ALICE SPRINGS

Background Investigation Report
## Contents

1. Context and Purpose 1
2. Study Area
   2.1 Plan Boundaries 2
   2.2 Key Strategic Sites 4
3. Previous Strategic Investigations
   3.1 Framing the Future 7
   3.2 CBD Discussion Paper 8
4. Land Tenure 9
5. Population & Housing Characteristics
   5.1 Distribution of Population 11
   5.2 Demographic Trends 13
   5.3 Household Characteristics 16
6. Socio Economic Profile
   6.1 Population Projections 19
   6.2 Employment 20
   6.3 Economic Drivers 21
   6.4 Urban Drift 22
   6.5 Residential Land & Dwelling Approvals 23
   6.6 Residential Property Market 24
   6.7 Residential Land & Housing Affordability 28
7. General Land Use Distribution & Zoning
   7.1 General Land Use Distribution 30
   7.2 Alice Springs CBD 33
   7.3 Residential 35
   7.4 Community Living Area’s 37
   7.5 Commercial/Retail 39
   7.6 Industrial 44
   7.7 Rural Living 47
   7.8 Conservation & Open Space 50
   7.9 Recreation 52
   7.10 Airport 52
   7.11 Future Development Zone 54
   7.12 Defence 54
8. Land Capability
   8.1 Climate 55
   8.2 Flora, Fauna & Threatened Species 55
   8.3 Conservation Zones 55
   8.4 Water Resources and Flooding 57
   8.5 Climate Change & Implications on urban Form 58
   8.6 Landscape Features 61

9. Transport
   9.1 Air Transport 64
   9.2 Rail Transport 64
   9.3 Road Transport 66
   9.4 Public Transport 68
   9.5 Active Transport 69
10. Service Infrastructure
    10.1 Power Supply 71
    10.2 Water Supply 71
    10.3 Sewer 72
    10.4 Gas 72
    10.5 Summary 73
11. Human Services
    11.1 Education 75
    11.2 Health 78
    11.3 Aged Care 80
    11.4 Social Services 80
    11.5 Child Care 80
    11.6 Recreation 82
12. Potential Growth Locations
    12.1 Abattoir Valley 86
    12.2 Larapinta Valley 89
    12.3 Sadadeen South 93
    12.4 Undoolya Valley 95
    12.5 Mount John’s Valley 98
    12.6 Coolibah Estate-Emily Valley 100
    12.7 Arumbera 102
    12.8 Brewer Estate 106
    12.9 Kilgariff 107
    12.10 ASAC (Airport) 110
13. Key Influencing Factors
    13.1 Population 117
    13.2 Economic Drivers 117
    13.3 Households 118
    13.4 Residential Land Supply 118
    13.5 Industrial Land Supply 119
    13.6 CBD and Other Activity Centres 120
    13.7 Services 120
1. Context and Purpose
1. Context and Purpose

The key purpose of the Alice Springs Regional Land Use Plan 2015 is to identify the essential characteristics and needs that will shape future development in the region and establish an overarching framework for that development.

This Background Investigation Report will ultimately inform the preparation of the draft Alice Springs Regional Land Use Plan.

The Alice Springs Regional Land Use Plan will shape the future development of the Alice Springs Region. It will consider the land use needs for Alice Springs and establish an overarching framework for future population thresholds of 32,000 and 40,000 persons, noting the current estimated resident population is 28,667 persons.

It presents and summarises the findings that result from a broad range of investigations, including:

- demographics and population trends and projections;
- residential supply and demand;
- commercial and industrial supply and demand;
- human service provision;
- infrastructure and services;
- transport/traffic;
- cultural heritage; and
- land capability.

The Background Investigation Report provides a summary of the key considerations which will influence the draft Alice Springs Regional Land Use Plan.

A Project Control Group (PCG) was established to guide the investigations and eventual preparation of the Alice Springs Regional Land Use Plan. A key early direction of the PCG was to confirm the Study Area boundary and also the key strategic sites which would form the focus of the investigations. The Study Area and key strategic sites are discussed later in the report.

In terms of next steps in the overall process, the Background Investigation Report will inform the preparation of a Discussion Paper which will be the subject of stakeholder and community consultation, ahead of preparation of the draft Alice Springs Regional Land Use Plan.
2. Study Area
2. **Study Area**

2.1 **Plan Boundaries**

The Alice Springs Region, for the purpose of this Background Investigation Report, is shown by Figure 2.1 and is defined as the whole of the Alice Springs Municipality, together with:

- the Joint Defence Facility Pine Gap (JDFPG) to the west;
- the area known as Undoolya to the east;
- the area known as Amoonguna to the south east; and
- a triangular shaped parcel to the south, generally bounded by the Stuart Highway to the west and the old Ghan Railway Line to the east. It is traversed by the Adelaide to Darwin railway line and includes the Brewer Industrial Estate and the Alice Springs Correctional Centre.

The Alice Springs Central Business District, the administrative centre of the region, is located north of Heavitree Gap, otherwise known as The Gap.

Recognising that boundaries based on administrative entities are artificial in a natural environment, the investigations are not blind to relevant environmental and development interdependencies outside the administrative boundaries.

Opportunities for future development within the Study Area are constrained by a number of factors, including but not limited to:

- land capability;
- water management areas;
- existing Conservation areas;
- flood risk;
- cultural heritage; and
- the economic delivery of servicing and infrastructure.

While engineering solutions can overcome some constraints, a framework for future development must be designed within the context of natural constraints and be sensitive to economic costs and impacts on the environment and culturally significant areas.
### 2.2 Key Strategic Sites

Numerous strategic land use investigations have been undertaken for the Alice Springs area over the years. The land use studies have consistently identified the same areas for potential future growth. Some potential future growth areas are already zoned Future Development, by the Northern Territory Planning Scheme.

Figure 2.2 spatially identifies the 12 locations agreed by the PCG to form the focus of the investigations.

These sites are described as:

- Abattoir Valley (potential for industrial);
- Larapinta Valley (potential for residential);
- Railway Yards (potential for industrial/commercial);
- CBD/Town Centre (potential for infill and/or expansion);
- Sadadeen South (potential for residential);
- Undoolya Valley (potential new town);
- Mount John’s Valley (potential for residential);
- Arumbera (potential for industrial);
- Coolibah Tree Estate (residential);
- AZRI/Kilgariff (residential);
- AZRI/ASAC (potential for residential, industrial and commercial; and
- Brewer Industrial Estate (industrial).
Figure 2.2  Key Focus Areas

Legend:
- Study Area
- Town Boundary
- Municipal Boundary
- Existing Railway
- Old Railway
- Major Roads
- Roads
- Ranges
- Gas Pipeline
- River
- CBD
- CBD Expansion
- Future Development
- Pastoral
- Industrial Estate
- Airport
- National Parks
- Hospital
3. Previous Strategic Investigations
3. Previous Strategic Investigations

The following current and past land use strategies and other relevant planning documents have been reviewed in order to provide context to the background investigations:

- *Framing the Future*
- *Alice Springs Land Use Objectives 1996*
- *Mt Johns Valley Land Use Objectives 1996*
- *Alice Springs Land Use Structure Plan 1999*
- *Alice Springs Residential Development Study, 2009*
- *Alice Springs Land Use Framework*
- *Alice Springs CBD Traffic Management Study, 2013*
- *Alice Springs CBD High Level Review of Public Parking Availability, 2013*
- *Alice Springs CBD Discussion Paper, 2014*
- *Alice Springs Land Use Study*
- *Northern Territory Compact Urban Growth Policy, 2015*
- *NT Government’s Major Works (as of 2012)*
An overview of some of the more relevant strategies and reports is provided as follows.

3.1 Framing the Future

Framing the Future is the Northern Territory Government’s strategic plan to guide future growth and service delivery.

The Plan sets out four Objectives with a number of priorities. Those that are particularly relevant to these investigations are outlined in Table 3.1.

Table 3.1: Relevant Objectives and Priorities from Framing the Future.

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Relevant priorities</th>
</tr>
</thead>
</table>
| Economy    | Develop tourism potential  
             | Develop economic infrastructure  
             | Grow pastoral [...] and agricultural businesses |
| Society    | Social and remote housing delivery and/or redevelopment |
| Environment| Water and waste management  
              | Nature and heritage conservation  
              | Threat management  
              | Deliver land release programs, investigate potential use and previous studies pertaining to land use in the Alice Springs CBD, and develop urban densification strategy |
| Culture    | Aboriginal communities  
              | Senior Territorians  
              | Connect all Territorians |

“Urban densification” is identified as a key priority, which will require examination of infill development opportunities in association with any broad-hectare expansion of the township.

Alice Springs Land Use Study 2008

The Alice Springs Land Use Study (2008) identified the following potential development areas/strategies:

- Larapinta, Mount John’s Valley and the AZRI (Arid Zone Research Institute) site were identified for residential development;
- an area to the east of the CBD was identified for long term growth (Undoolya) as a satellite township;
- the non-aviation area of the airport site was considered appropriate for a mix of uses including residential and industrial;
- industrial development was promoted to the west of the AZRI site (Arumbera) and further south (Brewer industrial estate); and
- the primacy of the CBD and existence of vacant or underutilised sites or redevelopment opportunities was reinforced. The area west of the CBD including the railway yards, was also identified for potential future growth.
Some of the recommendations from the Alice Springs Land Use Study have been incorporated into the Northern Territory Planning Scheme, with the introduction of planning guidelines and Area Plans for the CBD, the AZRI (renamed Kilgariff) and Blatherskite (renamed Arumbera) sites.

The Alice Springs Land Use Study was informed by a Residential Development Study prepared by OPUS, and revised in 2009.

The OPUS study reviewed the opportunities and constraints for the key development areas. Investigations were undertaken and a potential residential and/or commercial yield was identified for each area, in consultation with staff from DLPE. A key outcome of the study was to support the future development of Kilgariff, on the basis that it was more economic to develop in this location as compared to other Crown Land opportunities.

Further findings from the Opus investigations are summarised below:

- costs per dwelling in Larapinta are likely to be significantly higher than in other areas;
- the AZRI and AZRI/ASAC sites were identified as most suitable with relatively low site constraints and costs per dwelling; and
- Undoolya is a long term growth area which requires better definition prior to further investigations being undertaken.

### 3.2 CBD Discussion Paper

The CBD Discussion Paper¹ and recent additions to the NT Planning Scheme² presented a number of considerations and concepts and more critically proposes a number of policies that are relevant to the potential future development of the CBD. These included:

- compact centres with higher density and suitable transitions to lower density areas;
- building height to be increased from 3 to up to 8 storeys in some areas;
- increased focus on urban design and architecture;
- protection of key views and vistas;
- enhanced pedestrian amenity, weather protection and shading; and
- crime prevention through urban design.

---

¹ Alice Springs CBD Discussion Paper, 2014
² Northern Territory Compact Urban Growth Policy, 2015
4. Land Tenure
4. Land Tenure

Large areas of vacant Crown land exist within and adjacent to the Alice Springs township. These include:

- land in inner suburbs (Braitling, East Side, Mount John’s);
- to the north-east (towards Undoolya) and south-east (Mt John’s Valley);
- to the north-west between Larapinta Valley and Braitling (including Abattoir Valley);
- Arumbera; and
- a strip of land running along the northern edge of the airport, encompassing the Amoonguna community.

These parcels represent potential opportunities for infill and green field development.

A majority of the Crown land located east and south of the municipality is under pastoral leases and considered as productive land. Agricultural land capability is further discussed in Section 8.

Most land contained in the Study Area has been determined to be, or has been, subject to Native Title.

Whilst Native Title does not theoretically prevent development from occurring, an Indigenous Land Use Agreement would be required in order to provide for the future management of the land.

Native title may be totally or partially removed (‘extinguished’) by various forms of land tenure, such as freehold. They may also be affected by a ‘future act’. A ‘future act’ is a proposed development which has the potential to extinguish a native title or vary the rights of the native title holders.

Native title cannot be revived, and development in areas where native title has been extinguished will therefore not be subject to the Native Title Act.
Figure 4.1: Land Tenure/Native Title
5. Population & Housing Characteristics
5. Population & Housing Characteristics

5.1 Distribution of Population

Alice Springs lies in the physical and spiritual heart of Australia’s arid zone, about halfway between Darwin to the north and Adelaide to the south.

The Municipality of Alice Springs covers an area of 328 square kilometres. It is however the service hub for a much wider region - the southern half of the Northern Territory, an area of 551,000 square kilometres, and parts of South Australia and Western Australia. It is estimated that Alice Springs services approximately 260 rural communities. The population which Alice Springs services is estimated to be 60,000 persons, based on figures from the Department of Health.

The majority (over 95%) of the Alice Springs Municipal population is accommodated within the inner portion of the Council area, as shown on Figure 5.1. More particularly, the existing population is centred east and west of the CBD and north of the geological feature known as Heavitree Gap, a water gap in the McDonnell Ranges and the southern entrance to Alice Springs.
Figure 5.1: Alice Springs Population Distribution

OVER 95% OF THE POPULATION IS WITHIN THE CENTRAL AREA

LEGEND

- STUDY AREA
- MAIN ROAD NETWORK
- ROAD NETWORK
- RAIL
- RIVER

POPULATION DENSITY (~ PERSON PER...)**

- < 500sqm
- 501 - 1,000sqm
- 1,001 - 2,000sqm
- 2,001 - 5,000sqm
- > 5,000sqm

** BASED ON MESH BLOCK DATA FROM ABS CENSUS 2011 (MESH BLOCK AREA DIVIDED BY POPULATION)
5.2 Demographic Trends

5.2.1 Population Growth

A transient population has been a general long term trend for Alice Springs. Previous research has determined that between 2001 and 2005 there was a movement of 5,000 persons into Alice Springs and 6,000 persons out of Alice Springs. This has predominantly been due to movement in the non-indigenous population.

In 2007/08 net migration for Alice Springs was positive, with the Northern Territory Emergency Response (NTER) and related policy settings seen to be a key facilitator for the increase in frontline services in Alice Springs. This led to more professionals moving into town.

The Australian Bureau of Statistics (ABS) provides census data, which have been analysed to identify key population trends. Data for the Alice Springs Council Area have been obtained for the 2001, 2006 and 2011 Census periods.

The population of the Alice Springs municipality was 26,779 in 2001. According to the ABS Census, the population declined by 10.8% by 2006.

Between 2006 and 2011, the previous 5 year population decline was partially addressed, with an increase of 1293 persons, which represented a 5% increase.

It is relevant to note the differential between the indigenous and non-indigenous population.

Between 2001 and 2011, the indigenous population increased by 10% whilst the non-indigenous population declined by 12 percent. The non-indigenous population increased by 5% between 2006 and 2011, potentially due to the NTER and other programs initiated in the last decade. This moved towards addressing the reduction of 3305 non-indigenous persons between 2001 and 2006.

If the positive growth trends continue in relation to the indigenous population, there will be potential implications in terms of:

- future housing form and demands;
- affordable/emergency housing;
- town camp requirements and/or integration; and
- health and social services.
Table 5.1 outlines the total population and average growth rates between each Census. The numbers shown in italic are for the whole of the Northern Territory.

It is evident that the population trends for Alice Springs demonstrate some consistency with the trends for the whole of the Northern Territory, with both populations declining between 2001 and 2006 before rising between 2006 and 2011.

The key difference is that Alice Springs experienced a greater decline and a slower rise over the two census periods, as compared to the Northern Territory as a whole.

The consistent growth of the indigenous population over both periods is evident.

### Alice Springs Population Trends 2001-2011

<table>
<thead>
<tr>
<th></th>
<th>Total Population (NT)</th>
<th>Indigenous Population (NT)</th>
<th>Non Indigenous Population (NT)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2001</strong></td>
<td>26,779 (202,729)</td>
<td>4,252 (50,785)</td>
<td>20,819 (139,839)</td>
</tr>
<tr>
<td><strong>2006</strong></td>
<td>23,892 (192,898)</td>
<td>4,494 (53,662)</td>
<td>17,514 (122,731)</td>
</tr>
<tr>
<td><strong>2001-06</strong></td>
<td>-10.8% (-4.8%)</td>
<td>+5.7% (+5.7%)</td>
<td>-15.9% (-12.2%)</td>
</tr>
<tr>
<td><strong>2011</strong></td>
<td>25,185 (211,944)</td>
<td>4,689 (56,777)</td>
<td>18,410 (137,773)</td>
</tr>
<tr>
<td><strong>2006-11</strong></td>
<td>+5.4% (+9.9%)</td>
<td>+4.3% (+5.8%)</td>
<td>+5.1% (+12.3%)</td>
</tr>
<tr>
<td><strong>2001-2011</strong></td>
<td>-6% (+4.5%)</td>
<td>+10.3% (+11.8%)</td>
<td>-11.6% (-1.5%)</td>
</tr>
</tbody>
</table>

---

3 Census, Aboriginal and Torres Strait Island Peoples (Indigenous) Profile
4 Includes “Indigenous Status not stated” “Indigenous” and “Non Indigenous” may therefore not add up
5.2.2 Age Profile

Figures 5.2 and 5.3 compare the age profile of the Alice Springs population with the whole of the Northern Territory. There is generally a high degree of correlation between the two. One element of note is that the proportion of the population between 25 and 44 years of age (prime working age cohort) has generally decreased between 2001 and 2011 for both indigenous (-8%) and non indigenous (-17%) people.

Table 5.2 shows the change in the Alice Springs age profile from 2001 to 2011. It is evident that the greatest decline was in the:

- 5-14 age cohort; and
- 25-44 age cohort.

Interestingly, there was an increase in the number of persons aged 45 and above. This indicates that this portion of the population is stable, however could result in an overall ageing in the population into the future. This could have potential implications in respect to housing need and choice.

The median age of the overall population increased from 32 years in 2001 to 33 years in 2011.

### Table 5.2: Alice Springs Age Profile 2001-2011

<table>
<thead>
<tr>
<th>Age group</th>
<th>2001</th>
<th>2011</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 years</td>
<td>2068</td>
<td>1976</td>
<td>-4%</td>
</tr>
<tr>
<td>5-14 years</td>
<td>4229</td>
<td>3596</td>
<td>-15%</td>
</tr>
<tr>
<td>15-24 years</td>
<td>3497</td>
<td>3389</td>
<td>-3%</td>
</tr>
<tr>
<td>25-44 years</td>
<td>9394</td>
<td>8131</td>
<td>-13%</td>
</tr>
<tr>
<td>45-64 years</td>
<td>6086</td>
<td>6581</td>
<td>8%</td>
</tr>
<tr>
<td>65 years &amp; older</td>
<td>1505</td>
<td>1512</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>26779</td>
<td>25185</td>
<td>-6%</td>
</tr>
</tbody>
</table>
5.3 Household Characteristics

5.3.1 Occupancy Rate

The average household size has remained stable for the last 10 years being 2.6 persons per household in 2011 (2.9 for whole of NT).

5.3.2 Household type

Only minor changes occurred between 2001 and 2011 in terms of household type. The proportion of couple families without children has slightly increased whereas the proportion of couple families without children has slightly decreased. This could potentially suggest an ageing of the population and/or a movement of young adults away from Alice Springs.

Lone person households continue to account for approximately a quarter of households.

5.3.3 Housing Stock

As identified by Figure 5.4, between 2001 and 2011, there was a slight decline in the overall stock of occupied private dwellings from 10,058 in 2001 to 9,670 in 2011. Of this change:

- separate houses declined by 168 dwellings;
- semi-detached dwellings, flats and apartments decreased by 96 dwellings;
- other dwellings (i.e caravan/improvised home) declined by 589 dwellings;
- dwellings of unstated structure declined by 13 dwellings; and
- unoccupied dwellings increased by 478 dwellings.

The 2006 Census data revealed an overall stock of 7948 dwellings, a decline of 2110 dwellings from 2001.

It is unclear the reasons why there was such a variation in the overall stock of housing. Various housing programs in the period would have played a key role in terms of replacement/refurbishment and construction of new stock.

![Figure 5.4: Alice Springs Housing Stock 2001-2011](image-url)
5.3.4 Dwelling Tenure

Figure 5.5 shows the change in housing tenure between 2006 and 2011.

There is no significant change in this period other than to note a slight shift in tenure from ownership to private rental.

The stock of ‘territory housing’ increased between 2006 and 2011, by a total of 130 dwellings.

As evident by Figure 5.6, territory housing is generally well distributed throughout Alice Springs, with higher concentrations evident in Larapinta, Sadadeen, Gillen and Braitling.

There has been no additional non-private housing constructed since the last census (2011). This raises a question in terms of what the public/affordable housing solution may be for the newer/future suburbs of Alice Springs.

Figure 5.5: Tenure Type in 2011

![Graph showing tenure type change from 2006 to 2011]
Figure 5.6: Non-Private Housing (Single-Multiple Dwellings/Unit Developments)
6. Socio Economic Profile
6. Socio Economic Profile

6.1 Population Projections

The Department of Treasury and Finance (DTF) has prepared population projections to 2026\(^5\). The projections are for the Alice Springs region which encompasses the Alice Springs Municipality, the MacDonnell Shire and Central Desert Shire. DTF could not provide population projections for the Alice Springs Municipality only.

The projections are reproduced as Table 6.1. An average annual growth rate of 1.8% has been adopted for the period 2011-2016. The rate of growth is forecast to be higher amongst the non-indigenous portion of the population.

Table 6.1: Alice Springs Regional Projections and Average Annual Growth Rates (5-Year Periods)

<table>
<thead>
<tr>
<th>Region</th>
<th>2011 no.</th>
<th>2016 no.</th>
<th>2021 no.</th>
<th>2026 no.</th>
<th>2011-16 %</th>
<th>2016-21 %</th>
<th>2021-26 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alice Springs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigenous</td>
<td>16127</td>
<td>17266</td>
<td>18496</td>
<td>19795</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Non-indigenous</td>
<td>24896</td>
<td>27706</td>
<td>30371</td>
<td>32989</td>
<td>2.1</td>
<td>1.8</td>
<td>1.7</td>
</tr>
<tr>
<td>Total Population</td>
<td>41023</td>
<td>44972</td>
<td>48867</td>
<td>52785</td>
<td>1.8</td>
<td>1.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Share of total Territory population %</td>
<td>17.7</td>
<td>17.8</td>
<td>17.8</td>
<td>17.8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The population of Alice Springs was 25,185 in 2011. By way of interest, the estimated resident population for 2014 was 28,667 persons.

For the purposes of this Background Report and the preparation of the draft Alice Springs Land Use Plan future population thresholds of 32,000 and 40,000 will be adopted for future planning purposes.

It is also noted that, in terms of health facilities, Alice Springs caters for a regional catchment of approximately 60,000 people\(^6\), mainly from remote communities.

The influx of population for health care has implications in respect to temporary accommodation, noting that family members tend to accompany those persons receiving treatment.

---


\(^6\) Department of Health
6.2 Employment

6.2.1 Workforce

At the 2011 Census, the Alice Springs working population was estimated at 13,612 persons.

In 2011, 20% of the population over 15 was classified as “not in the labour force” as compared to 24% in 2001.

The unemployment rate decreased from 4.1% in 2001 to 3% in 2011. At December 2012, the unemployment rate for the Alice Springs township was recorded as 2.6%, with a rate of 6.0% for the whole of the Alice Springs Region.

6.2.2 Employment Sectors

In respect to employment sectors, it is evident from Table 6.2 that the number and proportion of jobs in the retail trade, transport and warehousing activities as well as property services have declined since 2001.

At the same time, it is evident the percentage of the workforce employed in public administration, defence, health care and social services has increased, most likely due to Government programmes and incentives.

<table>
<thead>
<tr>
<th>Table 6.2: Change in Employment Sectors 2001-2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2001</strong></td>
</tr>
<tr>
<td><strong>Number</strong></td>
</tr>
<tr>
<td>Agriculture, forestry and fishing</td>
</tr>
<tr>
<td>Mining</td>
</tr>
<tr>
<td>Manufacturing</td>
</tr>
<tr>
<td>Electricity, gas, water and waste services</td>
</tr>
<tr>
<td>Construction</td>
</tr>
<tr>
<td>Wholesale trade</td>
</tr>
<tr>
<td>Retail trade</td>
</tr>
<tr>
<td>Accommodation and food services</td>
</tr>
<tr>
<td>Transport, postal and warehousing</td>
</tr>
<tr>
<td>Information media and telecommunications</td>
</tr>
<tr>
<td>Financial and insurance services</td>
</tr>
<tr>
<td>Rental, hiring and real estate services</td>
</tr>
<tr>
<td>Professional, scientific and technical services</td>
</tr>
<tr>
<td>Administrative and support services</td>
</tr>
<tr>
<td>Public administration and safety</td>
</tr>
<tr>
<td>Education and training</td>
</tr>
<tr>
<td>Health care and social assistance</td>
</tr>
<tr>
<td>Arts and recreation services</td>
</tr>
<tr>
<td>Other services</td>
</tr>
<tr>
<td>Inadequately described/Not stated</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>
6.3 Economic Drivers

The key economic sectors in Alice Springs are:

- Defence;
- Tourism;
- Mining and Energy;
- Agriculture/pastoral/horticulture;
- Construction;
- Transport/freight; and
- Government services/health care/child care.

These sectors are likely to remain the key drivers of growth. The NT Government has partnered with most of these sectors in order to develop workforce strategies.

In its 2015/16 budget, the NT Government confirmed investments in:

- Health: $30M to upgrade the Alice Springs hospital, including the provision of a teaching and training facility;
- Head works to support land releases;
- Road infrastructure: $7M to construct an overpass on Stuart Highway; upgrade of various roads; extension of cycle path network to Kilgariff; and
- Tourism: $2.5M to enhance tourism amenity.

A number of mining and energy projects are on the horizon which may be a catalyst for increased growth generating direct and indirect demand which Alice Springs will be in a good position to take advantage of given its key service centre role in Central Australia. At least two of the confirmed projects include:

- Dingo Pipeline Central Petroleum; and
- Spinifex Bore Mine Australian Abrasive Minerals.

As part of its national construction plan, NBN Co will also connect over 9,000 dwellings to fibre network by June 2016, with groundworks currently under way. This may have an effect on local employment given the company previously announced it would favour local contractors.

As shown in Table 6.3, the Department of the Chief Minister forecasts a 28% growth in Professionals and a 27% growth in clerical and administrative workers by 2021, in the Alice Springs Region. Concurrently, the number of labourers and sales workers are forecast to drop by 29% and 11.4% respectively by 2021.

---

7 Economic Profile, based on ABS Census 2011 data and Dept of Regional Development and Women’s Policy forecast
6.4 Urban Drift

It is evident that the indigenous population has been growing faster than the non-indigenous population.

A report prepared by the Centre for Remote Health and Tangentyere Council in 2011 identified the ‘urban drift’ phenomenon, which in essence means that at times the indigenous population move closer to the Alice Springs township from the remote communities.

It is understood that “many people may move to Alice Springs with accompanying family members for long-term medical treatment [before moving] back to their homes in remote communities”.

At present, a majority of these temporary residents stay in short-term accommodation that are specifically provided for the indigenous community or in town camps which are mostly located at the fringe of the township. Both forms of housing are referred to under the NT Planning Scheme as Community Living Areas.

Such a transient movement of people presents a number of challenges. Demand for housing, within or out of community living areas, including temporary and emergency housing is one, as is the demand for adequate human, especially health, services. The preferred form and location of such additional services is a matter for future resolution. Potentially such could be provided in the CBD, but alternatively close to or within the Community Living Areas.

<table>
<thead>
<tr>
<th>Alice Springs Region 2011</th>
<th>2011 (No)</th>
<th>2016 forecast (% change)</th>
<th>2021 forecast (% change)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers and administrators</td>
<td>1,877</td>
<td>8.2</td>
<td>-2.1</td>
</tr>
<tr>
<td>Professionals</td>
<td>3,659</td>
<td>16</td>
<td>28</td>
</tr>
<tr>
<td>Technicians and trade workers</td>
<td>2,123</td>
<td>0.6</td>
<td>0.1</td>
</tr>
<tr>
<td>Communications and personal service workers</td>
<td>2,474</td>
<td>8.3</td>
<td>16.2</td>
</tr>
<tr>
<td>Clerical and administrative workers</td>
<td>2,229</td>
<td>14.4</td>
<td>27</td>
</tr>
<tr>
<td>Sales workers</td>
<td>1,100</td>
<td>-6</td>
<td>-11.4</td>
</tr>
<tr>
<td>Machinery operators and drivers</td>
<td>729</td>
<td>-1.6</td>
<td>-5.2</td>
</tr>
<tr>
<td>Labourers and related workers</td>
<td>1,498</td>
<td>-16</td>
<td>-29</td>
</tr>
</tbody>
</table>

Table 6.3: Labour Force Forecast by Occupation
6.5 Residential Land and Dwelling Approvals

6.5.1 Planning Approvals

Approximately 1,000 planning applications were lodged with DLPE from 2010 to 2014. More than half of these applications were for new developments or for the subdivision of land.

Figure 6.1 provides a summary of the nature of applications submitted for this period. It is evident that the overall number of applications has declined since the peak of 136 applications in 2010.

6.5.2 Building Approvals

A review of building approvals shows that approximately 220 dwellings were approved between 2010 and 2014, of which:

• private dwellings were primarily (72%) approved in newer/growth areas, with:
  - 50 dwellings approved in Larapinta,
  - 27 dwellings approved in Mount John’s;
  - 18 dwellings approved in Stuart; and
  - 16 dwellings approved in Gillen.
• Approximately 30 percent of the dwellings approved were for the purposes of public housing. All public housing was approved in the period 2010 and 2011. A majority of approvals (60%) were in Sadadeen and Arumbera. No new non-private housing is presently funded.

The approval of 220 dwellings over a five year period represents an average of 44 dwellings per year. Importantly, it does not necessarily follow that all approved dwellings are constructed, so the average of 44 dwellings per year represents a maximum average demand, using this measure.

The approvals for the last five years exceed the long term average of 25 to 30 dwellings per year, with annual fluctuations influenced by land supply influences.

The potential further integration of the indigenous population is a matter of broader consideration and resolution. From a land use planning perspective future development areas will need to consider the specific needs of the indigenous community.
6.6 Residential Property Market

As shown by Figure 6.2, between 2006 and 2014 there was an overall decline in the number of house sales within Alice Springs, with a significantly lower turnover of dwellings between 2008 and 2011, potentially due to the market uncertainty caused by the GFC. Between 2011 and 2013, sales volumes increased, however since 2014, the rate of sales has continued to decline.

Between 2006 and 2014, median sale prices for houses in Alice Springs has increased significantly (66%) with the sale price of units also increasing (60%).

The increase in median sale price for houses in Alice Springs has slightly outstripped the increase in median prices experienced in Darwin.

What is relevant to note however is that the increase in sale price for Alice Springs has stabilised generally since 2011, whereas it is only since 2013 that Darwin prices have started to plateau, as shown in Figure 6.3.

Between 2006 and 2014, median sale prices for houses in Alice Springs has increased significantly (66%) with the sale price of units also increasing (60%).

It is evident from Figure 6.4 that in Alice Springs:

- Land prices have increased by over 80% between 2006 and 2011;
- House and unit prices have increased by respectively 66% and 70%; and
- Incomes have increased by 37%.

This indicates a declining level of affordability within the Alice Springs housing market during the period 2006-2011. Since this time there is evidence of a correction in the housing market with a stabilisation and decline in median house prices. This would have somewhat improved housing affordability, albeit such remains a significant issue.
6.6.1 Property Rental Price

As shown by Figure 6.5, since 2012 weekly rent values for dwellings have been on the decline, generally consistent with the trend for Darwin.

As shown by Figure 6.6, weekly median rent for units in Alice Springs has been relatively stable, compared to the fluctuating market in Darwin.

When reviewed against household incomes (Census 2006 and 2011), it is evident that weekly median house and unit rental costs have increased much faster than incomes. It is evident from Figure 6.7 that in Alice Springs:

- House and unit prices have increased by respectively 58% and 82%; and
- Incomes have increased by 37%.

Since 2011 there is evidence of a correction in the housing market with a stabilisation and decline in median house prices. This would have somewhat improved housing affordability, albeit such remains a significant issue.
6.6.2 Private Rental Vacancy rates

There was a significant increase in vacancy rates from 2010 with, over 5% of dwelling stock vacant in Alice Springs in 2014. This is well above the historic lows of less than 1% in the period 2008-2010.

Figure 6.8: Vacancy rates (all dwellings)

6.6.3 Market Segmentation

Median sales prices for units have been relatively volatile in the last three years, with fluctuations greater than 20 percent in some suburbs.

There is a clear segmentation in the Alice Springs market with factors such as proximity to the CBD, age of suburb, aspect and amenity all influencing price. What is particularly interesting is the decline in median sales values within East Side and Sadadeen, two suburbs which have previously experienced consistent growth.

The change in median house and unit price for each suburb, between June 2014 and June 2015, is shown by Figure 6.9.

Generally speaking, those suburbs with a higher proportion of public housing have lower median house prices.
The change in median sales values for the major suburbs in Alice Springs, for the period 2012-2015 is shown in Tables 6.4 and 6.5, which follow.

Table 6.4: Median sale price (houses) between 2012 and 2015 and yearly change

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Araluen</td>
<td>$490,375</td>
<td>1.6%</td>
<td>$482,500</td>
<td>-5.4%</td>
<td>$510,000</td>
<td>12.1%</td>
<td>$455,000</td>
</tr>
<tr>
<td>Braitling</td>
<td>$442,500</td>
<td>0.1%</td>
<td>$442,000</td>
<td>-5.8%</td>
<td>$469,000</td>
<td>8.4%</td>
<td>$432,500</td>
</tr>
<tr>
<td>Desert Springs</td>
<td>$710,000</td>
<td>-1.4%</td>
<td>$720,000</td>
<td>20.0%</td>
<td>$600,000</td>
<td>-10.4%</td>
<td>$700,000</td>
</tr>
<tr>
<td>East Side</td>
<td>$489,000</td>
<td>-10.7%</td>
<td>$547,889</td>
<td>14.7%</td>
<td>$477,500</td>
<td>-13.2%</td>
<td>$550,000</td>
</tr>
<tr>
<td>Gillen</td>
<td>$442,250</td>
<td>-0.6%</td>
<td>$445,000</td>
<td>-1.5%</td>
<td>$452,000</td>
<td>2.7%</td>
<td>$440,000</td>
</tr>
<tr>
<td>Larapinta</td>
<td>$393,000</td>
<td>8.1%</td>
<td>$363,500</td>
<td>-6.8%</td>
<td>$390,000</td>
<td>-16.5%</td>
<td>$467,000</td>
</tr>
<tr>
<td>Mount John’s</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$480,000</td>
</tr>
<tr>
<td>Sadadeen</td>
<td>$398,500</td>
<td>-12.7%</td>
<td>$456,500</td>
<td>0.6%</td>
<td>$454,000</td>
<td>13.8%</td>
<td>$399,000</td>
</tr>
<tr>
<td>Stuart</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$516,250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Gap</td>
<td>$335,000</td>
<td>-23.0%</td>
<td>$435,000</td>
<td>0.0%</td>
<td>$435,000</td>
<td>4.8%</td>
<td>$415,000</td>
</tr>
</tbody>
</table>

Table 6.5: Median sale price (units) between 2012 and 2015 and yearly change

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Araluen</td>
<td>$402,000</td>
<td>3.2%</td>
<td>$389,500</td>
<td>4.3%</td>
<td>$373,500</td>
<td>-4.0%</td>
<td>$389,000</td>
</tr>
<tr>
<td>Braitling</td>
<td>$340,000</td>
<td>-13.5%</td>
<td>$393,000</td>
<td>30.1%</td>
<td>$302,000</td>
<td>-28.1%</td>
<td>$420,000</td>
</tr>
<tr>
<td>Desert Springs</td>
<td>$225,000</td>
<td>-30.7%</td>
<td>$324,500</td>
<td>10.0%</td>
<td>$295,000</td>
<td>-13.2%</td>
<td>$340,000</td>
</tr>
<tr>
<td>East Side</td>
<td>$216,500</td>
<td>-32.8%</td>
<td>$322,000</td>
<td>-0.9%</td>
<td>$325,000</td>
<td>1.2%</td>
<td>$321,000</td>
</tr>
<tr>
<td>Gillen</td>
<td>$415,000</td>
<td>31.7%</td>
<td>$314,995</td>
<td>-8.0%</td>
<td>$342,500</td>
<td>1.9%</td>
<td>$336,000</td>
</tr>
<tr>
<td>Mount John’s</td>
<td>$646,625</td>
<td>77.4%</td>
<td>$475,000</td>
<td>-2.6%</td>
<td>$487,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sadadeen</td>
<td>$220,000</td>
<td>-28.5%</td>
<td>$307,500</td>
<td>9.8%</td>
<td>$280,000</td>
<td>-1.8%</td>
<td>$285,000</td>
</tr>
<tr>
<td>Stuart</td>
<td>$450,000</td>
<td>-4.3%</td>
<td>$470,000</td>
<td></td>
<td>$395,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Gap</td>
<td>$343,750</td>
<td>-4.5%</td>
<td>$360,000</td>
<td>15.1%</td>
<td>$312,750</td>
<td>-17.4%</td>
<td>$378,750</td>
</tr>
</tbody>
</table>
6.7 Residential Land and Housing Affordability

Table 6.6 compares median mortgage and rent payments for households in the township of Alice Springs, the Alice Springs region and the Northern Territory as a whole.

Table 6.6: Alice Springs Housing Mortgage and Rent Payments in 2011

<table>
<thead>
<tr>
<th>Housing - mortgage and rent payments</th>
<th>Alice Springs region</th>
<th>Alice Springs (T)</th>
<th>NT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median rent ($)</td>
<td>150</td>
<td>300</td>
<td>225</td>
</tr>
<tr>
<td>Households where rent payments are less than 30% of household income (%)</td>
<td>91.7</td>
<td>90.6</td>
<td>91.0</td>
</tr>
<tr>
<td>Households where rent payments are 30% or greater of household income (%)</td>
<td>8.3</td>
<td>9.4</td>
<td>9.0</td>
</tr>
<tr>
<td>Mortgage monthly repayments ($)</td>
<td>1,950</td>
<td>1,950</td>
<td>2,058</td>
</tr>
<tr>
<td>Households where mortgage payments are less than 30% of household income (%)</td>
<td>92.5</td>
<td>90.7</td>
<td>92.3</td>
</tr>
<tr>
<td>Households where mortgage payments are 30% or greater of household income (%)</td>
<td>7.5</td>
<td>9.3</td>
<td>7.7</td>
</tr>
</tbody>
</table>

Source: ABS - Census 2011 - Quick stats - Usual residents.

While mortgage monthly repayments are of a lesser dollar value in Alice Springs than Northern Territory, the median rent and relative proportion of housing expenses as part of household income are higher.

The commonly accepted guideline for housing affordability is where housing cost does not exceed 30% of a household’s gross income.

Based on this measure housing is considered unaffordable for approximately 20% of Alice Springs households.

In 2001, rent accounted for 16% of household income, compared to 18% in 2011.

In 2001, mortgage repayment accounted for 20% of household income, compared to 29% in 2011.

These figures reinforce the earlier identified trend in respect to declining housing affordability in Alice Springs in the period 2006-2011. Anecdotal evidence obtained from the Real Estate Institute of Northern Territory indicates that there has been a more recent correction in the local market.

---

9 Land Corporation Development
Whilst median household incomes increased by nearly 55% between 2001 and 2011 (from $1,100 to $1,690), it is evident that:

- Median rent has increased by 71% (from weekly $175 to $300); and

- Median mortgage repayment has increased by 117% (from monthly $900 to $1,950).

Whilst this reflects an obvious increase of the cost of living in Alice Springs, these numbers are generally consistent with Northern Territory median values.

Only median rent is noticeably higher in Alice Springs ($225 in Northern Territory).
7. General Land Use Distribution & Zoning
7. General Land Use Distribution and Zoning

7.1 General Land Use Distribution

The Municipality of Alice Springs has an area of 327 square kilometres, with the township comprising an area of 149 square kilometres. A number of key factors have influenced the form and shape of the town, including:

- Land capability – topography, slope, soils, flooding, vegetation;
- Cultural factors – cultural heritage, including registered sacred sites together with other physical features of high cultural significance; and
- Infrastructure and utilities – major road and rail infrastructure.

The Northern Territory Planning Scheme identifies land use zones for the township. Within the established urban areas, land use zones typically reflect the existing use of land. In addition, a number of key sites have been zoned for Future Development. The existing land use zones are reproduced as Figures 7.1 and 7.2.
Figure 7.1: General Land Use Distribution (Overall Study Area)
Figure 7.2: General Land Use Distribution (Township)
7.2 Alice Springs CBD

The CBD is the centre of most administrative, commercial/retail, tourism and leisure facilities, including:

- NT Government branches;
- 4 major banks with smaller financial institutions;
- Post office;
- CBD traders and speciality stores;
- 3 shopping centres, containing in total
  - 2 large supermarkets; and
  - 2 department stores (Target/Kmart);
- 2 small supermarkets.

A number of leisure facilities and tourist attractions and accommodation are also found in the town centre, including:

- cinema complex, Reptile Centre, art galleries; and
- tourist accommodation with a mix of motels, hotels and serviced apartments including recent additions Quest serviced apartments and IBIS hotel.

The former bowling club is also being redeveloped into a 75 unit residential project.

In September 2015 an eight storey development was approved on the vacant Melanka Site (Todd St). The approval provides for 170 dwellings, 85 room hotel and 110 place child care.

The Alice Springs hospital is located in the southern portion of the CBD.

Guidelines for the CBD and surrounding areas were introduced in the NT Planning Scheme, with essentially four distinct areas:

- Central Alice Springs Commercial Area (commercial and retail. Area zoned CBD);
- Anzac Hill/Todd River Area (tourism and conservation);
- Todd St Tourism (tourism and leisure); and
- Southern Area (health and residential), which includes the Alice Springs Hospital.

Figure 7.3 identifies the main land uses within the CBD and town centre.

Dwellings are located in the southern portion of the CBD. Dwellings are primarily in the form of single dwellings at low densities (mostly between 700 and 1,000 square metres).

Dwellings more centrally located in the CBD and adjacent to the hospital are typically of a higher density with lots between 500 and 700 square metres in area (refer Figure 7.3).
Figure 7.3: Key CBD Features

* Based on Alice Springs Sacred Sites map, May 2000, Maps NT
The area west of the CBD is dominated by the existing railway yards, together with large format/service trade style development. This area has previously been identified for possible future expansion of the CBD, pending relocation of the existing railway yards.

This potential expansion of the CBD to the west is identified in the NT Planning Scheme. The expansion is envisaged for future commercial, service commercial and industrial development and a potential transport interchange.

Any further expansion of the CBD will need to be carefully considered, as the provision of additional retail and commercial activity outside the CBD compromise the intent of the recent Amendment to the NT Planning Scheme, which increased densities and heights in the CBD Zone.

Arguably expansion of the CBD into this western area should be limited to large format activities which are unlikely to contribute to the vibrancy and activation of the CBD. Small scale retail/commercial would potentially detract from the viability of the existing CBD.

The NT Government has recently released an 18,000 square metre site on Whittaker Street (refer Figure 7.3), with the intent to facilitate a mixed use commercial development.

**KEY CONSIDERATIONS**

- need to ensure long-term primacy of CBD/town centre;
- desire to encourage viability and vibrancy of CBD;
- promote activation of Todd River and relationship with the areas east of the river;
- promote pedestrian friendly environment;
- provide policy pre-conditions to encourage mixed use development and an intensification of residential activity within the CBD.

7.3 Residential

The principal residential areas of Alice Springs are located north of The Gap.

Residential development is primarily in the form of single storey dwellings. Pockets of medium density units and residential flat buildings are scattered through the urban area, with most located in close proximity to the CBD.

Generally the density across the township is low, with average lot size ranging from 875 to 1,190 square metres.

Table 7.1 and Figure 7.4 identify the average residential allotment sizes by suburb.
Table 7.1: Average Lot Size by Suburb

<table>
<thead>
<tr>
<th>Area/suburb</th>
<th>Average Lot Size (square metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Araluen</td>
<td>941</td>
</tr>
<tr>
<td>Braitling</td>
<td>906</td>
</tr>
<tr>
<td>Gillen</td>
<td>932</td>
</tr>
<tr>
<td>Gap</td>
<td>898</td>
</tr>
<tr>
<td>Desert Springs</td>
<td>925</td>
</tr>
<tr>
<td>East Side</td>
<td>1,189</td>
</tr>
<tr>
<td>Larapinta</td>
<td>883</td>
</tr>
<tr>
<td>Mount John’s</td>
<td>965</td>
</tr>
<tr>
<td>Sadadeen</td>
<td>876</td>
</tr>
</tbody>
</table>

Allotments below 500 square metres are rare and comprise small pockets of housing in Araluen and Gillen.

Figure 7.4: Average Lot Size by Suburb

KEY CONSIDERATIONS

- market demand for infill development is not likely to be high and as such infill will not be a key source of additional housing supply;
- the potential future aging of population could see additional demand for retirement living which would benefit from proximity to the CBD.
7.4 Community Living Areas

Town camps are referred to under the NT Planning Scheme as Community Living Areas. Community Living Areas are small Indigenous living areas that have been excised from pastoral leases.

Community Living Areas include short term accommodation (hostels) for the Indigenous community, which are distinct from town camps and managed by Aboriginal Hostels Limited (AHL).

A total of 18 community living areas are located within or adjacent to Alice Springs, as identified by Figure 7.5.
All community living areas are comprised of distinct indigenous communities based on language and kinship.

An area located south-east of the township, Amoonguna, is also zoned Community Living. It is within the MacDonnell Council Area and is included within the extent of the Alice Springs Regional Land Use Plan (Amoonguna Aboriginal Land Trust).

The ABS estimated the population of town camps to be 881 in 2011. The accuracy of this estimate is unknown, for three main reasons:

- a high level of mobility in Indigenous residents;
- a high level of visitation to town camps (30% may be used as an indicative value); and
- the occupancy of dwellings may be underestimated.

The 2007 ‘Intervention’ included the establishment of additional Town camp housing (with provision of temporary accommodation) and general upgrades to services.

The Tangentyere Council is responsible for the maintenance of the town camps and manages the delivery of municipal services.

The Central Australian Affordable Housing Company (CAAHC) is a not for profit company established by the Tangentyere Council.

Its aim is to develop town camps into economically, environmentally and social sustainable communities, by:

- providing responsive housing management services to the town camps;
- growing the supply of affordable rental housing for low income households; and
- improving the quality and quantity of supported housing for people with complex needs.

It is important to note that there is considerable variability in respect to the condition, density of population and future capacity within each Country Living Areas. It is not possible to generalise. For the purposes of this Background Information Report, it is assumed that the Town Camps will not provide any significant additional housing supply. Whilst some additional supply may be achievable, future planning should not be reliant on the Country Living Areas as a source of land supply.

---

10 ABS Census of Population and Housing – Counts of Aboriginal and Torres Strait Islander Australians, 2001, code 2075.0, issued 2012

11 Tangentyere Council
7.5 Commercial/Retail

Most commercial uses are concentrated within the central part of the township, in and around the CBD. As previously mentioned, three shopping centres are found in the CBD area.

As shown on Figure 7.6, only a small number of commercially-zoned areas exist outside of the CBD/Gap area. These include:

- a shopping centre which includes an IGA exists at the eastern extremity of the Larapinta Valley. It has capacity to be expanded;
- other small-scale supermarkets (IGA) of areas between approximately 300 and 1,000 square metres, exist in Gillen, Braitling, Sadadeen, and East Side;
- other pockets of commercial land exist in Araluen and the Gap providing for convenience shopping;
- a gap seems to exist in Mount John’s Valley; and
- a couple of parcels along the eastern side of the Stuart Highway, north of the township, which are used for office or light industrial/service commercial uses.

Other commercial/retail uses may be found in areas zoned Tourist Commercial, near or within key tourist accommodation (hotels, Big 4 Holiday Park), the Alice Springs Convention Centre and Lasseters Hotel Casino.

Retail activity is also found outside of existing commercial/tourist commercial zones, primarily in the form of larger scale home improvement businesses (Bunnings, Stratco, Home Timber & Hardware, Harvey Norman home improvement complex).

The floor space occupied by major retailers, which includes the above hardware stores and department stores (Kmart, Target) equates to over 30,000 square metres, or nearly a third of the total retail floor space in Alice Springs.

Approximately 12,500 square metres of supermarket floor space exists, the majority of which is represented by Woolworths and Coles in the CBD.

A lack of quality specialty retailing is apparent in most suburban centres, despite a reasonably well distributed provision of small-scale supermarkets north of the Gap.

The CBD provides a level (nearly 65,000 square metres), type and mix of retail commensurate with the size of the catchment population. Based on an ERP of 28,667, the overall retail floor space in the township (approximately 100,000 square metres) represents a rate of 3.5 square metres per capita, as compared to a rate of 2.2 Australia-wide. This higher rate is reflective of the regional role of Alice Springs.

A number of retail tenancies are vacant both within the CBD and some suburban centres. This indicates potential for new retail/commercial development within existing buildings. In addition, some centres are underutilised, with potential expansion opportunity within zoned boundaries. Importantly, the NT Planning Scheme provides significant potential for intensified commercial development within the CBD.
Based on the analysis undertaken, which is supported by the absence of any notable proposals/queries by key retailers, the existing supply of retail and commercial premises is considered to be in balance at this stage. In other words there is no apparent deficiency in land zones for retail/commercial purposes.

Table 7.2  Existing retail floor space

<table>
<thead>
<tr>
<th>Total floor space</th>
<th>101,615 m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Todd Mall</td>
<td>29,565</td>
</tr>
<tr>
<td>Shopping Centres</td>
<td>32,600</td>
</tr>
<tr>
<td>Total CBD</td>
<td>64,100</td>
</tr>
<tr>
<td>Large scale home improvement</td>
<td>31,020</td>
</tr>
<tr>
<td>businesses</td>
<td></td>
</tr>
<tr>
<td>Supermarkets</td>
<td>12,530</td>
</tr>
</tbody>
</table>

Notwithstanding existing capacity within the CBD, and some suburban centres, additional opportunities (zoned land) will be required to provide commercial and retail activities which are accessible, particularly in order to support a future population threshold of 40,000 persons.

12 Does not include petrol filling stations or retail contained within tourist accommodation
Figure 7.6: Commercial/Retail Zones
The Shopping Centre of Australia identifies average retail floor space in Australia is approximately 2.2 square metres per person. Given a current ERP of 28,667 persons, a theoretical gross demand for approximately 7,332 square metres of additional commercial floor space will be generated for a population of 32,000 persons, and another 17,600 square metres for a population of 40,000 persons.

Table 7.2: Projected Retail Floor Space Demand based on Future Population Thresholds

<table>
<thead>
<tr>
<th>Population threshold</th>
<th>28,667</th>
<th>32,000</th>
<th>40,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor Space</td>
<td>101,615 sqm</td>
<td>+7,332 sqm</td>
<td>+24,933 sqm (total)</td>
</tr>
</tbody>
</table>

These are theoretical numbers, noting that Alice Springs already has a retail floor space supply per capita well above the Australian average. The theoretical projected demand is a gross calculation with the actual demand potentially captured by the existing retail offering.

As the population grows there will be proportional demand for additional floor space across all retail sectors (ie food v non-food v bulky goods).

While the primacy of the Alice Springs CBD should be retained and reinforced, Alice Springs lacks walkable local centres which provide a variety of offerings to meet the needs of local communities, especially the future population located south of the Gap.

In major cities, neighbourhood centres typically service catchment populations of between 5,000 and 10,000 people.

Local centres typically accommodate smaller scale supermarkets of 1,500 square metres or less, with the primary focus of servicing adjacent residential areas.

The catchment for both kinds of centres is usually determined by those people living within walking distance of the centre.

Future centres external to the CBD should not unduly impact on the role and function of the CBD. They should primarily focus on servicing daily shopping needs, rather than higher order retailing.

A supermarket traditionally ranges from 1,000-1,500 square metres in floor area (Aldi, IGA) to an average of 3,000 square metres (Woolworths, Coles) in floor area.

Smaller scale supermarkets, including IGAs, are found in Alice Springs. Such supermarkets fit into the category of servicing daily needs.

It is noted that the Area Plan for Kilgariff identifies the potential for future centres, based on the concept of walkable and sustainable communities. Whilst this approach is commended, a key challenge will be for such local centres to be established and prove to be viable, given the low density residential catchments likely to surround the future centres.

13 Urban Taskforce Australia
Consideration could be given to promote a larger centre south of the Gap, to accommodate not only additional retail and commercial activities, but also future community services.

It is expected that approximately 1,800 dwellings will be ultimately developed in Kilgariff. At the existing occupancy rate of 2.6, this yield equates to a future population of 4,680.

Given that community uses such as a primary school should also be provided in Kilgariff, and also considering the proximity to the airport, there should be sufficient demand for a neighbourhood centre of approximately 10,000 square metres in Kilgariff, when it reaches full occupancy.

This could include a small scale supermarket and potentially a few other mixed retail uses.

The viability and vibrancy of the suburban centres is likely to remain challenged given the very low density of development within the catchment area for each centre. Additional floor space and/or a more diverse range of offering is only likely to be sustained should densification of the catchments occur in the future.

**KEY CONSIDERATIONS**

- promotion of sustainability and walkability of existing and future residential areas by providing adequate levels of commercial and retail land to meet local demands;
- retention of the CBD as the primary service centre;
- the provision of services and facilities for future residents south of the Gap.
7.6 Industrial

At present, all land zoned for Industry is strictly confined to the north of the township, including:

- along both sides of the new section of the railway line; and
- along both sides of the Stuart Highway

Key industrial uses mainly consist of light/service industry, warehousing and retail showrooms, including:

- vehicle repair shops and fuel distributors;
- car and truck dealers and hires;
- transport depots;
- food manufacturers;
- bulky goods outlets;
- service providers such as building, engineering, plumbing etc;
- Alice Veterinary Centre; and
- a number of food and beverage businesses, presumably mainly catering for local employees.

Analysis indicates that there currently is a total of nearly 200 hectares of zoned industrial land in the Alice Springs Region, as identified by Table 7.3.

Table 7.3: Light and General Industry Land

<table>
<thead>
<tr>
<th>Zone</th>
<th>Industrial Land</th>
<th>Vacant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light industry</td>
<td>100.23 ha</td>
<td>0.00 ha</td>
</tr>
<tr>
<td>General Industry</td>
<td>95.22 ha</td>
<td>7.8 ha</td>
</tr>
<tr>
<td>Total</td>
<td>195.45ha</td>
<td>7.8 ha</td>
</tr>
</tbody>
</table>

Approximately 8 hectares of land is vacant/undeveloped, however is potentially constrained due to the presence of sacred sites, in particular Lot 8064. As shown on Figure 7.7, there is little capacity for industrial land to expand at this stage.

There is therefore an apparent lack of supply of industrial zoned land. There is a potential need to identify additional land in order to develop industrial uses, particularly in the transport and logistics and heavy industry sectors.

Potential land for industrial development has mostly been identified south of the Gap at the Brewer Estate (draft Master Plan), Arumbera (Area Plan) and airport sites.

Preliminary master planning has been commenced on the Brewer Industrial Estate, where a transport hub including a railway spur line for intermodal activities are nominally identified as a key component.

An area plan for Arumbera has been included in the NT Planning Scheme, which also envisages the development of a railway spur line.

As identified by the draft master plan, the Alice Springs Airport is also proposing to develop portion of the land for industrial uses.
KEY CONSIDERATIONS

- Alice Springs airport is a potential long term area for industrial activities;
- need to progress the detailed planning of the Brewer Estate and Arumbera;
- need to increase the area of land zoned for industrial purposes.
7.7 Rural Living

Existing rural lifestyle areas contribute to the supply of housing in the Alice Springs Region.

As shown on Figure 7.8, rural lifestyle development in the Alice Springs Region is characterised by large lots averaging around 2 hectares in area in a rural setting where reticulated services are generally limited to a power supply.

Three main Rural Living and Rural Residential areas are found south of the Gap, two of which along the Todd River corridor and the remaining one in the Ilparpa Swamp Protected Area.

Another area occupied for rural living is located just west of the Ilparpa Swamp Protected Area.

This land, known as White Gums, is currently within the Rural Zone. This large parcel of rural land has the potential to eventually be integrated within the township and accommodate rural living or residential uses in the future.

The low to very low densities (0.4 ha minimum lot size in Rural Residential; 2 ha in Rural Living) are attractive to a segment of households in the community, however the very low densities are a relatively inefficient use of land, placing pressure for further expansion of other locations to accommodate growth. This can be at odds with the natural and orderly expansion of the township.

Table 7.4 identifies the area of land zoned for Rural Residential and Rural Living together with the number of lots contained within. The resulting yield per hectare is very low as compared to the yield attained from the residential zones. Notwithstanding the above, the supply of land within the RR/RL zones appears limited.

Table 7.4  Existing rural living/residential supply

<table>
<thead>
<tr>
<th>Type of land</th>
<th>Land</th>
<th>Lots</th>
<th>Lots/HA</th>
</tr>
</thead>
<tbody>
<tr>
<td>RR/RL (incl. White Gums)</td>
<td>1,420ha</td>
<td>404</td>
<td>0.3</td>
</tr>
<tr>
<td>Residential balance</td>
<td>453ha</td>
<td>6,146</td>
<td>13-14</td>
</tr>
</tbody>
</table>

A 264-lot subdivision for conventional residential (i.e. less than 0.4 ha), known as Coolibah Tree Estate, has been approved, taking up half of the only Rural Residential zoned land in Alice Springs.

The balance of the Rural/Residential Zone (i.e the portion not forming part of the Coolibah Tree Estate) has the potential to accommodate approximately 20–25 additional Rural Residential allotments.

Rural Living Zones are also seemingly close to being fully developed and it is noted that rural living allotments have been developed outside of RL/RR zones (White Gums).

Noting that approximately 6% of the existing residential supply consists of rural living/residential allotments, it is expected that a further 245 allotments are likely to be in demand as the population grows to 40,000 people.

Options for land to be rezoned to Rural Residential/Rural Living should therefore be investigated.
Potential locations, as identified on Figure 7.8, include:

- existing rural pockets located south of the Gap between the airport and the Ranges;
- rural land located west of the township; and
- potential land located outside of the municipal boundaries.

Investigations should consider the impact of rural living and/or rural residential on productive land, natural and environmental assets and character. Implications of potential industrial developments, such as the Brewer Estate, on residential uses should also be taken into account.

**KEY CONSIDERATIONS**

- should opportunities for a choice of lifestyle in terms of lot size and access to services be encouraged?
- potentially investigate opportunities for new rural living and residential land within or out of the township;
- provision of appropriate buffers between different residential localities to maintain and enhance the amenity of established areas and protect the natural environment.
Figure 7.8: Rural Living Areas

Source: ESRI, Digital Globe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
7.8 Conservation and Open Space

The township is surrounded by land zoned Conservation, which comprise a mix of national parks and undeveloped Crown land.

Conservation areas include:

- Telegraph Station;
- Olive Pink Flora Reserve;
- Alice Springs Desert Park;
- Yeperenye/Emily and Jessie Gaps Nature Park;
- Ilparpa Swamp Wildlife Protected Area;
- Joint Geological / Geophysical Reserve;
- Heavitree Gap/Police Station Historical Reserve; and
- Tjoritja/West MacDonnell National Park.

Approximately 1,500 hectares of open space were identified within the Alice Springs municipality, of which only 200 hectares are Council-owned and/or managed.

50 hectares of park land and public open space also exist within the township catchment, much of which relates to the Todd River corridor (28ha).

The River corridor is zoned Conservation and traverses the central portion of the township. Flooding implications are discussed in Section 8 of this report.

Portion of Sadadeen South, which has been identified for growth, is also zoned Conservation.

A number of rural living / residential dwellings have been developed along the Todd River corridor or the Ranges, which appear to be very desirable areas for living purposes.

Whilst the Conservation Zone only allows for limited development, opportunities may exist for additional forms of residential or tourist uses which have minimal impacts on protected areas or productive land, and also take into account flooding hazards where relevant.

In New South Wales for example, the Environmental Living zone applies to land with special environmental or scenic values, where residential development can be accommodated.

This zone has been applied where there are a combination of environmental or risk factors, such as the presence of threatened ecological communities, areas of biodiversity and riparian value, scenic values or bushfire evacuation risk that make the protection of the values of the land impractical under a standard residential zone.

This would typically encourage self-sufficient dwellings that:

- maximise the use of renewable energy sources and reduce the reliance on other traditional power sources;
- are built on larger lots, with a lower site coverage and higher proportion of vegetation; and
- do not expect to rely on transport infrastructure or any form of services.
Examples of developments in NSW include primary and secondary dwellings, eco-tourist facilities and bed and breakfast accommodation.

Further investigations would be required to ascertain the relevance and potential characteristics and location of low-impact residential development in Alice Springs.

Figure 7.9: Conservation Areas
7.9 Recreation

Traeger Park is the main sports complex in Alice Springs and can host AFL and cricket events of international standards with a capacity for 10,000.

Anzac and Albrecht ovals area also significant open space/recreation areas for sporting purposes.

All Organised Recreation zones are Crown land reserve trusts.

As shown by Figure 7.9, five significant areas are zoned Organised Recreation and include:

- the Velodrome;
- Scouts land;
- the Aquatic Centre/Traeger Park area;
- the Alice Springs Golf Club; and
- the Arunga Park Track.

All of the above are located north of the Gap.

A large parcel of under-developed land zoned for recreation exists just east of Araluen and is currently used by the Alice Springs Scout Group.

Three other areas zoned Organised Recreation exist south of the Gap and support the operations of:

- the Motorcycle Club;
- the Shooting Complex;
- the Blatherskite Showground;
- the Pioneer park Racecourse;
- the Finke Desert Race; and
- Central Australian Drag Racing.

Areas of Public Open Space land are scattered across the township and typically contain school ovals and other sport facilities.

7.10 Airport

On 1 April 1989, control of Alice Springs Airport passed from Commonwealth Government to the Federal Airports Corporation (FAC). It immediately commenced the construction of a new terminal building, which was commissioned in 1991.

In 1998, Airport Development Group (ADG) acquired a 50-year lease, with a further 49-year option for the three FAC controlled Northern Territory airports. ADG owns 100% of Northern Territory Airports Pty Ltd (NTAPL) and Tennant Creek Airport PL. NTAPL in turn owns 100% of Darwin International Airport Pty Ltd (DIA) and Alice Springs Airport Pty Ltd (ASA). ASA is the airport operator.

It is a largely undeveloped site, currently zoned “CA” and therefore not subject to any planning scheme controls. The Airports Act 1996 however does require that a 20-year Master Plan is prepared and renewed every five years.

Three Master Plans have been developed since the privatisation of the airport. The previous 2009 Final Master Plan and the Airport Environment Strategy (AES) are valid until 5 August 2015.
A Preliminary Draft of the 2015 Master Plan has been prepared. The Master Plan envisages a range of various uses including:

- residential uses including short-stay accommodation;
- various commercial uses (office, large scale retail, cafes, warehousing);
- horticulture;
- a mix of high technology industry and industries that rely on logistical support; and
- air, road, and other transport-based industries.

The Australian Noise Exposure Forecast (ANEF) system uses contours to show where cumulative aircraft noise may adversely affect land uses. In association with Australian Standard 2021-2000 (AS 2021), it provides guidance for the siting and construction of buildings to minimise aircraft noise intrusion. The ANEF contours indicate those areas affected to varying degrees by aircraft noise.

ANEF contours for the Alice Springs airport are shown on Figure 7.10.

The contours are reviewed regularly, providing a guide to constraints that require further investigation in association with more detailed planning or evaluation of specific development proposals.

The Airports Act 1996 and the Airport (Protection of Airspace) Regulations declare prescribed airspace and give statutory protection from intrusion into this airspace.

The Alice Springs Airport Masterplan identifies the specific parameters that will also inform more detailed land use planning for sites in and around the airport or the evaluation of specific proposals.
7.11 Future Development Zone

The Future Development Zone is an interim zone confirming the future urban related use of land.

It supports the future expansion of the township by identifying opportunities for greenfield development.

Approximately 3,150 hectares of land are currently zoned Future Development.

Localities providing opportunities for both public and private development create synergies and the potential to improve the economic viability of providing the required major infrastructure.

FD Zones essentially include those areas that have been identified for potential future residential and/or commercial development:

- Undoolya;
- Abattoir Valley;
- Larapinta;
- Mt John’s Valley;
- Arumbera; and
- Kilgariff (AZRI).

Area plans have been included in the NT Planning Scheme for the Kilgariff and Arumbera sites, providing preliminary development guidelines and design concepts.

7.12 Defence

The Joint Defence Facility Pine Gap is an intelligence collection facility shared between the Australian and American governments.

The facility is located within Unzoned land, just outside of the municipal boundary, to the west of the town. It is only accessible via Hatt Road, off the Stuart Highway. Out of the nearly 4,000 people who work in the public administration and safety sector, approximately a quarter are employed at the Pine Gap facility.

The facility’s Australian and American workforce and their families account for 4% if the Alice Springs population and make a significant contribution to the economy of Alice Springs.

A total of approximately 430 defence dwellings exist in Alice Springs.

KEY CONSIDERATIONS

- Pine Gap is located within unzoned land and is outside of the municipal boundaries. It should have minor impacts on the Alice Springs Regional Land Use Plan.
8. Land Capability
8. Land Capability

8.1 Climate

Alice Springs climate is one of extremes; unlike the Top End of the Northern Territory which has a tropical climate, the arid centre has a semi-arid climate. In summer (December-February), average temperatures range between 20°C and 35°C. In winter (June-August), the average temperature range is 3°C to 20°C. Spring and autumn have warm days and cool evenings. Rainfall varies dramatically from year to year, but the annual average is around 286mm.

8.2 Flora, Fauna and Threatened Species

The study area is located within the MacDonnell Ranges Bioregion of the Interim Biogeographic Regionalisation.

The MacDonnell Ranges Bioregion is one of the most important refugial areas in arid Australia, supporting many endemic plant taxa and isolated occurrences of plants more typically associated with higher rainfall areas (often referred to as relictual plants). It also supports resident populations of some plant and animal species that are significant at the Northern Territory and national level.

Many ecosystems and species are highly localised, typically to the most fire-protected, topographically complex sites (such as gorges and escarpments), and/or to places with unusually persistent moisture availability.

In Central Australia’s Sites of Conservation Significance 43 nationally-listed and 72 Territory-listed threatened species are found.

8.3 Conservation Zones

Figure 8.1 shows the Sites of Conservation Significance for the region. The Northern Territory DLPE has identified 67 of the most important sites for biodiversity conservation within the Territory. Each site has been assessed as being of National or International Significance based on its biodiversity. The recognition of these sites imposes no additional regulatory or legislative requirements or control on management and use of the land, over and above any particular existing requirements of the area.

The MacDonnell Ranges are considered internationally significant and are classified as a Site of Conservation Significance at a Territory level. About 11% of the Ranges is managed as conservation reserves and is used for conservation and tourism, while other parts are used for residential purposes. The Township of Alice Springs occupies part of the MacDonnell Ranges.
Figure 8.1  Areas of Conservation Significance
There are also eight formally conserved areas within Alice Springs, including West MacDonnell National Park, Alice Springs Telegraph National Historical Reserve, Joint Geological Geophysical Reserve, Simpsons Gap National Park, Alice Springs Desert Park, Emily and Jessie Gaps Nature Park, Ilparpa Swamp Wildlife Protected Area and Kuyunba Conservation Reserve. Formal conservation areas such as reserves and national parks within the Territory are declared under the Territory Parks and Wildlife Act (the Act).

Declaration under the Act specifies appropriate land use within the conservation areas and all are managed by the Parks and Wildlife Commission NT.

8.4 Water Resources and Flooding

Alice Springs draws its main water supply from the Roe Creek Borefield, approximately 15km south of the town centre. Water is drawn from confined aquifers within the Amadeus Basin, known as the Mereenie Aquifer System and the Pacoota Sandstone and Shannon and Goyder Formations. The Alice Springs Water Resources Strategy 2006-2015 predicts the 'sustainable ground water yield' cap will be reached by 2017.

At this point in time extraction must be re-evaluated, adding to costs and increasing the likelihood of the entire bore field being moved to Rocky Hill, resulting in a need for significant investment in infrastructure. Figure 8.2 shows groundwater resources for the region.
To reduce the potential for exceeding the sustainable groundwater yield cap, there must be significant consideration of potential increases in water use due to growth in population and industry. Whilst there are significant horticultural activities near Rocky Hill, expansion of such activities will require an assessment of water use and soil suitability. Water intensive crops such as grapes may be unsuited in areas with unconsolidated sediments such as areas to the east of Alice Springs, specifically that area bounded by the Ross Highway, Roe Creek and Todd River.

From a non-consumptive perspective the NT Government\(^{14}\) has followed the principle that 95% of surface water flows shall be allocated for environmental, aesthetic, recreational, Indigenous cultural and other public benefit outcomes. This will preserve surface water features, the health of the environment and maintain regional catchment recharge into aquifers within the District. It is assumed that this protection of environmental values will also maintain the condition of places that are valued by indigenous people for cultural purposes.

The Todd River is a normally dry, sandy river bed in Alice Springs that has a catchment area located mainly to the North of Alice Springs. Heavy rainfall, together with the rocky terrain and steep river slope of the catchment area, can sometimes cause flash flooding in the Todd River.

The areas prone to flooding are depicted in Figure 8.3, and include the area to the east of the CBD and a large area to the south-east of the township between the Ranges and the airport. Development within these areas will need to take into consideration flood frequency.

8.5 Climate Change and Implications on Urban Form

Whilst the impact of global warming on the environment is well recognised, there are also implications as to where and how urban development should generally be planned in the future, with such being of relevance to the Alice Springs Regional Land Use Plan.

Development at the fringe of townships requires the provision of more service infrastructure and discourages the use of public transportation. At the same time, low density housing forms with larger private open spaces also require more water consumption.

These issues are exacerbated in Rural Residential zones where densities are as low as 0.3 allotments per hectare. Environmental Living zones, which have been implemented in NSW, may be part of a sustainable solution, but are not a key measure to address population growth.

---

\(^{14}\) Alice Springs Water Allocation Plan 2013-2018
Densification of the existing urban footprint enables a more efficient use of services including public transportation. Increasing the residential population of Alice Springs CBD and surrounding suburbs would centralise employment and living uses thereby reducing commuting and encouraging walkability. More compact housing forms and multi-level residential developments also help to reduce the use of irrigation/water consumption.

Notwithstanding the above advantages, ‘urban heat islands’ contribute to the rise of temperatures through more extensive use of sealed, unshaded and unirrigated surface. Such is indicatively demonstrated by Figure 8.3.

Studies have identified that the relationship between higher temperatures and the vegetation index is high. The use of green infrastructure both horizontally and vertically, coupled with the systematic reuse of stormwater, would therefore prevent localised high temperatures and sustain the liveability of densified areas.

Such design outcomes could be introduced as planning policy where densification with arid climates is sought.

---

15 AECOM, Economic Assessment of the Urban Heat Island Effect, 2012
Figure 8.3: Water Resources and Flooding
8.6 Landscape Features

Landscape features vary from salt lakes to mound springs, sand dunes, floodplains, mountain ranges and broad alluvial plains. Soils in Central Australia are derived from strongly weathered parent material, generally shallow, low in fertility, and are very fragile.

Such limitation affects productivity or predisposes the land to degradation. Natural regeneration of degraded land in arid climate zones does occur but this is over a long time period of 25-50 years. It appears that responsible land management practices and the control of feral animals and plants are the only practical means of conserving the soil resource.

8.7 Land Use

Pastoralism and agriculture

The Alice Springs Region is mainly based on pastoralism with over 70 pastoral properties; some owned and managed by traditional owners. The cattle industry is worth approximately $30 million per year to the Northern Territory and is indicative of the highly productive land in the region.

Areas currently used for pastoral activities are shown in Figure 8.5.

In recent times there has been a developing interest in camel harvesting around Alice Springs. To date this has yet to be developed into a significant contributor to the economy or the environment. The demand for camel meat from overseas is increasing and as such could become a significant economic contributor. In addition, removal of feral camels from the environment would positively impact on vegetation communities and represent a significant contribution to sustainable land use.

Agricultural land use is limited due to extreme weather conditions rendering the land largely unproductive for traditional crops.

Horticulture

Horticulture is an emerging industry in the Alice Springs region. Substantial areas that have a high capability for horticulture could contribute to the ongoing economic growth of the region.
As previously noted the vast majority of soils in the region have limitations which affect productivity or predispose the land to degradation. However responsible land management practices such as controlling pest plants and growing crops suited to the arid climate provide a step forward in sustaining land resources and utilising the area to its full capability.

There is a great potential to use the land for production of Aboriginal food crops or “bush tucker” supplying to a niche market. Bush tucker crops are ideally suited to the climate and soils of the region. Further investigation into establishing such industries is required particularly in areas of unproductive pastoral lands.

8.8 Areas of Cultural Significance

Alice Springs is the regional hub of Central Australia. It therefore attracts people from all over that region and well beyond, in addition to its traditional owners, the Central Arrentre people.

As identified in Figure 8.6, there are 137 registered sacred sites in the Alice Springs Township, many related to the Todd River and 36 sacred sites in the hinterland area of Alice Springs.

A number of sites of cultural significance are linked by the ‘dreaming trail’. Responsible tourism in the region, such as sacred site tours, assists with providing a means of understanding the significance of the region’s cultural heritage. The Alice Springs region may benefit from integrating existing cultural sites into self-guided dreaming trails for tourists to experience the rich cultural history of the region.

All sacred sites in the Northern Territory are protected by the Northern Territory Aboriginal Sacred Sites Act.

The Aboriginal Areas Protection Authority (AAPA) maintains records of all sacred sites that it has identified in the Northern Territory. There are strict secrecy provisions in the Northern Territory Aboriginal Sacred Sites Act and Aboriginal cultural traditions covering these sites.

The sites that the Authority holds records for are recorded and registered sacred sites. Recorded sacred sites are sites that have been made known to the Authority from a variety of sources. In many cases these sites have not been comprehensively documented and evaluated and they have not gone through the formal registration process.

Registered sacred sites are sites that Aboriginal custodians have asked the Authority to protect. They have been comprehensively documented and evaluated by the Authority, including information on their locations and boundaries.
It is noted that a number of other sites of cultural significance may exist as the current register of sacred sites is not definitive. Any site that is identified for development will require further investigation and consultation with the AAPA.
9. Transport
9. Transport

9.1 Air Transport

Alice Springs is served by the Alice Springs Airport, located approximately 15 km south of the CBD. The airport is separated from the CBD by the Macdonnell Ranges, with the Stuart Highway providing the only road connection through Heavitree Gap.

The airport currently provides for 580,000 passengers a year, which is forecast to increase to 750,000 passengers by 2035, as documented in the draft Alice Springs Airport Master Plan. The airport also provides a valuable transportation link for the general aviation and defence industries. The general aviation sector is essential for providing services to remote communities. The draft Master Plan indicates that the airfield and terminal infrastructure at the airport is capable of accommodating the forecast growth.

A new intermodal terminal is being considered south of Alice Springs. An intermodal terminal is where freight is handled to change modes of transport (i.e. road and rail). An intermodal terminal south of the CBD would strategically consolidate transport services, reducing travel time to/from the airport.

A detailed review of the viability of such a facility is warranted in conjunction with the staged development of the Airport Master Plan, particularly given the constraints on the road network (Heavitree Gap) linking the airport land from the CBD.

The AZRI/ASAC urban development area is located on airport land, between the existing Kilgariff residential development and the airport terminal. The redevelopment of the entire area, which has a notational yield of 4,100 allotments, could result in a significant increase in traffic volumes, albeit it is anticipated that this will take a significant amount of time to be realised. Nevertheless, if development is not planned, it is anticipated that the urban development area could result in future capacity issues for Santa Teresa Road, which links the airport to the Stuart Highway, and the intersection of Santa Teresa Road and the Stuart Highway. Consideration should be given to the need for an additional access link to the airport land and the potential to separate airport traffic from other generators on the site.

9.2 Rail Transport

Alice Springs is served by the Adelaide to Darwin railway line, located adjacent to the Stuart Highway. The station is strategically located west of the Central Business District (CBD), albeit it does bisect much of the development in the City. The Alice Springs intermodal and freight terminal is the primary intermodal terminal serving customers in and around Alice Springs.

The rail site currently suffers from poor connectivity to the CBD due to the historical road network and the limited access availability.
Genesee & Wyoming Australia (GWA), a subsidiary of the global rail conglomerate Genesee & Wyoming Incorporated, acquired the terminal in 2009, having leased the site previously. GWA also operates the Tarcoola to Darwin rail line, linking the Port of Darwin to the Australian interstate rail network in South Australia. Six intermodal freight services are provided per week from Adelaide to Darwin, and a total of 800,000 intermodal freight and 70,000 tonnes of bulk liquids a year are transported between Adelaide and Darwin. Trains are approximately 1,800 m long and weigh 4,000 tonnes. Commodities transported include dry groceries, chilled/frozen groceries, building/construction material, automotive vehicles and parts, mining consumables, liquor and mail. Organic growth opportunities exist in the areas of iron ore, rare earths, phosphates, manganese, nickel, coal, copper, gold and uranium.

A new intermodal terminal is being considered south of Alice Springs. It is anticipated that the “Northern Territory Freight and Logistics Industry Strategy” being established by KPMG for the Department of Transport, will include consideration of the possible future intermodal and provide further details of its location. If a new terminal is established, freight would be separated from commuter rail, allowing for further development of the existing railway station.

A decision in respect to the potential rail terminal will inform the extent of infrastructure requirements to improve connectivity to the existing facility. Nonetheless, improvements to existing infrastructure are critical if the rail facility is to be maximised.

A new railway station and tourism precinct has been envisaged for the site on the western corner of the Stuart Highway/Whittaker Street intersection, which would improve pedestrian connectivity to the CBD. If this is realised, vehicle access should be provided via Whittaker Street rather than the Stuart Highway. This would be desirable from a traffic distribution perspective, as vehicles travelling to/from the northern suburban areas could avoid the signalised intersection. Furthermore, a new conflict point on the Stuart Highway would be avoided.

Sufficient separation should be provided to the Colson Street intersection or a four-way roundabout considered, depending on the operation of the Stuart Highway/Whittaker Street intersection.

Opportunities exist for additional railway facilities adjacent the development areas of Abattoir Valley /Arumbera, should the type of development be compatible with rail as a transport mode.
9.3 Road Transport

The primary access route through Alice Springs is the Stuart Highway, the major highway connecting Adelaide and Darwin. Large commercial vehicles use this route. Stuart Highway bisects Alice Springs and therefore also plays the primary arterial function for the City. The road network servicing Alice Springs links to Stuart Highway in a radial style configuration, with the major linkages all connecting to Stuart Highway. This means that the transport routes generally focus on a central point (the Alice Springs CBD) but equally that the risks associated with capacity constraints need to be managed, particularly given the lack of alternative networks.

The lack of alternative route choices for drivers which has resulted from the historical road network will result in individual roads and specific locations creating constraints for development. Future planning for road infrastructure requirements will need to be completed in parallel with development to ensure that these constraints do not adversely impact planned growth areas of Alice Springs.

Heavitree Gap

Heavitree Gap provides a break in the MacDonnell Ranges, and the only route for road and rail traffic. Subsequently it is traversed by the Stuart Highway, with the railway located to the western side and the Todd River to the east. The Stuart Highway provides one lane in each direction at this location.

The Blatherskite Valley/Arumbera, AZRI/Kilgariff and AZRI/ASAC urban development areas are located south of Heavitree Gap. The development of these areas will increase the volume of traffic through the Gap, particularly during the morning and afternoon/evening peak hours as individuals commute to/from the CBD.

The “Alice Springs: Traffic Study” prepared in 2009 by QED for the Department of Infrastructure identified that due to development south of Heavitree Gap, the duplication of the Stuart Highway would be required in the future. The duplication was predicted to be required when 1,350 dwellings were developed south of Heavitree Gap, with the resultant road volume increasing to over 1,450 vehicles per hour (vph). The increase in development south of the Gap will also create an increase in demand and subsequent limitations in catering for vulnerable road users such as pedestrians and cyclists.

Additional lanes or duplication of the Stuart Highway is expected to result in impacts on the Todd River and consequently issues will arise with Indigenous Heritage, flooding and possibly vegetation removal.

Jacobs Group is currently preparing the “Alice Springs – Regional Traffic Study” for the Department of Infrastructure that will further consider the future duplication of the Stuart Highway corridor, and include the preparation of a dual carriageway alignment concept for the Stuart Highway. The Department of Infrastructure has advised that the study will be complete in late 2015.
Stephens Road Causeway Crossing (Taffy Pick)

Stephens Road provides access to/from the Mount John’s Valley urban development area. During flood events, Stephens Road, which crosses the Todd River is severed by floodwater. An increase in traffic on Stephens Road as a result of future development could result in an additional 6,000 vpd using this road, necessitating road upgrades. The “Alice Springs: Traffic Study” prepared in 2009 indicated that the development of Mount John’s Valley should provide no more than 200 allotments until an alternative access be constructed.

Safe and functional access to this region will necessitate planning for future infrastructure in order to provide reliable access to the Mount John’s Valley urban development area. Further investigations in regard to options to address this access constraint are warranted prior to pursuit of any significant development. The following options could be further explored in such investigations:

- a Connector Road between Stephens Road and Sadadeen Valley Road, which will provide a road link to the existing Stott Terrace bridge; or
- a bridge to provide access in lieu (or addition to) the Stephen Road causeway crossing (known as Taffy Pick).

The Sadadeen Connector Road option provides the benefit of an alternative route for drivers and more traffic distribution, albeit a cost benefit analysis of the holistic benefits to the broader community would inform the stakeholders in respect to the most beneficial option.

Larapinta Drive/Stuart Highway/Stott Terrace Intersection

The signalised intersection of Larapinta Drive, Stuart Highway and Stott Terrace is considered a key component to the restriction of future growth, particularly for the Larapinta Valley urban development area and the CBD. It is considered that the intersection currently has significant traffic demand, particularly during the morning and afternoon/evening peak periods, presenting long delays and queues for drivers. Traffic analysis should be undertaken of the intersection to determine the timing and nature of an intersection upgrade. Furthermore, the analysis should consider alternatives for the railway crossing, such as grade separation, which would improve safety at the location.

Stott Terrace

High crash rates have been experienced at the signalised intersections on Stott Terrace (i.e. at Bath Street, Hartley Street and Todd Street). Upgrades to improve safety at these intersections should be considered as traffic demands increase, particularly if the Sadadeen Connector Road is provided.
This intersection upgrade should be considered as part of a network analysis for the overall CBD to ensure that future development does not exacerbate the safety issues at this location.

Stuart Highway/Bradshaw Drive Intersection

The roundabout treatment at the intersection of Stuart Highway and Bradshaw Drive will be required to be assessed to determine if improvements are required to cater for the increased traffic volumes on the Stuart Highway, particularly given the close proximity of the railway crossing adjacent Bradshaw Drive. Development trigger points should be identified so that these can be included in future growth planning for the nominated regions.

A particular constraint with needs to be considered is the MacDonnell Ranges. The Stuart Highway crosses the ranges through Heavitree Gap, adjacent the railway. The road width is constrained in this location and a review of the need to upgrade this ‘crossing’ top address capacity and safety implications is warranted if development opportunities south of this location are to be realised. Of particular note are the limitations in catering for vulnerable road users such as pedestrians and cyclists and any increase in development south of this area will increase the demand for such facilities, as will an increase in traffic volume.

9.4 Public Transport

In the past 5 years, patronage on the Public Transport Urban Bus network in Alice Springs has increased in excess of 200%. It is estimated that approximately 215,000 passenger journeys will occur in the 2015 calendar year.

The Department of Transport anticipates that these numbers will continue to grow into the future and a full network review will most likely need to occur within the next two years.

To support future expected growth, suitable road design will need to take into account manoeuvring for buses, including verge areas for the installation of suitable DDA compliant infrastructure (bus shelters, bus stop/cut-ins) for designated routes within all new developments.

Services to the west and south of the town appear to be the most popular and on the increase. The current urban bus interchange is located on Railway Terrace and any expansion of the CBD area would need to consider urban bus access points and the potential for an larger interchange facility.
9.5 **Active Transport**

Cycling and walking is an extremely popular mode of transportation in Alice Springs.

Annual bike counts consistently show high levels of cycling in Alice Springs compared with other regional centres around Australia. Alice Springs Town Council, Parks and Wildlife and NTG have developed an extensive network of shared and mountain bike paths, throughout the town. Work is progressing to continue to expand and connect these Networks. Any future developments would need to take active transport into consideration, including end of trip infrastructure (secure bike racks, showers, wayfinding signage and lockers), particularly for new buildings within the CBD.
10. Service Infrastructure
10. Service Infrastructure

10.1 Power Supply

The Ron Goodin Power Station was commissioned in 1973 and is a major source of electricity in the Alice Springs area. It has a capacity of 44.6MW and used natural gas for fuel.

The Owen Springs Power Station uses the latest dual fuel reciprocating technology, with the majority of the capacity 36 MW commissioned in 2011. The planned expansion of Owen Springs will enhance local generation.

Brewer Power Station is owned and operated by Central Energy Power (CEP). Territory Generation purchases electricity from CEP under a Power Purchase Agreement, for supply to the Alice Springs Grid.

As advised by Power Water Corporation, the Alice Spring Power Network has capacity to support the existing electrical demand together with medium term demands for power (i.e next 5-10 years).

Changes in customer behaviour such as the installation of roof top PV systems and efficiency measures are likely to help reduce electricity peak demand.

Power and Water are currently developing solutions in addressing these capacity issues and to ensure the existing assets are fully utilised, before further capital investment is made.

Key implications in terms of power supply are identified below:

- residential infill and existing developments in the areas of Kilgariff, Larapinta Valley and limited CBD infill are likely to have less impact on the power network and lower headworks costs than developments in the Sadadeen, Mount John’s Valley and Undoolya Valley.

- a new industrial land release may require more significant power network development depending on the size of development and cannot be assessed at the time.

Industrial development in the Brewer area is likely to have less impact on the power network than other areas.

10.2 Water Supply

The Amadeus Basin Aquifers are the source of the town’s potable water supply, and were last estimated to contain more than 4800 GL of water with Total Dissolved Solids (TDS) of less than 1000 mg/L. It is anticipated that any further use of water will continue to be mainly for public water supply.

The water drawn from the Amadeus Basin Aquifers is estimated to be between 10,000 to 30,000 years old and contemporary recharge is minimal in the context of the resource. This water resource is therefore considered a non-renewable water resource.
The current water extraction regime which was documented and capped under Alice Springs Water Resource Strategy in 2007 acknowledges that this resource is effectively being mined in order to sustain the population of Alice Springs.

The Draft Alice Springs Water Allocation Plan maintains the allocation of the majority of groundwater in the Amadeus Basin Aquifers for use as public water supply.

Due to the non-renewable nature of the water supply, water sensitive urban design should be of high consideration when developing in the Alice Springs region.

As previously noted, water is currently extracted from the Roe Creek Borefield, located approximately 15km south of Alice Springs town centre.

Noting that a new bore will be required for each additional 4,000 people, at some stage in the future a new borefield will be required at Rocky Hill about 15km south west of the Airport along the Santa Teresa Road.

This demand for water needs to consider the existing use of Rocky Hill water for horticulture.

Service corridors for water mains, power lines and road access to the new borefield should be reserved and considered when planning for development in the Kilgariff/Airport area.

Generally when developing south of the Gap, water infrastructure will require significant investment to be able to service the proposed development areas. The key considerations of the masterplan will need to be:

- pump overall economics (currently energy is wasted pumping water into town, then back feeding through the Gap);
- lengths and size of transfer mains;
- security of supply;
- trigger points for infrastructure construction.

### 10.3 Sewer

The existing sewer mains located through Heavitree Gap has approximate capacity for an additional 3000 Equivalent Population (EP).

Development north of the Gap, which exceeds this population level, would require additional capacity to be established through the Gap.

The nature and extent of upgrades would be dependent on the overall level of development north of the Gap.

Due to the topography most of the areas will need to be serviced with the use of sewage pump stations. The main considerations for the masterplan will need to be:

- service corridors for rising mains;
- pump station catchments;
- interaction between pump stations; and
- consideration of a new sewage treatment plant may one day be economic to the south to save pumping back up hill.

### 10.4 Gas

The Amadeus Gas Pipeline provides gas to Darwin, Alice Springs and other regional centres. It is a major infrastructure asset which will influence land use planning adjacent to its alignment, for safety reasons.
10.5 Summary

Key service infrastructure considerations are spatially identified by Figure 10.1.

Any urban development within Alice Springs is likely to require some form of augmentation. Some services have greater capacity than others, depending on the spatial location of the land.

In order to ensure the orderly and economic provision of utilities an Infrastructure Plan is recommended to support the final Alice Springs Regional Land Use Plan, once decisions are made in respect to future development areas.

An Infrastructure Plan would require detailed concepts and feasibility analysis for each key development area. Development can then be staged and prioritised with infrastructure planned accordingly.

An Infrastructure Plan can also:

- identify priorities from a whole-of-territory and/or Alice Springs perspective;
- highlight specific initiatives, and associated timeframes;
- identify new investment opportunities; and
- consider options for deferring costly capital expenditure by better managing demand.
Figure 10.1: Service Infrastructure

Source: Esri, DigitalGlobe, GeoEye, EarthStar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
11. Human Services
11. Human Services

11.1 Education

Alice Springs is serviced by a number of government and non-government schools which are well dispersed through the township, including within the development areas of Sadadeen and Larapinta.

The location of primary, secondary and tertiary educational establishments are shown by Figure 11.1.

Six combined public primary and pre-schools exist in Gillen, Larapinta, Braitling and Sadadeen.

Only one government middle school exists within the Council area, with an enrolment of nearly 925 pupils (Centralian Middle School). The Centralian Senior College provides senior education to approximately 450 students.

A total of five non-government schools exist in Alice Springs (one of which is split between two campuses). Three provide pre and primary school education. Three provide secondary education, two of which up to Year 12, and cater for approximately 1,450 pupils.

Three independent schools provide education to indigenous children from pre-school to Year 12. These are located in the Araluen, Arumbera and Amoonguna suburbs.

One other non-public school provides primary education.

Alice Springs School of the Air provides education to some 125 students allocated within a 1,000sqm radius from Alice Springs. One non-government school and one Indigenous school provide boarding facilities for approximately 300 students. This is again reflective of the regional role of Alice Springs in the wider area and needs to be taken into consideration.

Three tertiary education establishments service the township. These include:

- Charles Darwin University, in Sadadeen;
- The Northern Territory Clinical School of the Flinders University of South Australia and the Centre for Remote Health, in the CBD (adjacent to the hospital);
- Batchelor Institute of Indigenous Tertiary Education, in Gillen.

In addition, the Centre for Appropriate Technology, a registered training organisation, is located in the Desert Knowledge Precinct.

An educational precinct exists in Sadadeen South with a public preschool and a primary school, two private colleges, and the Charles Darwin Campus.

The need for additional educational establishments will be influenced by future population growth within the township. Population movements emanating from remote communities may also impact on the need for additional schools especially for indigenous children.

New public primary schools are typically planned for 450 students, commencing when the number of pre-school children reach 200.
As shown on Table 11.1, it is likely that a future population of 40,000 will trigger demand for two additional primary schools.

Given future population growth is anticipated in Kilgariff, south of the Gap, a future primary school in Kilgariff should be considered. It is noted that a primary school is anticipated in the Area Plan for Kilgariff.

There are approximately 2,400 children aged between 13 and 18 years of age in Alice Springs. The current capacity of the combined secondary education system would appear to accommodate such numbers.

Public secondary schools are typically planned with an enrolment capacity of at least 1000 students. Based on the calculations contained in Table 11.1, a future population of 40,000 would be close to warranting a new secondary school, which should be located near future growth areas.

<table>
<thead>
<tr>
<th>Population</th>
<th>28,667</th>
<th>32,000</th>
<th>40,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-schoolers aged 3-5</td>
<td>1.262</td>
<td>+140</td>
<td>+475 (total)</td>
</tr>
<tr>
<td>Children aged 6-12</td>
<td>2.130</td>
<td>+310</td>
<td>+1,054 (total)</td>
</tr>
<tr>
<td>Children aged 13-18</td>
<td>2.405</td>
<td>+283</td>
<td>+963 (total)</td>
</tr>
</tbody>
</table>
Figure 11.1: Education Facilities
11.2 Health

As shown by Figure 11.2, the key health care facility in the Alice Springs Region, is the Alice Springs Hospital, located at the southern fringe of the CBD.

The Alice Springs Hospital has 183 gazetted beds\(^1\). It provides a range of services including emergency services, obstetrics, intensive care and palliative care, with a total of 143 doctors. There is some flexibility for more capacity (additional unfunded beds).

Based on a commonly used ratio of 4.8 beds per 1000 population, the provision of a 183 beds would normally service the requirements of a population of 28,667 and should also suffice to cater for a 40,000 population.

However considering the large catchment of the hospital (from the South Australian border up to Elliott NT), the high proportion of the indigenous population and the health issues associated with the same, there is the potential for demands to significantly exceed the ratio typically used.

Headspace Alice Springs and the Flynn Drive Health Centre also provide day public health care. The total number of practitioners could not be sourced.

The Royal Flying Doctors Service is based adjacent to the hospital. It is a not for profit organisation. It provides 24 hour emergency and inter-hospital services in an area of approximately 1.25 million square kilometres.

Three private health centres exist, two in the CBD and one in Braitling, with a total number of 12 GPs. Private dental services are also found in Larapinta and the CBD.

Medical practitioners are typically required at 1.1 per 1000 population and thus generating demand for 31 GPs based on an ERP of 28,667.

The identified population thresholds of 32,000 and 40,000 would normally trigger additional demand for between 3 to 11 new GPs.

Two centres provide health services specifically to the indigenous community. A significant portion of the indigenous population residing in town camps suffers from diabetes, heart diseases and chronic kidney disease. Mortality rates are high and life expectancy low compared to non-indigenous members.

Whilst the provision of additional beds should be subject to further investigation, it is likely that Alice Springs will retain its role as a regional service centre and cater for an increasing number of remote community members. More specific care facilities (e.g. renal care) may need to be provided, within the existing hospital or a new facility.

As the ‘centre of gravity’ of Alice Springs moves to the south, the need for additional health care facilities south of the Gap should be considered.

---

\(^1\) Central Australian Health Service
Figure 11.2: Health and Community Services
11.3 Aged care

Aged care facilities are identified by Figure 11.2.

A total of 148 aged care beds exist in Alice Springs, split into two facilities, namely the Old Timers Village and the Hetti Perkins Home for the Aged.

Based on a ratio of 95 beds for 1000 population over 70 years of age, the existing supply of aged care beds currently exceeds theoretical demand, noting this demand does not necessarily take into account the specific needs and demands of the indigenous community.

A number of other organisations also provide home care services to people with disabilities and/or older people with a total of 153 home care packages.

11.4 Social Services

A number of community services cater for young people and families, and are mostly located within or close to the town centre, as shown on Figure 11.2.

The Tangyentere Council is one of the major service providers to indigenous residents of Alice Springs.

It provides:

- Family and Youth Services and the Safe Families Program (including the provision of short term accommodation for young residents or families living in unsafe environments);
- a food voucher system (deducted from Centrelink payment);
- early childhood development services;
- sport and recreational activities for the youth; and
- counselling services.

It also operates a community centre in Hidden Valley and a learning centre in Yarrenyty-Arttere, and runs aged and community services including assistance to persons aged 60 and over. The Council estimates that, at any time, 50 people are on the Council’s waiting list for such services.

11.5 Child Care

Ten long day child care facilities are found in Alice Springs with a capacity of approximately 400 places.

As shown in Figure 11.3, a majority of facilities are found in the CBD or Sadadeen.

At least four of the child care facilities have low or no capacity to accommodate more children.

Based on a ratio of 1 long day child care centre for every 4,000 to 8,000 people, it is also likely that new residential areas will require additional facilities, particularly to the west and south of the township in areas such as Larapinta or Kilgariff.
Figure 11.3: Long Day Child Care Facilities
11.6 Recreation

As discussed in Section 7.9, eleven key areas zoned for Organised Recreation exist both north and south of the Gap.

Alice Springs contains approximately 50 parks and reserves, including school ovals, which are open to the public out of school hours.

Out of approximately 1,500 hectares of open space located north of the Gap, only 200 hectares are Council-owned.

As shown by Figure 11.4, key sport facilities include:

- public Swimming Centre with indoor 25m lap pool and outdoor 50m pool;
- 17 public fields/ovals and 9 public courts adding up to nearly 49 hectares split between a total of 8 reserves. This includes Traeger Park (football/cricket oval, baseball ground, 10 tennis courts, hockey, 3 indoor basketball courts);
- Bowling Club;
- Squash Centre with 8 courts;
- Velodrome;
- a Community Centre including a martial arts centre, a gymnasium, a public service gym, a boxing shed, a recreational hall, and a skating centre;
- Pat Gallagher Netball Centre/Ross Park Netball, with 8 courts. Not available for public access;
- Motorcycle Club;
- Golf Course;
- Racing, shooting and equestrian activities; and
- YMCA operates in Sadadeen and provides a gym, child care, rock climbing and fitness classes.
Figure 11.4  Open Space and Recreation Facilities

LOCAL PARKS / SCHOOL OVALS
1. GILLEN PARK
2. NOONE PARK
3. O.S. SMITH PARK
4. ANZAC PARK
5. SNOW KENNA PARK
6. ROSS PARK
7. ANZAC HILL
8. FREDERICK PARK
9. FRANCES SMITH MEMORIAL PARK
10. FERTA HILL
11. TERRA HILL
12. TELEGRAPH STATION
13. HISTORICAL RESERVE
14. FOREST PARK
15. LYNX PARK
16. DAY PARK
17. SPENCER PARK
18. WESTLAND PARK
19. FRANK MUELLER PARK
20. WALTER FORRESTER PARK
21. BEAKU PARK
22. BLAIR PARK
23. GREY PARK
24. KUNOTH PARK
25. MCCOY PARK
26. TUCKER PARK
27. MAYNARD PARK
28. RENNDA DIANS PARK
29. CAMPBELL PARK
30. ROTARACT PARK
31. KURU KURU PARK
32. TINLAYSON PARK
33. JIM MCDOUGAL PARK
34. NEWLAND PARK
35. TRAEGAR PARK
36. ASHER PARK
37. NISHEN RAFCHAN PARK
38. BILLYGAT HILL
39. OVAL
40. WHITE GUM PARK
41. PARK
42. LEWIS GILBERT PARK
43. OLIVE PARK BOTAIC GARDEN
44. PLOWMAN PARK
45. WEST MACDONELL NAT. PARK
46. CHALMERS PARK
47. INARENGE PARK
48. BLATHERSITKE PARK
49. ALBRECHT OVAL
50. MT. GILLEN
51. SIMPSONS GAP
52. ST. PHILIPS COLLEGE OVAL
53. D.S. H. SCHOOL OVAL
54. SADADIAEN SCHOOL OVAL
55. CENTRALIAN SCHOOL OVAL
56. YIRRA SCHOOL OVAL
57. STEINER SCHOOL OVAL
58. YIPRINXY SCHOOL OVAL
59. AMALIEY SCHOOL OVAL
60. LIVING WATERS SCHOOL OVAL

LEGEND
- MAIN ROADS
- RIVER
- RECREATION
- NATIONAL PARK
- RAIL
- CADASTRE
- PARKS
The Open Space Network Master Plan prepared by Ross Planning identified a recommended rate of 2 hectares of parks and 1.43 hectares of parkland per 1,000 population and compared it to other similar communities in Australia. The report concluded that “Alice Springs [had] a much higher number of local parks in particular to the other communities”.

With respect to recreational and sport activities, the Parks and Leisure Australia (PLA) benchmarks have been used and reproduced as Table 11.1.

It is important to note that benchmarks are only a guide and the PLA benchmarks are based on Western Australian demands.

<table>
<thead>
<tr>
<th>Key Sports</th>
<th>PLA Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports Space (in general, min 3.5ha)</td>
<td>1: 4,000 - 5,000</td>
</tr>
<tr>
<td>Australian Rules Football Oval</td>
<td>3: 15,000</td>
</tr>
<tr>
<td>Cricket Ovals</td>
<td>1: 8,000 - 10,000</td>
</tr>
<tr>
<td>Soccer (Football)</td>
<td>1: 3,000 - 4,000</td>
</tr>
<tr>
<td>Tennis</td>
<td>Minimum 8 court facility for 15,000</td>
</tr>
<tr>
<td>Netball</td>
<td>1: 3,000 - 4,000</td>
</tr>
<tr>
<td>Lawn Bowls</td>
<td>1: 25,000 - 50,000</td>
</tr>
<tr>
<td>Golf Course</td>
<td>1: 30,000</td>
</tr>
<tr>
<td>Skate Park</td>
<td>1: 25,000 Regional</td>
</tr>
<tr>
<td></td>
<td>1: 10,000 - 25,000 District</td>
</tr>
<tr>
<td></td>
<td>1: 5,000 - 10,000 Local</td>
</tr>
<tr>
<td>BMX</td>
<td>1: 10,000 - 30,000 District</td>
</tr>
<tr>
<td>Play spaces (play equipment in open space e.g. picnic settings, seating, climbing trees, nature play area etc)</td>
<td>1: 50,000 Regional</td>
</tr>
<tr>
<td></td>
<td>1: 8,000 - 10,000 District</td>
</tr>
<tr>
<td></td>
<td>1: 2,000 Local</td>
</tr>
<tr>
<td>Indoor Sport &amp; Recreation</td>
<td>1: 50,000 - 100,000 District</td>
</tr>
<tr>
<td></td>
<td>Min 3 court</td>
</tr>
<tr>
<td></td>
<td>1: 250,000 Regional 6/7 courts</td>
</tr>
<tr>
<td>Indoor Aquatic</td>
<td>1: 150,000 50m FINA competition</td>
</tr>
<tr>
<td></td>
<td>1: 75,000 50m or 25m District</td>
</tr>
<tr>
<td></td>
<td>1: 30,000 25m leisure</td>
</tr>
</tbody>
</table>

The PLA data seems to show that Alice Springs provides a number of facilities which would typically be provided for a higher level of population (e.g. swimming centre, golf course). This reflects the remote spatial location of Alice Springs and regional function of the township.
In respect to sporting facilities, a 2010 report by SGL concludes that “Alice Springs had an excellent array of sporting facilities catering for most indoor and outdoor sports”. Facilities such as Traeger Park, Ross Park and the Aquatic Centre received major upgrades at the time when that report was prepared.

However netball and indoor soccer were identified as needing further facilities.

A $2 million commitment from the NT Government was confirmed in April 2015 for a new three-court netball facility in Alice Springs at the existing Pat Gallagher Netball Centre. A new lawn bowls facility and a new athletics track and field facility were also included in the 2015/16 Government budget.

Further, the NT Government has recently issued a Request for Quotation to create a Master Plan which will look at sport and active recreation for the whole of the NT. The NT Government’s objective is to ”provide a road map to guide Government investment and policy decisions that will provide the best outcome to the development of sport and active recreation into the future”, by looking at sport participation, existing demand, existing supply of sport and recreation facilities, and future needs across the State including Alice Springs. The outcomes of the master plan should inform the future planning of growth areas.

### Table 11.2  Projected Sporting Facility Demands

<table>
<thead>
<tr>
<th>Key Sports</th>
<th>28,667</th>
<th>32,000</th>
<th>40,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports Space (in general, min 3.5ha)</td>
<td>Satisfactory</td>
<td>1 to 2 good size sports space (min 3.5ha)</td>
<td></td>
</tr>
<tr>
<td>Australian Rules Football Oval</td>
<td>Satisfactory</td>
<td>Expansion or new facility</td>
<td></td>
</tr>
<tr>
<td>Cricket Ovals</td>
<td>Satisfactory</td>
<td>One oval</td>
<td></td>
</tr>
<tr>
<td>Soccer (Football)</td>
<td>Satisfactory</td>
<td>1 field</td>
<td>2 further fields</td>
</tr>
<tr>
<td>Tennis</td>
<td>Satisfactory</td>
<td>Expansion or new 6-8 court facility</td>
<td></td>
</tr>
<tr>
<td>Netball</td>
<td>Satisfactory</td>
<td>1 field</td>
<td>2 to 3 further fields</td>
</tr>
<tr>
<td>Golf Course</td>
<td>Satisfactory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skate Park</td>
<td>Satisfactory</td>
<td>expansion</td>
<td></td>
</tr>
<tr>
<td>Playspaces</td>
<td>Satisfactory</td>
<td>2-3 local playspaces</td>
<td>Further 2-3 local size playspaces 1 district size playspace</td>
</tr>
<tr>
<td>Indoor Sport &amp; Recreation</td>
<td>Satisfactory</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Indoor Aquatic</td>
<td>Oversupply</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>
12. Potential Growth Locations
12. Potential Growth Locations

The form of the Alice Springs township is largely influenced by its natural and cultural context.

The expansion of Alice Springs is further influenced by the spatial location of the following features:

- restrictive zones (Conservation, Community Purpose, and Rural);
- significant facilities (Alice Springs Airport);
- physical land formations (MacDonnell Ranges);
- significant drainage patterns (flooding);
- known and unknown sacred sites; and
- borefields critical for water supply (Water Management Areas).

A high level analysis of the previously identified potential growth locations is outlined as follows. This analysis purely outlines some of the key opportunities and challenges arising from each site. For any of the sites to be rezoned and developed, further detailed investigations would be required. This analysis therefore serves to identify which parcels should be considered for further evaluation in order to accommodate a future population of 40,000 persons.

12.1 Abattoir Valley

12.1.1 Description of site

Abattoir Valley is located north of the township, adjacent to the Alice Springs to Darwin railway line. The land is presently subject to Native Title. A total of six recorded or registered sacred sites are identified, with combined boundaries encompassing the whole of the land.

12.1.2 Traffic Considerations

If this area was to be developed as an industrial site, there will be a requirement to extend Smith Street to provide for a major access for the area. Consideration would also need to be given to a review of the ability for the existing Smith Street/Stuart Highway and Smith Street/Stokes Street intersections to be able to accommodate large vehicles, albeit it is anticipated that there will be adequate capacity to accommodate the forecast traffic volumes. An opportunity for use of the railway also should be investigated, should the land be developed.

12.1.3 Services

Sewer

The existing sewer is not deep enough to service the land any further west than the Open Unlined Drain (OUD), located on the Western boundary of Trucking Yards Camp. A Sewer Pump Station (SPS) would be required to service the area.

The sewer main on Smith Street has capacity for an additional 600EP. However, the trunk sewer it connects to is at capacity.
Water

A single water main runs down Smith Street to the west of the entrance to the Trucking Yards Town Camp. The water main would need to be duplicated and looped to service the proposed development area.

12.1.4 Initial Findings

Due to the number of existing heritage constraints and unideal topographic context (slopes greater than 10%), this land is not considered to be a viable option for extensive industrial development. Figure 12.1 highlights the physical and cultural constraints identified.

A limited number of industrial lots could however be established on the less constrained portion of the land, subject to further investigations and feasibility.

Other locations for major industrial land supply are likely to be preferred.
Figure 12.1  Abattoir Valley
12.2 Larapinta Valley

12.2.1 Description of site

Larapinta Valley is located north of the township. The potential future development area comprises a distinct northern and southern parcel both adjoining the recently developed suburb of Larapinta.

The southern portion of the land has an area of approximately 81 hectares. Previous concept plans have identified a notional yield for 200 dwellings. The Land Development Corporation is presently in the process of planning for the development of several additional allotments in this area.

The terrain is undulating with a number of scattered hillocks, with slopes exceeding 10 percent for approximately 40 percent of the land.

The northern portion of the land is even more heavily constrained by slope, drainage corridors and vegetation.

These physical constraints are likely to impact on the yield costs and viability of residential development on the northern portion.

Whilst there are no recorded sacred sites, there is potential for the land to be of cultural significance.

Services

Sewer

The existing sewer located at the end of Albrecht Drive has the capacity for an estimated population of about 1700 persons. Further, the sewer located at the end of Mparntwe Drive has capacity for about 270 persons.

Detailed assessment would be required to determine the area that can be serviced without the use of pump stations.

Water

The existing Larapinta tank is only capable of servicing land below 605m AHD. Sterling Heights is currently serviced by a temporary booster pump station. In the long term an Elevated Tank with associated pump station and transfer mains will be required to service the area.

Current plans suggest that servicing land up to 623m AHD is possible and practical. This would require a tank with a water level around 646m AHD. The tank would be approximately 2.5ML in volume (1 x Peak Day demand for the ultimate future load).

12.2.2 Traffic Considerations

It is forecast that a residential development at Larapinta Valley could result in an increase of 1500 vpd on the adjacent road network.
Larapinta Drive will have adequate capacity to accommodate such traffic volumes. The intersection of Larapinta Drive and Stuart Highway, however, is signalised and is complicated by the close proximity of the railway.

It is noted that a $4.5 million budget has been allocated to the provision of a connector road linking Albrecht Drive and Mparntwe Drive.

Further analysis is warranted as to the impact of traffic growth both on Larapinta Drive and generally on the road network in order to identify both the catalyst for a signal upgrade to accommodate additional capacity but also needs to improve the safety at this location.

12.2.3 Initial Findings

Larapinta is one of Alice Springs’ suburbs where residential development has been the most active in recent years, for separate houses as well as senior living.

Whilst the land has constraints, clear potential exists to continue to extend the existing urban area and for the land to be identified as forming part of future residential land supply, with the southern portion likely to yield more allotments than the northern portion.

Future development of the land will however need to give careful consideration to potential constraints which may require consultation with relevant stakeholders, including:

- costs of servicing including drainage and stormwater management due to the undulating terrain; and
- cultural heritage.
Figure 12.2 Larapinta Valley (South): constraints
Figure 12.3  Larapinta Valley (North): constraints
12.3 Sadadeen South

12.3.1 Description of site

The prospective development area would potentially form a south-easterly extension to the suburb of Sadadeen.

The land has an area of some 28 hectares. It has minimal gradient with the exception of a hillock in its central portion.

Trees are scattered throughout the land.

Two known sites of cultural significance have been identified. Further consultation with the AAPA will need to occur in order to ascertain the presence of other sites.

Previous concepts have determined a notional yield of 158 allotments.

12.3.2 Servicing

Sewer

The existing sewer to the Hidden Valley Town Camp has sufficient depth and capacity to accept the load arising from the development of the land. However, a gravity sewer would need to be extended to the existing Sewer Pump Station (SPS) on Kilgariff Crescent, to make the SPS redundant.

Water

There is sufficient water supply to the area to service future development of the land.
Figure 12.4  Sadadeen South: constraints
12.3.3 Traffic Considerations

The development of the land for residential purposes would result in approximately 1200 additional trips per day, on the existing road network. The network has been appropriately designed to provide for distribution between Sadadeen Road and Grevillea Drive, both of which connect with primary roads (Stott Terrace and Undoolya Road) which provide access to the CBD.

There will be adequate capacity on these routes to accommodate the additional volumes, albeit these should be considered in any review of the signalised intersection of Stott Terrace and Stuart Highway.

It is noted that a new connector is planned to link Sadadeen Valley to Mount John’s Valley.

12.4 Undoolya Valley

12.4.1 Description of site

Undoolya is located to the east of the Alice Springs township. It is remote from any established area.

Whilst native titles have been extinguished on the southern portion of the land, two thirds of the land remains subject to native titles.

Four known sacred sites have been identified, located on either side of Undoolya Road.

The area of the land is significant, and was originally identified to accommodate a satellite town when population growth in Alice Springs was at high levels.

Due to its large area the land has variable natural features, with portions of it relatively flat and other portions typified by undulation and rocky outcrops.

12.4.2 Traffic Considerations

The development of the land would require the upgrade of Undoolya Road and a review of its major intersections within the existing developed area. In reviewing potential development opportunities, consideration will also need to be given to whether it can be served with a single access point to one road. The identified area is of sufficient size to warrant at least two links to the existing road network, both in terms of capacity and safety for residents.
12.4.3 Initial Findings

A number of alternate opportunities exist closer to the township and represent more orderly and economic forms of development.

Undoolya Valley should remain a long-term future development opportunity. It is not required to service a population of 40,000 persons.
Figure 12.5  Undoolya Valley: constraints
12.5  Mount John’s Valley

12.5.1 Description of site

Mount John’s Valley comprises an area of some 96 hectares and is located to the south east of the existing residential area of Mount John’s. Previous investigations identified a yield of approximately 700 residential allotments.

The location has high visual amenity being located at the base of the Ranges.

Property values in the existing Mount John’s suburb are the second highest in Alice Springs, with a median price for a unit or townhouse type of dwelling nearing $650,00017.

The land is not constrained by topography and does not contain any known sacred sites.

12.5.2 Services

Sewer

The existing sewer along Stephens Road has capacity for the estimated population of 2640.

Water

A DN300/375 link is required between the end of the existing DN300 main on Stephens Road and DN600 main on the golf course near the end of Eagle Court. Normal reticulation will be required through the subdivision area. Depending on the reticulation layout, land will be able to be serviced up to a height of between 605 and 610m AHD.

12.5.3 Traffic Considerations

The incremental development of Mount John’s Valley will continue to result in an increase in traffic on Stephens Road and future development could result in an additional 6000 vpd using this road. The intersection of Stephens Road and South Terrace does not include channelised treatments and such an upgrade (or similar) is warranted to meet appropriate safety standards, particularly if the identified growth is realised. An alternative traffic route which provides a link to Sadadeen Road warrants further review as it would provide an alternative route for drivers in this area (and Sadadeen South) but would also result in a greater traffic distribution.

12.5.4 Initial Findings

Mount John’s Valley provides a key opportunity to provide additional residential land supply.

It will provide an alternative to the housing product and price points on offer at Kilgariff.

It is not likely to be required for immediate release however should be considered to support a population of 32,000 to 40,000 persons.

---

17 REINT Quarterly reports
Figure 12.6  Mount John's Valley: constraints
12.6 Coolibah Tree Estate – Emily Valley

12.6.1 Description of site

An overview of the land is outlined as follows.

<table>
<thead>
<tr>
<th>Location</th>
<th>South-east of the Gap, off Ragonesi Road</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>187 hectares</td>
</tr>
<tr>
<td>Topography</td>
<td>Relatively flat</td>
</tr>
<tr>
<td>Sacred Sites</td>
<td>Known sites exist in the central portion of the land.</td>
</tr>
<tr>
<td>Native Title</td>
<td>No</td>
</tr>
<tr>
<td>Notional Yield</td>
<td>264 lots for residential purposes</td>
</tr>
<tr>
<td>Existing key services in the vicinity of the site</td>
<td>Alice Spring Steiner School</td>
</tr>
</tbody>
</table>

12.6.2 Approved Subdivision

Planning approval for the subdivision of Lot 1729 and portion of Lot 9913 for residential purposes was granted in 2005, then further extended in 2014.

A total of 264 residential lots have been approved and are being marketed for sale.

The design and layout of the subdivision is shown on figure 12.6.

12.6.3 Services

Sewer

The land is not currently serviced by sewer. There is a small Sewer Pump Station that services the Palm Circuit area. There is no spare capacity in the pump station.

A design exists for a new sewer pump station to allow for the original Coolibah Tree Estate approval together with some additional load from surrounding areas.

Water

Significant infrastructure upgrades are required.

12.6.4 Initial Findings

Based on the approved subdivision and having regard to the boundary of the Rural Residential Zone, some additional 95 hectares of land remain potentially available for further development, subject to further investigations and infrastructure upgrades.
Figure 12.6  Coolibah Tree Estate: constraints
12.7 Arumbera

12.7.1 Description of site

An overview of the land is outlined as follows.

<table>
<thead>
<tr>
<th>Location</th>
<th>South of the Gap, west of the railway line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>713 hectares</td>
</tr>
<tr>
<td>Topography</td>
<td>Relatively flat</td>
</tr>
<tr>
<td></td>
<td>Located between Ranges</td>
</tr>
<tr>
<td>Sacred Sites</td>
<td>Three known sacred sites</td>
</tr>
<tr>
<td>Native Titles</td>
<td>The eastern portion of the site is subject to Native Title.</td>
</tr>
<tr>
<td>Notional Yield</td>
<td>Overall 305.5ha</td>
</tr>
<tr>
<td></td>
<td>Light Industrial: 97ha</td>
</tr>
<tr>
<td></td>
<td>General Industrial: 140ha</td>
</tr>
<tr>
<td></td>
<td>Railway Spur: 28ha</td>
</tr>
<tr>
<td></td>
<td>Community Use: 40.5ha</td>
</tr>
<tr>
<td>Existing uses</td>
<td>Motorcycle club and shooting complex</td>
</tr>
<tr>
<td></td>
<td>Two community living areas (Anthepe and Karnte) also exist in the eastern portion of the land.</td>
</tr>
<tr>
<td>Existing services in the vicinity of the site</td>
<td>Yirara College</td>
</tr>
<tr>
<td></td>
<td>Proximity to the Alice Springs Airport.</td>
</tr>
<tr>
<td></td>
<td>The railway line is parallel to the eastern edge of the land.</td>
</tr>
</tbody>
</table>
Figure 12.7  Arumbera: constraints
12.7.2 Area Plan

An Area Plan for the land has been prepared and integrated in the NT Planning Scheme (refer Figure 12.8).

The area has been identified for future industrial use. Further planning is required to prepare development concepts including a detailed road layout and drainage network in response to any cultural constraints.

Figure 12.8 Arumbera Area Plan
The Area Plan encourages the development of the land as a “future major employment area” and includes the potential creation of intermodal facilities.

Although it supports industrial uses for a majority of the site, it also integrates:

- residential uses along the railway line, hence the retention of the existing Community Living Areas; and
- the retention of existing recreation uses to the west.

As stated in the Area Plan, future investigations will need to address drainage and soil erosion potential issues.

Any development will also need to be supported by preliminary investigations especially in regard to separation distances and buffer requirements (noise, odours, dust etc), depending on the type of industry.

Consultation will need to be undertaken to address necessary buffers to sacred sites and interface with and/or improvement to the existing Community Living Areas.

12.7.3 Required services

Ilparpa Road needs to be upgraded to cater for commercial vehicles and the intersection of Ilparpa Road and the Stuart Highway would also require a significant upgrade to safety cater for the turning movements of large vehicles.

In addition, consideration will need to be given to the increase of traffic using Heavitree Gap, and whether this section of the Stuart Highway requires upgrading.

12.7.4 Initial Findings

With only 8ha of vacant Industrial zoned land available in Alice Springs, Arumbera represents a key opportunity to accommodate future industrial development.

However this opportunity should be considered having regard to the availability of the Brewer Estate and the Airport land both also located south of the Gap.

It is unlikely both Arumbera and Brewer would be required to service a 40,000 population, however both represent good long term land use options for industrial use.
12.8 Brewer Estate

12.8.1 Description of site

An overview of the land is outlined as follows.

<table>
<thead>
<tr>
<th>Location</th>
<th>South of Alice Springs, west of the Stuart Highway, Within the MacDonnell Council Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>876 hectares</td>
</tr>
<tr>
<td>Topography</td>
<td>Flat</td>
</tr>
<tr>
<td>Sacred Sites</td>
<td>n/a</td>
</tr>
<tr>
<td>Native Titles</td>
<td>n/a</td>
</tr>
<tr>
<td>Notional Yield</td>
<td>25 new lots for industry</td>
</tr>
<tr>
<td>Existing uses</td>
<td>Santos, EDL CNG, Central Energy Australia, Central Petroleum, SDA Properties, ASMR operate on site</td>
</tr>
<tr>
<td>Existing key services in the vicinity of the site</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Access to the site is via the existing Brewer Road which connects to the Stuart Highway.

The site incorporates the new Owen Springs power station, on land owned by PWC.

Santos, EDL CNG, Central Energy Australia, Central Petroleum, SDA Properties and ASMR are also owners of some existing allotments.

The land owned by the NT Government, which is estimated between 350 and 400 hectares, is proposed to be subdivided into a total of 25 allotments of sizes ranging from approximately 7 hectares to 30 hectares.

12.8.3 Initial Findings

A substantial portion of the estate remains undeveloped and the surrounding land offers the potential for future expansion should demand arise. The land is remote from conflicting uses and is well located relative to the rail.

Figure 12.9 Brewer Estate: key features
12.9 Kilgariff

An overview of the land is outlined as follows.

12.9.1 Description of site

| Location | South of Alice Springs and east of the Stuart Highway. Adjacent to the Alice Springs Airport |
| Area | 209 hectares |
| Topography | Flat |
| Sacred Sites | n/a |
| Native Titles | Native titles have been extinguished on the whole of the land |
| Notional Yield | 1,776 lots overall  
North-West precinct: 873  
North-East precinct: 903  
Yield rounded up to 1,800 |
| Existing key services in the vicinity of the site | Alice Springs Airport |

For this purpose, as shown on the Area Plan, the land use structure is organised around compact neighbourhoods, with higher residential densities located in areas of high amenity close to neighbourhood centres and public transport stops.

Other development guidelines mainly relate to landform, drainage and heritage characteristics.

Retention basins are required to facilitate development of the land with future expansion of the basins also likely.

Planning approval to create a total of 80 lots in two stages for the future development of Kilgariff was granted in 2013.

The Land Development Corporation has since undertaken development of Stage 1A. Housing construction is underway with the first dwelling completed in August 2015 and several more dwellings substantially commenced. Headworks have been installed which will cater for further stages. Stage 1B subdivision works (for 42 lots) are under construction with completion scheduled by early 2016.

12.9.2 Area Plan

The AZRI site (Kilgariff) has been introduced to the Planning Scheme with an area plan (refer Figure 12.10).

The southern portion of the Area Plan is contained within the Airport land (leased from the Commonwealth).

The Area Plan seeks to encourage sustainable and compact neighbourhoods and promote walkability by planning neighbourhood level centres which should include an adequate provision of retail and commercial services.

The Area Plan seeks to encourage sustainable and compact neighbourhoods and promote walkability by planning neighbourhood level centres which should include an adequate provision of retail and commercial services.

For this purpose, as shown on the Area Plan, the land use structure is organised around compact neighbourhoods, with higher residential densities located in areas of high amenity close to neighbourhood centres and public transport stops.

Other development guidelines mainly relate to landform, drainage and heritage characteristics.

Retention basins are required to facilitate development of the land with future expansion of the basins also likely.

Planning approval to create a total of 80 lots in two stages for the future development of Kilgariff was granted in 2013.

The Land Development Corporation has since undertaken development of Stage 1A. Housing construction is underway with the first dwelling completed in August 2015 and several more dwellings substantially commenced. Headworks have been installed which will cater for further stages. Stage 1B subdivision works (for 42 lots) are under construction with completion scheduled by early 2016.

12.9.3 Traffic Considerations

Development of this area will require access via Colonel Rose Drive and trigger the need to upgrade the Stuart Highway/Colonel Rose Drive intersection. Given the residential nature of the land, it is likely that Heavitree Gap could accommodate the generated traffic.

Consideration in respect to the impact of development on the Airport Site is warranted as this will inform the necessary intersection upgrade requirements and whether an alternative access to the Stuart Highway is warranted for these combined development areas.
Figure 12.10 Kilgariff Area Plan
12.9.4 Services

Sewer

The area inscribed by the Stuart Hwy, St Marys Creek and Colonel Rose Drive (approx. 1700EP) is able to be serviced by the existing Kilgariff Sewage Pumping Station (requires additional overflow storage and a backup Genset) and Rising Mains.

Water

A dedicated water supply has been constructed from the Brewer Pump Station to Kilgariff. This supply is suitable up to 300 Lots (1000EP).

12.9.5 Initial Findings

It is anticipated that a significant proportion of new dwellings within Alice Springs are likely to be accommodated in Kilgariff.

Sections 7 and 11 of this report have identified potential opportunities for the development of retail/commercial floor space and a primary school.

These uses are already envisaged in the NT Planning Scheme and Area Plan for Kilgariff which supports the notion of walkable centres in multiple nodes.

Whilst the Plan should encourage walkability in existing and new development areas, the viability of those small centres will need to be ascertained.
12.10 ASAC (Airport)

An overview of the land is outlined as follows.

12.10.1 Description of site

<table>
<thead>
<tr>
<th>Location</th>
<th>The southern portion of the Kilgariff development is contained within the Airport land (leased from the Commonwealth).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>1,215 hectares for development (total area of the ASAC is 3,550 ha)</td>
</tr>
<tr>
<td>Topography</td>
<td>No major topographic issues</td>
</tr>
<tr>
<td>Sacred Sites</td>
<td>n/a</td>
</tr>
<tr>
<td>Native Titles</td>
<td>n/a</td>
</tr>
<tr>
<td>Notional Yield</td>
<td>4,100 lots</td>
</tr>
<tr>
<td></td>
<td>Single dwellings (800m²): 2,500</td>
</tr>
<tr>
<td></td>
<td>Multi dwellings (300m²): 1,000</td>
</tr>
<tr>
<td></td>
<td>Medium Density (200m²): 600</td>
</tr>
</tbody>
</table>
Figure 12.11  ASAC: constraints
Proposed Land Uses

The Alice Springs Airport has issued a Draft Preliminary Master Plan for the development of land under its lease. This 20 year Master Plan provides a 2035 development concept for the 3,550 hectare airport site, with a mix of aeronautical, residential, commercial and industrial uses.

While the 2015 Master Plan is generally consistent with previous Master Plans, the changes that have been made largely reflect:

- the modest growth projections of aviation activity;
- the evolving airport business, the needs of business partners and impact on the community;
- the potential to diversify airport income by expanding the property portfolio;
- the opportunity to improve the airport’s contribution to Northern Territory (NT) economic growth through developing the airport’s aviation and property business and by facilitating the success of our business partners; and
- the need to integrate environmental considerations into the development of facilities and services and seek to minimise their impact on the natural environment.

The Master Plan (refer Figure 12.12) envisages a mix of uses including residential, commercial, industrial and primary production, along with the air, road and other transport-based industries:

- residential uses are identified on the Master Plan north of the airport, with the creation of a Future Development Zone;
- 1,930 hectares of the Airport land are available for commercial uses (offices, showrooms, warehousing, large format and speciality retail, hotel and other short-stay accommodation, and cafes);
- horticulture;
- high technology industry, especially those industries relevant to Alice Springs as a solar city;
- industries that rely on logistical support (e.g. mining); and
- air, road, and other transport-based industries.
Figure 12.12  Airport Master Plan

Note:
The Stuart Highway, Roger Vale Drive and Santa Teresa Road are Northern Territory Government roads.
Crown Land and ASA

The residential land (identified as Future Development Zone in the Airport Master Plan) will need to be excised from the ASA lease under the Airports Act 1996 and converted to freehold tenure.

This process is anticipated to commence within 3 years. Ultimately the land which is to be excised will no longer be a Crown lease and will be an arrangement between the Northern Territory Government and NT Airports Corporation.

Justification and opportunities for residential development

Whilst residential developments are normally considered to be sensitive when adjoining an airport, the Master Plan states that “exceptional circumstances were demonstrated in 2009” to support residential development on the site given:

- The shortage of reasonably priced residential land and widespread support expressed for including the nominated ASA land into the suburb of Kilgariff.
- The Northern Territory Government agreed to integrated planning of the Crown land and ASA land components of Kilgariff.
- Anticipated planning features of the ASA component of Kilgariff included:
  - a buffer of at least one kilometre between housing and both the airport terminal and main runway to minimise aircraft noise impact on future residents and residential development well outside the 2049 20 ANEF contour — open space buffers between residential and the Stuart Highway and existing rural residential development
  - water sensitive urban design (WSUD) principles will be incorporated and natural water courses preserved as much as possible
  - transport links will include cycle/pedestrian corridors
  - planned commercial and community facilities.

It was also demonstrated that planning issues such as separation distances, assessment of aircraft noise impact, implementation of WSUD and sustainable transport solutions, could be resolved without impacting on long term aviation operations.

12.10.3 Traffic Considerations

Redevelopment of the entire nominated airport area could result in significant traffic volumes. While it is anticipated that this will take some time to realise, the length of leases for development on airport land means that planning of the road network and access is critical to enable best practice to be applied for future development. The single airport access will not be adequate to service the needs of the airport and future development in this area and consideration will need to be given to separating the different types of transport uses.

Consideration will also need to be given to the operation and design of the Stuart Highway/Santa Teresa Road intersection and whether there are any safety implications at this location as a result of future development at the airport.
Further, significant additional volumes would escalate the need to review the design of the Stuart Highway through Heavitree Gap, given the width and clearance constraints at this location.

12.10.4 Initial Findings

The Airport is a valuable site in terms of future potential land supply. The land is relatively unconstrained, having regard to topography and known cultural heritage issues.

Its potential for industrial development should be further assessed in the light of other options for industrial sites (i.e. Arumbera, Brewer Estate).

Once the non-aviation land becomes freehold it would be logical for the land to be zoned Future Development.

12.11 Capacity Analysis

Based on the existing occupancy rate, a population of 32,000 would trigger additional demand for approximately 1,382 dwellings, and a population of 40,000 would trigger demand for approximately 4,360 new dwellings.

Considering the existing dwelling structure in Alice Springs (ABS Census 2011 and Fyfe), the following breakdown can be applied to this forecast housing demand.

<table>
<thead>
<tr>
<th>Table 12.1</th>
<th>Potential Dwelling Type Mix</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Additional Dwellings</strong></td>
<td><strong>Population threshold of 32,000</strong></td>
</tr>
<tr>
<td>SD</td>
<td>770</td>
</tr>
<tr>
<td>MD</td>
<td>384</td>
</tr>
<tr>
<td>Rural</td>
<td>80</td>
</tr>
<tr>
<td>Other</td>
<td>48</td>
</tr>
<tr>
<td><strong>Total additional dwellings</strong></td>
<td><strong>1,282</strong></td>
</tr>
</tbody>
</table>

This does not take into account the 1,271 dwellings which were unoccupied at the time of the 2011 Census.

It is generally anticipated that the substantial majority of multiple/higher density dwellings will be accommodated in the CBD, where the recent amendments to the NT Planning Scheme will support such developments. In addition, consideration could be given to accommodating such dwelling types within existing local centres.

It has also previously been identified that the existing Rural Residential Zone could accommodate a further 25 rural residential allotments (in addition to the approved dwellings within the Coolibah Tree Estate). The Alice Springs Regional Land Use Plan should therefore look at providing land with a capacity for a further 245 rural residential/living allotments, should this form of lifestyle and housing choice continue to be encouraged.
As shown in Table 12.2 below, based on minimum lot sizes and a notional future demand of 245 lots, approximately 120 hectares of land would be required for Rural Residential and approximately 600 hectares of land allocated to rural living.

Table 12.2  Potential Dwelling Type Mix

<table>
<thead>
<tr>
<th></th>
<th>Rural Residential</th>
<th>Rural Living</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum lot size</td>
<td>0.4 ha</td>
<td>2 ha</td>
</tr>
<tr>
<td>Land equivalent for 245 allotments</td>
<td>98 ha</td>
<td>490 ha</td>
</tr>
<tr>
<td>Total estimated required land (includes provision for roads and services)</td>
<td>118ha</td>
<td>590ha</td>
</tr>
</tbody>
</table>

Approximately 80% of the balance of future residential demand to support a population of 40,000 persons may be accommodated within the existing growth areas, with more than half potentially accommodated in Kilgariff. Given that a population of 40,000 is unlikely to be achieved for at least the next decade, there is no particular urgency to identify additional land.

The southern portion of the FD Zone contained within the Airport land will also represent a future potential supply of residential land.

Options for future rural living/residential land were identified in Section 7.7 (refer Figure 7.8) which could accommodate the forecast demand within or out of the township.

As for single dwelling types, Table 12.3 below provides a summary of accepted notional yields for all other dwelling types, in other identified future residential areas.

Table 12.3:  Summary of Potential Residential Yields

<table>
<thead>
<tr>
<th>Growth Area</th>
<th>Potential Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kilgariff</td>
<td>1,800</td>
</tr>
<tr>
<td>Larapinta</td>
<td>300</td>
</tr>
<tr>
<td>Sadadeen South</td>
<td>158</td>
</tr>
<tr>
<td>Mount John’s</td>
<td>700</td>
</tr>
<tr>
<td>Coolibah Tree Estate</td>
<td>264</td>
</tr>
<tr>
<td>Total</td>
<td>3,222</td>
</tr>
</tbody>
</table>
13. Key Influencing Factors
13. Key Influencing Factors

13.1 Population

13.1.1 Overall Population

Key Trends:

- The population decline experienced between 2001 and 2006 was partially addressed between 2006 and 2011, with a 5% increase over this census period;
- The current Estimated Resident Population (ERP) of 28,667 indicates that population has continued to increase since the 2011 Census; and
- Between 2001 and 2011, the indigenous population increased by 10.3% whilst the non-indigenous population declined by 11.6%.

Key Considerations:

- Ensuring residential land supply;
- Ensuring employment (industrial) land supply; and
- Provision of temporary housing and human services for the indigenous population.

13.1.2 Age Profile

Key Trend:

- Between 2001 and 2011 there was a decline in the number of persons aged 0-44 with an increase in the number of persons aged 45 plus;
- The median age of the population has increased from 32 in 2001 to 33 in 2011.

Key Implications:

- Housing form which suits a variety of lifestyle stages.

13.1.3 Population Projections

Key Trends:

- Treasury predicted population growth of 1.8% per annum for the broader Alice Springs region between 2011 and 2016, reducing to 1.5% per annum for the period 2021 to 2026; and
- The non-indigenous population is projected to grow at a faster rate than the indigenous population.

Key Considerations:

- Additional land supply and infrastructure for housing, employment (industry) and human services to support future population growth.

13.2 Economic Drivers

13.2.1 Economic Sectors

Key Trends:

- Alice Springs acts as a regional centre and the economy is based on a range of sectors including defence, tourism, mining, construction, agriculture, transport, and health.

Key Considerations:

- It is not expected that new economic drivers will emerge, however health, mining and tourism are forecast to grow, with a number of projects that the NT Government has already confirmed or identified; and
• New land releases will also trigger additional growth, including construction and necessary head works.

13.2.2 Employment

Key Trends:
• The unemployment rate is relatively low (2.6%), and declined between the 2001 and 2011 Census; and
• The number and proportion of jobs in retail, property services and transport/warehousing are declining, whilst the number and proportion of jobs in public administration, defence and the health sector are rapidly growing.

Key Considerations:
• By 2021, the Department of the Chief Minister is forecasting growth in Professionals and Clerical/administrative professions;
• The number of Labourers and Sales Workers, on the other hand, is predicted to decline; and
• Potential demand for commercial office space

13.3 Households

13.3.1 Dwelling and Household Type

Key Trends:
• Single dwellings continue to be the dominant housing form in Alice Springs; and
• Lone person households continue to represent more than a quarter of households.

Key Considerations:
• Need to plan for additional residential land to accommodate single dwellings; and
• Need to match housing stock with household type.

13.4 Residential Land Supply

13.4.1 Conventional Residential Land Supply and Demand

Key Trends:
• Dwelling approvals averaged 44 per year over last 5 years, albeit the long terms trend is in the order of 25-30 dwellings per year;
• The majority of new supply is from Crown Land; and
• The majority of future capacity is in Kilgariff.

Key Considerations:
• Facilitate residential development on one or multiple fronts;
• Recognition of market segmentation and the need to provide housing choice;
• The impact of supply constraints on housing affordability;
• Limited infill opportunities exist in the CBD and developed areas;
• Town camps are not a fundamental contributor to land supply; and
• Airport land is not required in current planning period.
13.4.2 Rural Living Supply and Demand

Key Trends:
- Rural living/residential lots represent approximately 6% of the residential supply;
- There is ongoing demand for rural living/residential land; and
- There is currently little opportunity for new release of rural living/residential allotments (need to rezone land)

Key Considerations:
- Potential need to identify new areas for rural living, within or out of township boundaries;
- Potential high costs of rural residential lots (services) as compared to conventional residential; and
- Consider use of land within the Conservation Zone for environmental living

13.4.3 Housing Affordability

Key Trends:
- The growth in median mortgage and rental payments in Alice Springs has by far outstripped the growth in household incomes, indicating a declining level of affordability;
- Median sale prices for residential properties have experienced strong growth over an extended period, albeit this growth has stabilised with some suburbs experiencing a decline in median sale prices in the last 1 to 2 years; and
- The residential market is clearly segmented between suburbs, with sale prices being influenced by a range of factors including the distance to CBD, age and amenity of suburbs.

Key Considerations:
- Housing affordability is a key issue, notwithstanding the recent adjustment in some segments of the housing markets;
- The potential need to establish a mechanism whereby additional affordable housing is delivered to the market; and
- Potential obligations for new land release areas.

13.5 Industrial Land Supply

Key Trends:
- The area of vacant industrial zoned land supply is low and also constrained; and
- The demand for employment lands will increase as population increases and the local economy grows.

Key Considerations:
- Acknowledge the potential implications and demands arising from potential mining/pipeline projects; and
- Potential need for employment land south of the Gap.
13.6 CBD and Other Activity Centres

Key Trends:

- The primacy of the Alice Springs CBD in respect to retail, commercial and community facilities is evident;
- Alice Springs acts as a regional centre in terms of retail and the provision of community facilities;
- Small local centres are located in the suburbs servicing local catchments;
- A gap area exists in Mount John’s Valley; and
- The existing supply of retail floor space seems to be relatively high (3.5 square metres per person, as compared to 2.2 square metres Australia-wide).

Key Considerations:

- Should the CBD be expanded or consolidated?
- Future centre planning in Kilgariff; and
- Consider the future role of the Alice Springs Airport for non-aviation purposes.

13.7 Services

13.7.1 Power Supply

Key Considerations:

- Residential infill and existing developments in the areas of Kilgariff, Larapinta Valley and limited CBD infill are likely to have less impact on the Power Network and lower headworks costs than developments in the Sadadeen, Mount John’s Valley and Undoolya Valley;
- A new industrial land release may require more significant Power Network development depending on the size of development and cannot be assessed at the time; and
- Industrial development in the Brewer Estate is likely to have less impact on the Power Network than other areas.

13.7.2 Water and Sewer

Key Trends:

- The existing borefield is considered a non-renewable water resource; and
- Very few areas south of the Gap are connected to reticulated sewer, and the few areas that are connected to sewer are connected by small Sewage Pump Stations with long rising mains.

Key Considerations:

- Due to topographic constraints, most sites will need to be serviced by sewage pump stations;
- New water resources are likely to be required in the future, with a new borefield south of the Gap;
- Major upgrades and new investments will be required south of the Gap should development occur; and
- Master plans for both water and sewerage servicing will be required for each site identified for development.