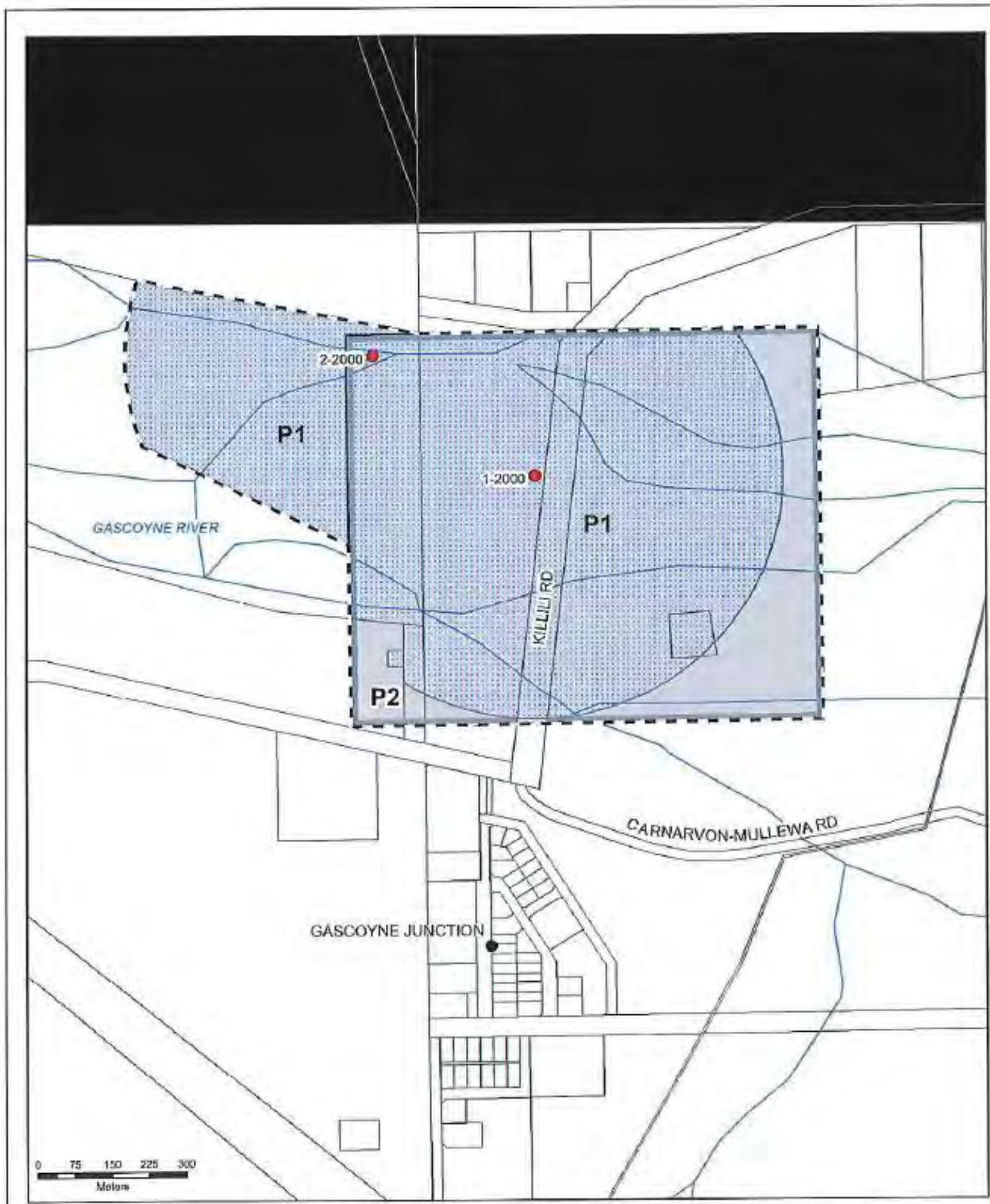
Wastewater

There are no reticulated sewer schemes in the Shire. All lots and development will need to manage

wastewater on site via septic tanks or Aerobic Treatment Units. The lack of sewer may impact development of smaller lots in the future.



Water sump at Gascoyne Junction tourist park



<p>SOURCE DATA</p> <p>DoW acknowledges the following datasets and Tom Cusack's role in the production of this map:</p> <p>Dataset Name - Gascoyne Junction - Map data date PDWSA - DOW - Feb 2006</p> <p>Rivers - DOW - July 2006</p> <p>WA Coastline - WRC - 13/10/2002</p> <p>Cartographic Lead - D.J. - Dec 2006</p>	<p>Legend</p> <ul style="list-style-type: none"> Gazetted Water Reserve Proposed Water Reserve Priority One Classification (P1) Priority Two Classification (P2) Willshed Protection zone Major drainage Water Corporation Production Bore 	<p>Coordinate System MGA84 Zone 50</p>		<p>FIGURE 4. GASCOYNE JUNCTION WATER RESERVE PRIORITY AREAS AND PROTECTION ZONES</p>									
		<p>LOCATION PLAN</p>	<p>INDEX TO ADJOINING MAPS</p> <table border="1"> <tr> <td>1545</td> <td>1545</td> <td>2045</td> </tr> <tr> <td>1547</td> <td>1947</td> <td>2047</td> </tr> <tr> <td>1548</td> <td>1948</td> <td>2048</td> </tr> </table>	1545	1545	2045	1547	1947	2047	1548	1948	2048	<p>Drawn by: M.Webb</p> <p>Date 27/06/2007</p>
1545	1545	2045											
1547	1947	2047											
1548	1948	2048											

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Figure 21: Gascoyne Junction Water Reserve Priority Areas and Protection Zone (Source: Water Corporation)

Power

Power supply in Gascoyne Junction is managed by Horizon Power via a series of diesel generators. Outside of the townsite, Horizon Power is not responsible for power supply.

The existing system is sufficient to cater for the current population and there is additional capacity in the overhead transmission lines. However preliminary discussion with Horizon Power indicates a potential need for additional generators should the population increase.

The local community members have suggested that the power supply in Gascoyne Junction is variable and inconsistent, which suggests there may be a need to review the existing infrastructure in the immediate future.

A backup generator was installed by the Shire at the Gascoyne Junction tourist precinct to accommodate additional loads generated by tourists in peak periods.

Burringurrah is serviced by the Remote Area Essential Service Program. The projected growth indicated in the Layout Plan, suggests upgrades to one of the gensets.

Any future rezoning of land for non-rural land uses will require an assessment to determine whether there is capacity to meet the needs of the development.

The Shire would benefit from investigating alternative energy sources such as solar power. The Shire experiences sunny conditions throughout much of the year and this could be capitalised on through the installation of solar panels, reducing the reliance on non-renewable energy sources.

The strategic plan for the Gascoyne Junction townsite proposes investigation areas which could result in a greater level of development in the townsite and in turn increase the demand on peak loads. The installation of solar panels is likely to generate more than half the necessary power supply for the townsite.

Use of solar panels on pastoral stations would be



Gascoyne Junction power station

beneficial in reducing overall running costs of stations and reliance on non-renewable energy sources.

In addition, research could be undertaken to investigate sustainable alternatives to accessing potable water. This would assist to support pastoral stations, livestock, townsites and settlements.

Telecommunications

There is currently additional capacity for telecommunications connections within Gascoyne Junction and Burringurrah and whilst Telstra maintains Universal Service Obligations, services will continue to be provided. Service is limited outside the main townsites and non-Telstra providers have limited to no service availability within the Shire. There could be an opportunity to improve service provision along key transport routes which would significantly improve safety when travelling through the region. Ideally for safety, mobile reception would be desirable in key tourist locations and along the roads linking these areas.

The 2016 Census collated data on internet connections. Based on the 66 responses received, 54.5% had no internet connection from their dwelling, 39.4 percent had internet accessed from their dwelling and 6.1 percent of responses were not stated.

Telstra has no plans to rollout ADSL, however should the Shire wish to pursue this, requests can be made to the Telstra broadband group.

It was also indicated that improved telecommunications access would assist in pastoral activities such as remotely checking water stations.

NBN is in the process of being rolled out throughout the Shire, with some stations already receiving the relevant equipment.

Solid Waste

Gascoyne Junction maintains a tip for solid waste disposal which is managed by the Shire and is adequate for current and future demand. Any growth may consider improved facilities.

Gas

The Dampier to Bunbury natural gas pipeline runs through the Shire. This is not accessible for domestic use, rather residents rely on bottled gas, which is typical in regional areas.



Gascoyne Junction tip



Gascoyne Junction Telstra tower

4.7 Land Use

This strategy has divided the Shire into two key areas - the Rangelands and Gascoyne Junction townsite.

4.7.1 Rural Land

Pastoralism is the main industry in the Shire covering the majority of land. Given the dry arid conditions, pastoral leases cover extensive areas to maximise opportunities to access food and water for livestock.

The pastoral leases expired in July 2015. The former Department of Lands proposed two lease renewal options. Option one was a lease with the same terms and conditions as the existing lease. Option two was a lease that is generally the same terms and conditions, however in a more modern language with additional conditions such as insurances and GST. Both options will allow for diversification under Division 5 – Permits, of the *Land Administration Act 1997*.

For land affected by pastoral leases, where uses or development do not fall within the pastoral lease, lessees can apply for diversification permits through the Pastoral Lands Board. This could include uses such as eco-tourism. Typically, works that are for pastoral purposes would not require a permit from the Department of Planning, Lands and Heritage.



Rural land uses

4.7.2 Gascoyne Junction Townsite

Gascoyne Junction is a low density townsite with most development concentrated on two streets within the town; Scott Street and Gregory Street. The townsite has developed in an orderly fashion, with similar land uses being concentrated together. The core of the townsite includes a variety of civic uses including the Shire offices, community resource centre, school, telecommunications facilities and utilities.

Surrounding the core are the residential areas and tourist facilities. The housing style is relatively eclectic however the neat streetscapes and well maintained gardens create a cohesive character in the town.

The development in town is single storey residential dwellings. Most buildings within Gascoyne Junction are of a good quality, however some require replacing.

On the northern side of the river are large lot residential. The lots are also used for local businesses and storage.

Some light and service industrial uses are located in the southern part of the town.

Approximately 1.2 kilometres south of the town is the Woodgamia community. The community contains approximately seven houses however has not been classified as an Aboriginal Community under *State Planning Policy 3.2*. The community is generally serviced by Gascoyne Junction. The buildings at Woodgamia were in good condition, however over time may require replacing or upgrading.

Figure 21 illustrates the existing land uses within the townsite.

Three land use options were considered by the community and the Shire for managing the growth of the townsite. These options were used to guide what land use zones and reservations would be appropriate for the townsite in the local planning scheme.

In all three options, future expansion of the townsite was proposed to be on the southern side of the river.

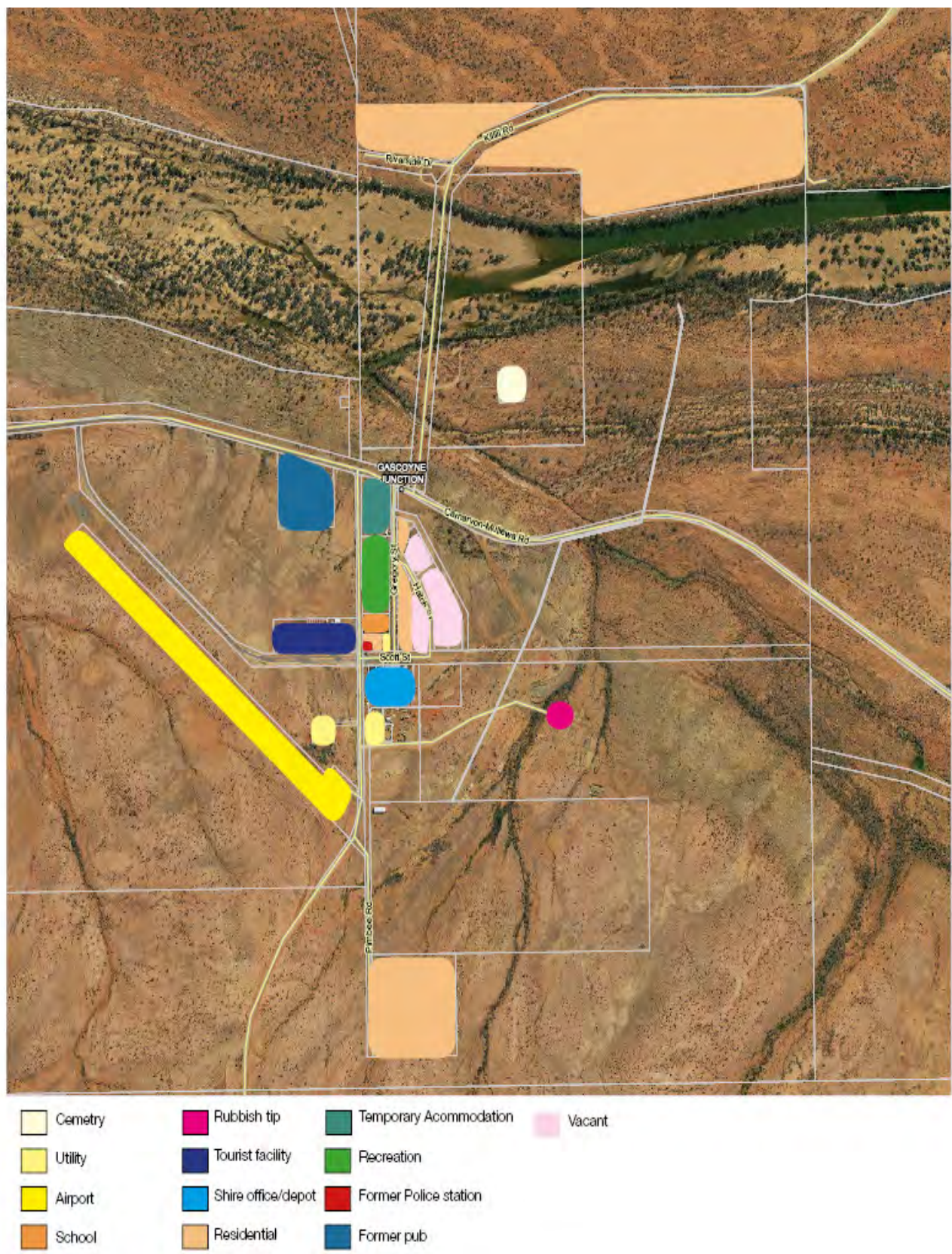


Figure 22: Gascoyne Junction existing land uses

This is directly related to access to services. Expansion should only be considered on the north side of the river if services are connected and a safe crossing is provided over the Gascoyne River. The three options are discussed briefly below and more details are provided in Appendix A.

Option 1 - Option 1 proposes four land use categories for the townsite, those being settlement, business, residential and rural/residential. This option allows for flexibility of land uses, however there are some risks that it could result in ad hoc development and land conflicts.

Option 2 - Option 2 proposes a commercial hub around the civic core supported by residential around the centre. Industrial uses are concentrated to the south. Option 2 proposes seven land use categories.

Option 3 - Option 3 proposes a residential core surrounded by commercial uses, providing a buffer between the residential and industrial uses to the south. Option 3 proposes eight land use categories.

The preferred option for Gascoyne Junction is option 1, which proposes simple land use categories. The benefit of this option is that it will allow sufficient flexibility to enable the Shire to consider a range of land uses throughout the townsite without being too restricted by specific zonings.

As noted there may be a potential for future land use conflicts to occur. If development begins to occur that is considered to result in conflicting land uses, it would be recommended that the Shire consider developing a local planning policy that provides an additional level of detail on land use interfaces or alternatively a scheme amendment could be undertaken to create more land use zones.



Gascoyne Junction town centre



Industrial uses in Gascoyne Junction



Gascoyne Junction tourist precinct petrol station

4.7.3 Aboriginal Communities

There are two Aboriginal communities within the Shire, Burringurrah and Woodgamia, however only Burringurrah is classified as a settlement under *State Planning Policy 3.2*.

Woodgamia is located approximately 1.2 kilometres south of Gascoyne Junction and contains seven domestic houses. The community is generally serviced by Gascoyne Junction and the community has many links to the townsite.

Burringurrah Layout Plan No. 2 provides the planning framework for the community. The land is leased to the Burringurrah Aboriginal Corporation from the Aboriginal Lands Trust for a 99 year lease. Similar to a local planning scheme, the intent of the Layout Plan is to ensure orderly and proper planning of an area.

The Layout Plan consists of approximately 100

residential lots, community uses including a school and youth centre, recreation spaces, commercial uses, industrial uses and public utilities.

The proximity of Burringurrah to Mount Augustus, provides the opportunity to facilitate tourism uses. The existing Layout Plan could be amended to incorporate this.



Woodgamia Aboriginal Community

4.7.4 Environmental Areas

The Shire contains two National Parks within its boundaries, those being the Kennedy Range and Mount Augustus.



Shire of Upper Gascoyne

4.8 Opportunities and Constraints

The Shire and more specifically the townsite of Gascoyne Junction, have both opportunities for development and constraints that will limit development and expansion.

These opportunities and constraints have been raised during consultation with the Shire and the community. They are not necessary matters that need to be actioned by the Shire, but matters to be aware of. Should future funding be available some of these matters could be addressed.

4.8.1 Whole of Shire Opportunities

Infrastructure

- Improve road networks between the Shire's major assets (Mount Augustus, Kennedy Range, Gascoyne Junction, Burringurrah and Glenburgh mine)
- Improve and bitumise road between Gascoyne Junction and Meekatharra.
- Improve and bitumise road between Mount Augustus and Paraburdoo.
- Improve road networks from Mount Augustus and North West Coastal Hwy.
- Investigate grants for solar panels.
- Investigate developing the Shire as a 'Clean Energy Shire' with sustainable energy supply.
- Improve mobile reception along major transport routes.
- Improvements to internet connections would enable remote monitoring of stations.

Tourism

- Increase tourist facilities at Mount Augustus and Kennedy Range.
- Develop an airstrip at Mount Augustus to increase visitors to the region.
- Create linkages from the Shire to areas beyond the Shire including Carnarvon, Meekatharra, Paraburdoo, Karinjinini and the Coral Coast.
- Ecotourism on stations.

Other

- Steel fabrication industry.
- Glenburgh gold mine.
- Employment opportunities at Burringurrah.
- Mine site 170 kilometres north of Gascoyne Junction.
- Potential gold and fracking industries.
- Income for local government

4.8.2 Whole of Shire Constraints

Infrastructure

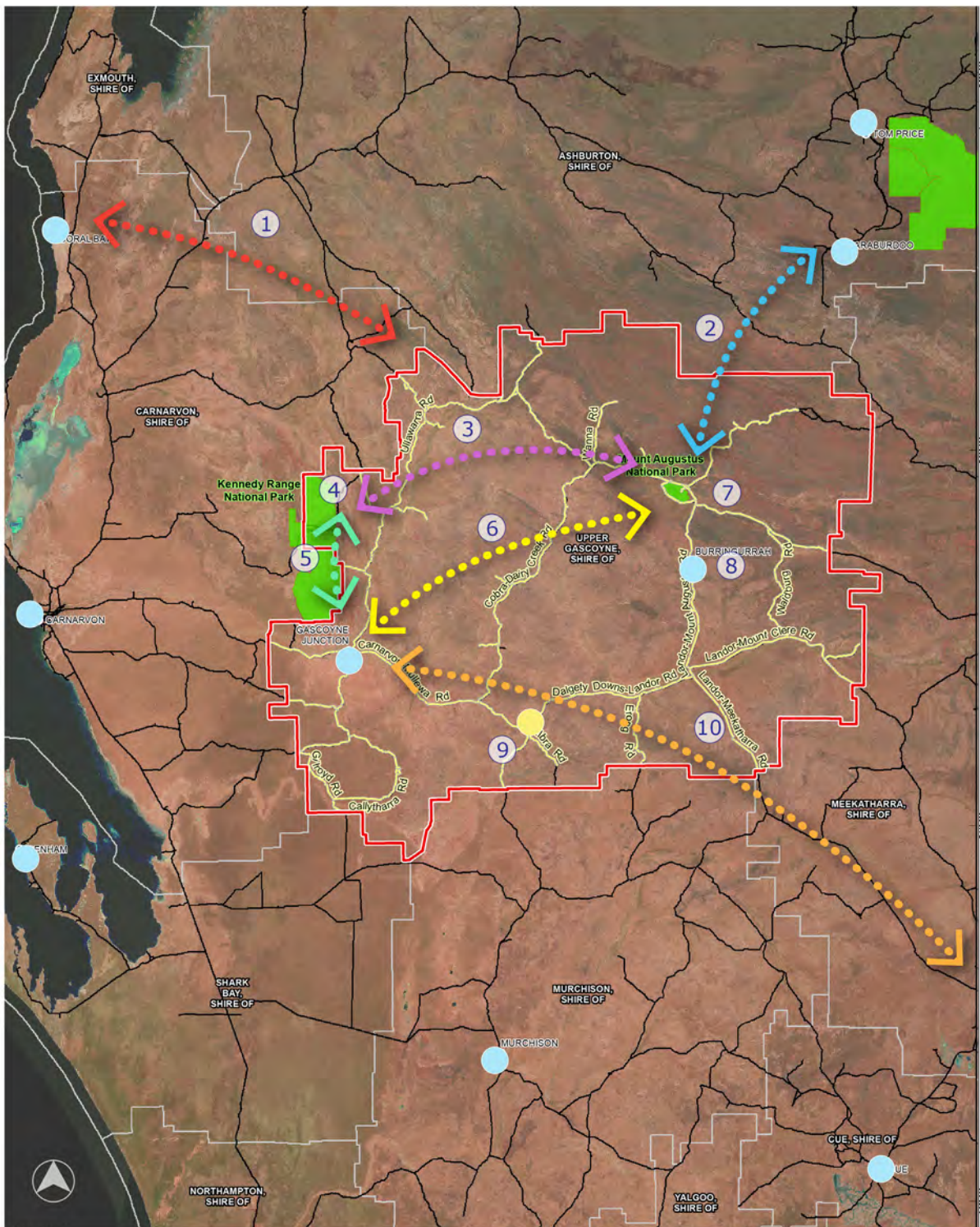
- Mobile phone and telecommunications are limited in the Shire.
- Majority of the roads are unsealed.
- Access to water is difficult in the Shire.

Tourism

- Distances between areas can discourage tourists.

Other

- Attraction and retention of staff.
- Isolation makes transportation of goods expensive.
- Limited services in the region including petrol, food, water, accommodation, internet and medical facilities.



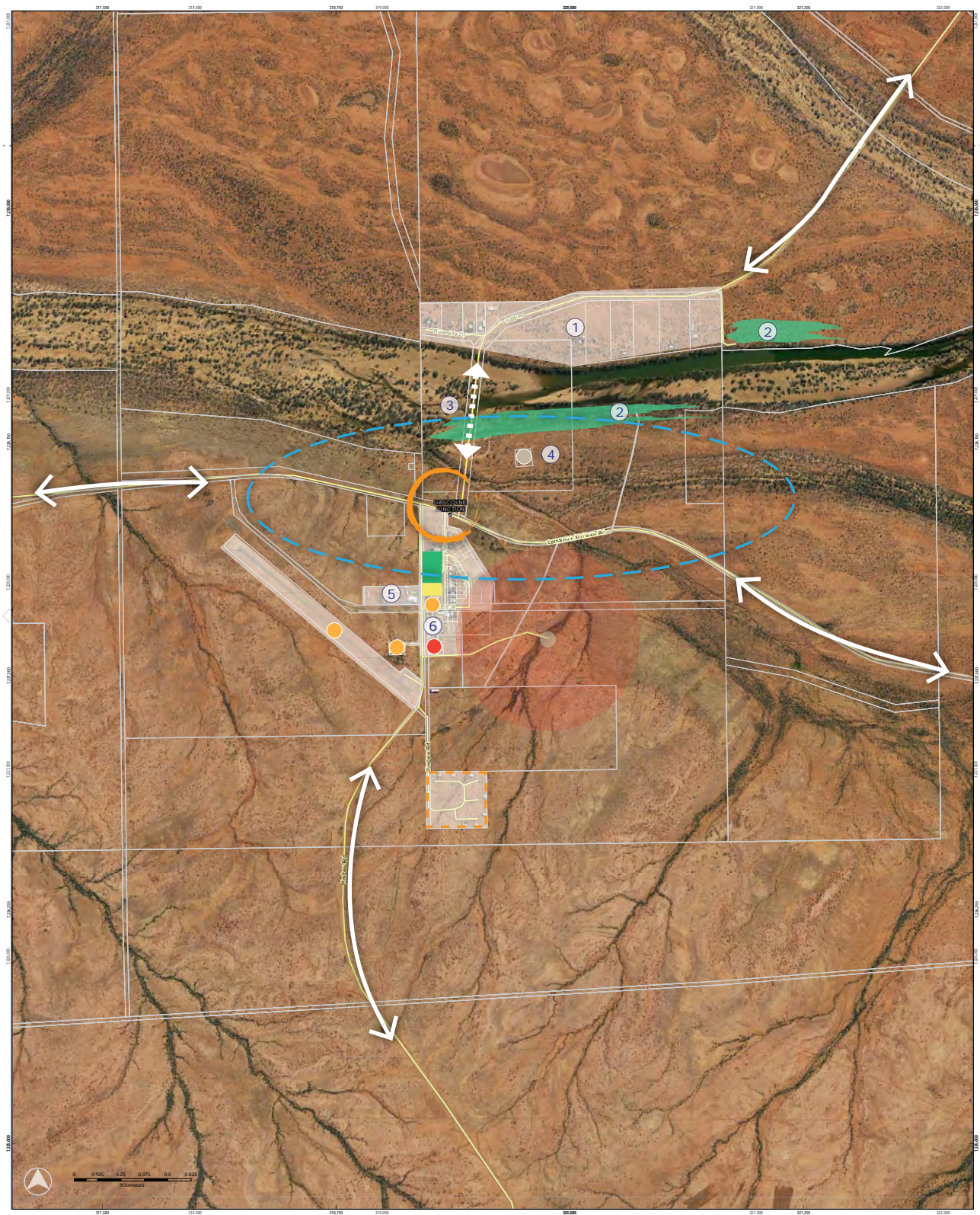
Legend

- Shire of Upper Gascoyne
- Populated Place
- Glenburgh Gold Mine

Not to scale

- | | |
|---|--|
| <ul style="list-style-type: none"> 1 Create links with the Shire and Coral Coast 2 Improve direct link between Mount Augustus and Paraburdo 3 Seal road between Kennedy Range and Mount Augustus 4 Improve tourist facilities at Kennedy Range 5 Seal road between Gascoyne Junction and Kennedy Range | <ul style="list-style-type: none"> 6 Seal road between Gascoyne Junction and Mount Augustus 7 Improve tourist facilities at Mount Augustus including airstrip 8 Develop employment opportunities at Burringurrah 9 Develop employment opportunities at Glenburgh Mine 10 Seal road between Gascoyne Junction and Meekeatharra |
|---|--|

Figure 23: Shire of Upper Gascoyne Opportunities and Constraints



- | | | | | |
|-------------------------------------|--|---|---|---|
| Public Utility | Recreation | Entry statement to be landscaped using flood resistant techniques | 1 Lots north of river do not have access to town water supply | 4 Existing cemetery prone to flood risk |
| Public Utility on contaminated site | School | Rubbish dump with an approx. 500m buffer | 2 Recreation spaces along river have potential for expansion | 5 Existing tourist facility |
| Cemetery | Flood risk area | | 3 Potential bridge over Gascoyne River | 6 Existing shire offices and depot |
| Tourist pathway | Woodgamia Community (Aboriginal community) | | | |

Figure 24: Gascoyne Junction Opportunities and Constraints

4.8.3 Gascoyne Junction Opportunities

Land Uses

- Interest from elderly and retirees to move to town.
- More residential lots.
- Some industrial lots.

Infrastructure

- Build a bridge over the river.
- Airstrip on the north side of the river.
- Solar farm.
- Solar panels on the tavern.
- Alternative energy and water supply research capabilities.

Community Infrastructure

- Expand function and activities undertaken at the CRC.
- Increase community groups and involvement.
- Storage facilities at pavilion for local craft group.
- Website portal to promote local community groups.
- Computer and yoga lessons.

Tourism

- Utilise the river as an attraction.
- Develop a shop where local goods can be sold in town.
- Observation area with points of interest and distances.
- More tourist accommodation.
- Guided tours on the river/kayaks.
- Dirt bike tracks.

4.8.4 Gascoyne Junction Constraints

Infrastructure

- No water supply north of the river.
- Water is limited.
- Flood risks reduce accessibility between the north and south side of the River.
- Flood risks and the impacts it has on insurances.
- Power supply fluctuates and needs upgrading.

Community Infrastructure

- No permanent police presence in town.
- No doctor in town.
- Cemetery is in a flood risk area.
- Lack of emergency services.

Tourism

- The new tourist facilities have less accommodation than the old pub and is sometimes at capacity.

Other

- Power station site is a known contaminated site.
- Attraction and retention of staff.
- Cost of relocation is too high.
- Noise at the school from the generator.
- Water adjacent to the river is too salty for growing vegetables.
- Noise travels easily in the Shire.

5.0 ANALYSIS OF KEY ISSUES

This strategy highlights all the opportunities that exist in the Shire to encourage sustainable growth, however it also highlights the issues that exist which could hinder development. The issues below have been broken down into seven key categories.

- Population and housing
- Economy and employment
- Physical environment
- Cultural environment
- Traffic and transport
- Infrastructure
- Land uses

Each issue includes an analysis and a strategic response. The Strategic responses are each enabled by a strategy or action identified in Part One of this Strategy. The issues discussed below include both those issues that are related to the planning framework and those which are broader matters not managed by the planning framework.



Gascoyne Junction housing



Gascoyne Junction Remote Community School

Population and Housing

Issue	Discussion	Strategy
The Shire is experiencing no population growth, the population is aging and school enrolments are low.	The Shire has limited employment opportunities which make it difficult to attract new residents.	Identify mechanisms to generate employment opportunities .
There is limited housing supply available for those who wish to relocate to Gascoyne Junction.	There are existing undeveloped lots in town however there is only a small number of existing built houses. Once the existing lots are developed, new areas will need to be investigated that can accommodate new development. New lots will need to consider the availability of services and risks associated with flooding.	Identify land within the town appropriate for residential expansion.
Parts of the Shire do not have access to potable water through the water mains. There is no reticulated sewer schemes in the Shire. The settlement areas are small and land uses are within close proximity to each other.	There are limited services available throughout the Shire. Potential future expansion of the settlements may be an opportunity to consider an upgrade to services. New planned areas should consider appropriate buffer separations.	To enhance the public health of the local community.

Economy and Employment

Issue	Discussion	Strategy
There are limited diverse employment opportunities in the Shire.	The Shire's employment is predominantly in the pastoral industry. There may be risks associated with this if there are changes in the market or climate conditions that impact on productivity. Notwithstanding this, pastoral activities should continue and supported.	Support ongoing pastoral activities.
		Enable the consideration of a range of employment opportunities.
		Support the development the tourism industry.
		Promote station stays within the Shire.
Changes to climatic conditions in the Shire may decrease the productivity of the pastoral lands.	Changes in climate will increase temperatures, decrease rainfall and increase pests and weeds. This could reduce productive land and create harder conditions for livestock.	Enable pastoralists to respond to change and diversify their land.
There are limited facilities at major tourist destinations to encourage tourists to stay longer.	Mount Augustus and the Kennedy Range are major draw cards for the region, however limited facilities including accommodation, shops, cafes, air strips etc, limits the length of time which visitors may stay.	Promote tourism within the Shire.
		Support Indigenous tourism industry at Mount Augustus.
		Support small tourism ventures.
		Promote local community groups and activities.
Tourists may be hesitate to travel due to road conditions and/or isolation.	The Shire has a well maintained road network, however this is not adequately promoted and as result, there is a potential loss in tourists. The Shire is isolated and lack of mobile reception can be a concern to those travelling the region.	Support the tourism industry through improvements to the road network and telecommunications facilities.
The development of the mining industry may not significantly contribute to sustainable population and economic growth in the Shire.	Whilst mining does create new employment opportunities, mine sites are also relatively self sufficient. The fly in fly out nature of the industry does not contribute to sustainable population growth. Depending on the location of the mine, the positive economic benefits in townsites may not be as significant as expected.	Identify opportunities for the Shire to capitalise on the potential mining industry presence to capture and retain positive economic returns.

Physical Environment

Issue	Discussion	Strategy
Extreme climatic conditions can impact movement throughout the Shire.	The Shire has a semi-arid to arid climate, however extreme weather events can cause severe flooding throughout the Shire. Flooding, particularly in Gascoyne Junction, can cause damage to buildings located within close proximity to the River. In addition dwellings on the north side of the river are accessed by crossing the River. Generally the River is low enough to allow movement over it, however during flood periods, the northern side of the river can become disconnected from the main town site.	Identify opportunities to minimise the impacts of flooding on the Gascoyne Junction townsite.
		Facilitate safe crossing over the Gascoyne River.
There are a number of species of flora and fauna in the Shire that may require protection.	There are various flora and fauna in the Shire listed under the EPBC Act, WC Act and migratory fauna agreements. The presence of these species will not necessarily restrict development but will need to be considered when proposing significant changes to the landscape.	Identify mechanisms to ensure the protection of flora and fauna.
There are limited sources of drinking water in the Shire.	Potable water is primarily accessed from bores. The only proclaimed public drinking water source area is located in Gascoyne Junction and should be protected to ensure adequate potable water supply for the townsite in the future.	Identify the extent of the drinking water source to determine the area to be protected.
Climate change may reduce water supply and increase costs of non-renewable energy supplies.	Climate change may not only reduce the ability to access resources such as water and non-renewable energy, but increase costs due to their scarcity. There may be a need to investigate new water and energy sources in the Shire, particularly in remote areas where costs can be high due to transport costs.	Identify mechanisms to access sustainable forms of energy and alternative water sources.

Cultural Environment

Issue	Discussion	Strategy
Locally heritage listed properties currently do not have adequate protection mechanisms.	Proposed changes and works to properties included in the State Register of Heritage Places are required to be referred to the Heritage Council for advice, in accordance with the <i>Heritage of Western Australia Act 1990</i> . However locally listed properties are protected through mechanisms under the town planning scheme. The lack of an existing scheme means some properties may not have sufficient protection.	Identify properties in the Shire that require heritage protection.



Gascoyne River

Traffic and Transport

Issue	Discussion	Strategy
<p>The Shire's road network is extensive and travel times can be significant between locations.</p> <p>The linkages between the Shire and surrounding townsites and attractions are not adequately promoted.</p>	<p>The Shire is fairly sparse and the road networks are predominantly unsealed. Sealed and more direct routes may assist to reduce travel times.</p> <p>The Shire's isolation makes it challenging to attract visitors to the region. However there are opportunities to highlight links between the Shire and the surrounding region (including Paraburdoo/ Karinjini, Meekatharra and the Coral Coast) to encouraged increased movement through the Shire.</p>	<p>Identify key access routes to be upgraded to facilitate efficient movement through the Shire.</p>
		<p>Seal the priority road network.</p>
		<p>Facilitate a more direct link between Mount Augustus and Karinjini.</p>
<p>Access to the Shire for emergency purposes is difficult.</p>	<p>Due to the isolated nature of the Shire, access is mostly to the region via unsealed roads. This can be problematic when trying to gain access to remote areas for emergency purposes. The region is serviced by the Royal Flying Doctor Services and it is vital that landing strips are available and maintained in the region.</p>	<p>Ensure well maintained airstrips throughout the Shire to enable use by the Royal Flying Doctor Service.</p>
<p>Remote tourists sites are difficult to visit.</p>	<p>Areas such as Mount Augustus are frequented by tourists, however those tourists that are unable to access the region via the road network are restricted. There are opportunities to develop improved airstrips at Mount Augustus to increase tourist numbers to the region.</p>	<p>Enable access to Mount Augustus via aircraft.</p>



Shire of Upper Gascoyne road network

Infrastructure

Issue	Discussion	Strategy
There are limited community services available in the Shire e.g doctors.	The low permanent population base makes it challenging to support certain services. The Shire's CRC provides a multi-purpose function and there are opportunities to incorporate additional services here, should they be sustainable and appropriately managed.	Ensure flexibility in the planning framework to allow consideration of a range of land uses.
Whilst there is no issue with the location of most services, the land uses should be protected.	There are essential services located in the Gascoyne Junction townsite. These should be protected.	Protect land identified for essential services.
There is no permanent police presence in Gascoyne Junction and police responses are not time efficient.	The low permanent population makes it difficult to justify the need for a permanent police presence in Gascoyne Junction. In emergency situations, the first port of call is Burringurrah, despite Carnarvon being geographically closer.	Ensure efficient responses to emergency situations.
Access to potable water in the Shire is limited.	In Gascoyne Junction potable water is accessed from the Gascoyne River, however the high salinity levels in the water requires treatment via reverse osmosis. Access to the treated water is not available on the north side of town. Through the remainder of the Shire, access to potable water is via bores however this is also limited.	Ensure adequate water supply in the Gascoyne Junction townsite
Power supply may not be sufficient if the Gascoyne Junction townsite was to expand.	The existing power station in Gascoyne Junction is sufficient to cater for the existing population however any growth in town would require upgrades to the existing system. There are opportunities to investigate upgrades or use of alternative energy sources including solar power.	Ensure adequate energy supply for the Gascoyne Junction townsite.
There is limited mobile reception throughout the Shire and it is typically limited to one service provider.	The isolation and the small population of the Shire has resulted in limited access to efficient telecommunications facilities. Improvements in telecommunications would assist to improve safety on major road networks and assist to improve the efficiency of the pastoral industry.	Improve telecommunications in the Shire.

Land Uses

Issue	Discussion	Strategy
There is a concern that the implementation of a local planning scheme will result in onerous processes and procedures that are currently not required.	The Shire has never had a town planning scheme and there are potential concerns that implementing a scheme will add an additional layer of complexity to undertaking works on pastoral stations that was previously not there. The aim of the scheme is to provide sound yet simple planning provisions to ensure easy use, particularly in pastoral areas.	Minimise onerous planning provisions within the scheme.
		Maintain flexibility in the scheme.
Whilst there is no issue with the location of most services, the land uses should be protected.	Land for essential services in the Gascoyne Junction townsite should be protected through the application of reserves.	Protect land for essential services and land uses that support the local community.
Due to limited service availability, expansion of the Gascoyne Junction townsite may be limited.	Whilst there are some existing vacant lots in the Gascoyne Junction townsite, the strategic plan for the townsite suggests areas for future expansion. Due to limited service availability in the townsite, land capability studies and flood risk assessments would need to be undertaken to determine whether the area is capable of being developed.	Identify land for future townsite expansion.



Industrial uses in Gascoyne Junction

6.0 REVIEW

Local planning strategies can be prepared concurrently with local planning schemes and provide the long term vision for the area to which they apply.

Local planning strategies can be amended in accordance with the provisions of the *Planning and Development (Local Planning Schemes) Regulations 2015*.

This local planning strategy can be reviewed as considered necessary by the Shire and will be revised as part of the preparation of any new local planning scheme.

Local planning schemes are to be reviewed every five years in accordance with the *Planning and Development (Local Planning Schemes) Regulations 2015*. This is important to ensure that the provisions of the scheme are still current and that planning matters are being appropriately managed. As this strategy recommends a scheme which is flexible with minimal provisions, it will particularly important for the Shire to determine whether a flexible scheme is managing planning matters adequately.



Outback Pathways signage



Shire of Upper Gascoyne

APPENDICES

APPENDIX A - Gascoyne Junction townsite expansion options



Gascoyne River

APPENDIX A - Gascoyne Junction townsite expansion options

The following outlines potential three options for townsite expansion and land use planning.

Option 1

Option 1 proposes four simple land use classifications. The purpose of these simple land use classifications would be to enable as much flexibility to facilitate development. The land use classifications provide high level guidance for where commercial and residential activity should be focussed, but a broad number of

uses could be considered in the areas, maximising the opportunity for investment.

The issue with this option is that the town already exhibits more intricacies in the land use locations than what is illustrated in this option. Ideally it would be better to focus certain commercial uses in a core, with larger scale industrial uses on the fringe of town. As a result, this option may result in ad hoc development and exhibits the potential for land use conflicts where industrial uses may abut residential uses.

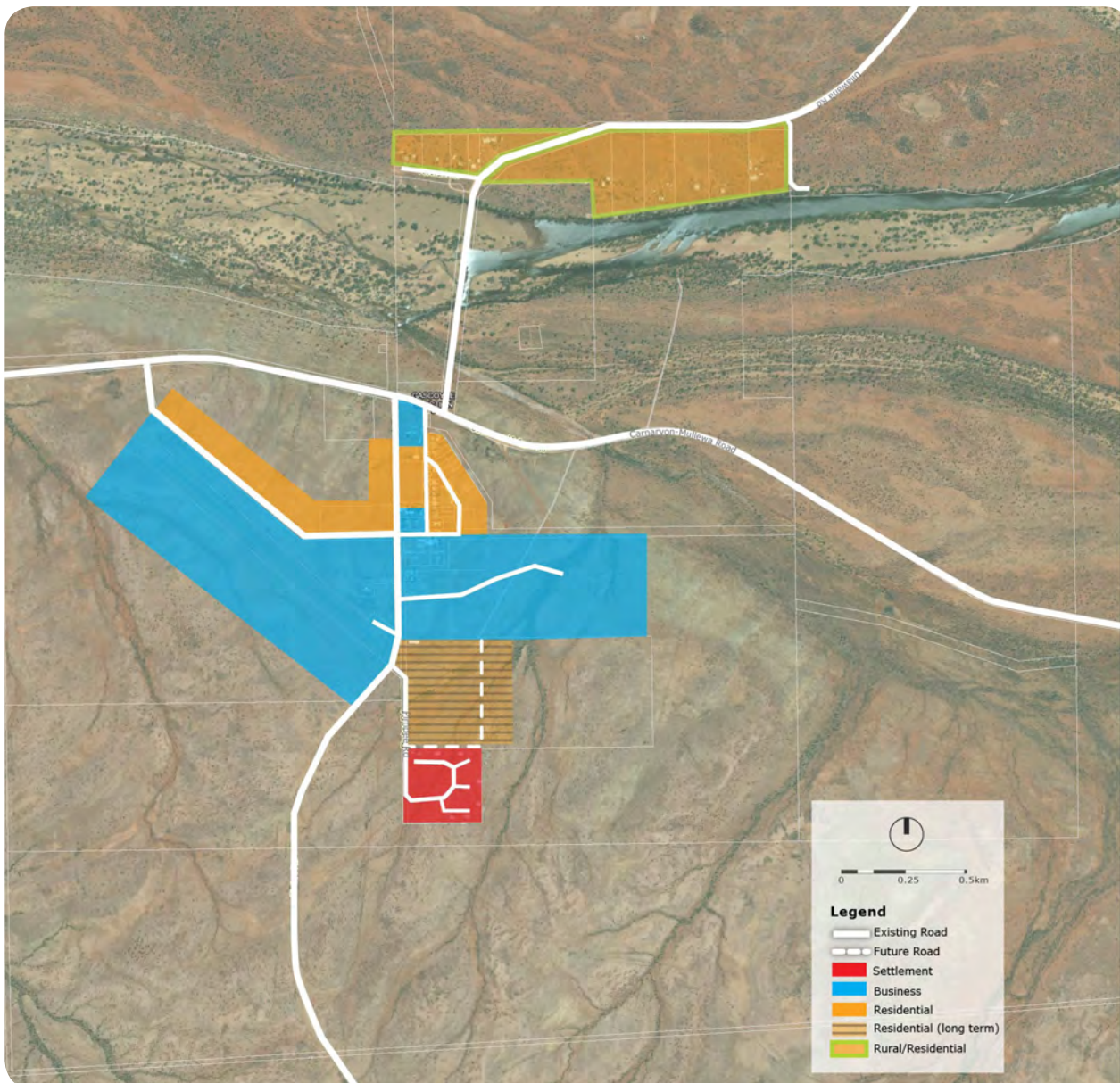


Figure 25: Gascoyne Junction Land Use Map Option 1

Option 2

Option 2 looks at developing a commercial hub around the civic core with residential uses adjacent. Industrial uses are proposed in the southern portion of the town abutting the airstrip.

The option reflects a more modern style of centre planning where a commercial core is supported by

a fringing residential area. This option builds on the existing core and provides the opportunity to create a statement entry into town along Pimbee Road and Gregory Street. There will be a need to maintain an appropriate interface between the residential areas and any adjacent commercial and industrial areas which could be managed through the scheme or policy provisions.

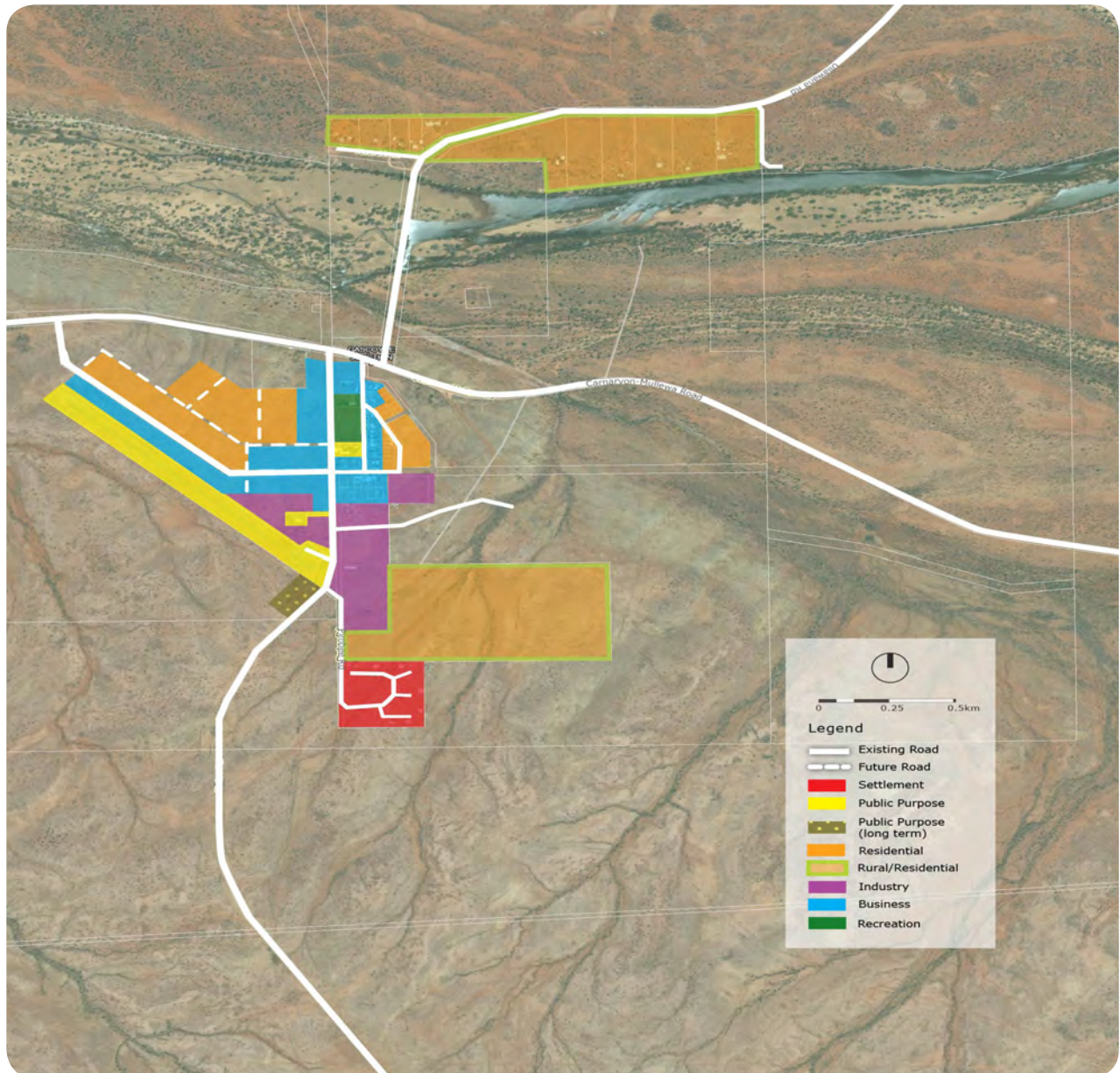


Figure 26: Gascoyne Junction Land Use Map Option 2

Option 3

Option 3 proposes a residential and civic core, giving the plan a strong community focus. The core is then surrounded by commercial uses to support the core, as well as providing a buffer between the residential and industrial areas.

A logical approach to development, particularly in a small town, is to focus development initially in the core and build outwards. The downfall of this option is that in order to support this much residential growth, the commercial uses need to be established first to generate employment. This option assumes population growth before commercial growth.

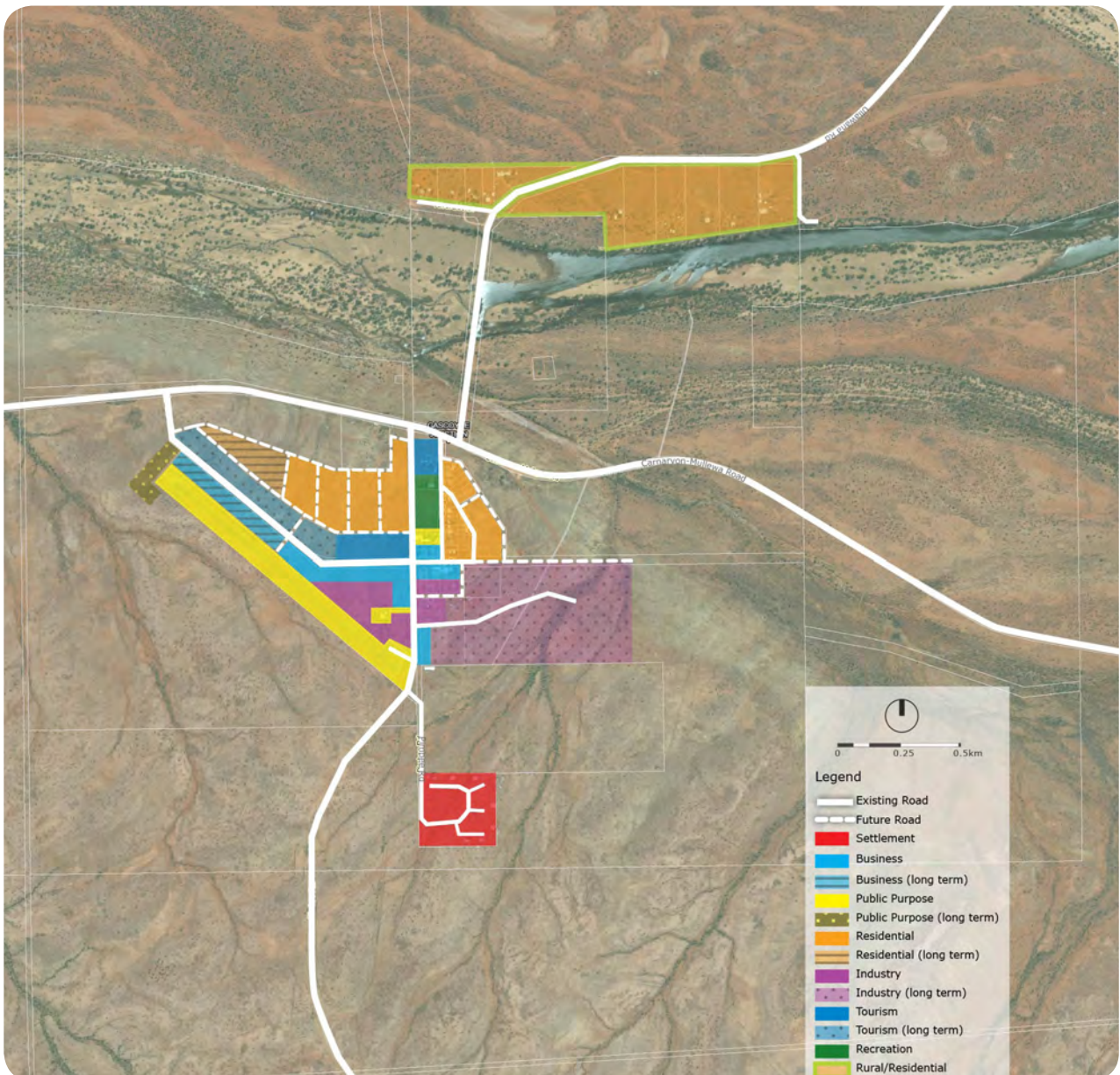


Figure 27: Gascoyne Junction Land Use Map Option 3

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SHIRE OF UPPER GASCOYNE

LOCAL PLANNING STRATEGY

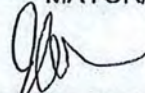
CERTIFICATION FOR ADVERTISING

Certified for advertising by the Western Australian Planning Commission on 13 September 2016

COUNCIL RECOMMENDED / SUBMITTED FOR APPROVAL

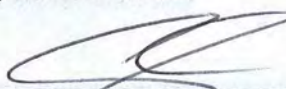
Supported for submission to the Western Australian Planning Commission for endorsement by resolution of Shire of Upper Gascoyne at the Meeting of Council held on the 28 June 2017


MAYOR/SHIRE PRESIDENT


(ACTING) CHIEF EXECUTIVE OFFICER

ENDORSEMENT OF LOCAL PLANNING STRATEGY

Endorsed by the Western Australian Planning Commission on


an officer of the Commission duly authorised by the Commission
(pursuant to the Planning and Development Act 2005)



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Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
A	R Marie	A Kelderman	On file	A Kelderman	On file	15/08/2014
B	R Marie	C Thompson	On file	C Thompson	On file	23/03/2016
C	R Marie	C Thompson	On file	C Thompson	On file	
D	K Petani	C Thompson	On file	C Thompson	On file	19/01/2018