Research Report

Analysis of Short-Term Worker Accommodation Needs

March 2023

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Dubbo Regional Council	DRC
Local Government Area	LGA
Renewable Energy Zone	REZ
Designated Area Migration Agreement	DAMA
Regional Development Australia	RDA
Urban Areas Development Strategy	UADS
Rural Areas Development Strategy	RADS

Acknowledgement of Country

Delos Delta would like to acknowledge the Ngunnawal, Boon Wurrung and Wurundjeri Peoples who are the traditional custodians of the land on which we work. We would like to express our respect for their Elders past and present.

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1. Introduction

Understanding the nature, demand, and opportunities for short-term worker accommodation is important to ensuring policy and planning responses adequately address potential implications on regional centres.

Dubbo Regional Council (Council) intends to analyse its short-term worker accommodation needs. The need to do this is based on:

- The requirements of local employers currently and into the future, such as Central West and Orana Renewable Energy Zone (REZ), Critical Minerals Hub and others in health, government and industry
- Community engagement insights gained during development of the 2040 Community Strategic Plan, which consistently identified accommodation availability as a challenge in attracting workers to the region, especially across Dubbo and Wellington.

1.1 Project Scope

Council has partnered with Delos Delta to understand the dynamics of short-term worker accommodation in the region and explore possible solutions. The objectives of this project include to:

- Analyse short term accommodation needs in the Local Government Area (LGA)
- Understand industry stakeholders' accommodation needs and insights
- Provide a suite of recommendations regarding short-term worker accommodation in Dubbo and Wellington
- Consider the wider need for accommodation models from an investment attraction perspective, including such models that provide a positive lasting legacy

For the purposes of this project, short-term worker accommodation refers to accommodation available for workers and their dependents to use in the Dubbo region for a short time frame (3 – 12 months), with minimal intention of settling permanently in the LGA. This definition excludes emergency/crisis accommodation.

This Research Report provides a contextual overview within which the project sits. A needs and shortfall analysis follows, as well as insights from stakeholder engagement to understand the scope of the problem in the Dubbo LGA context. These findings have informed recommendations and their phasing, which will be highlighted at the end of this Report.

2. Regional Context

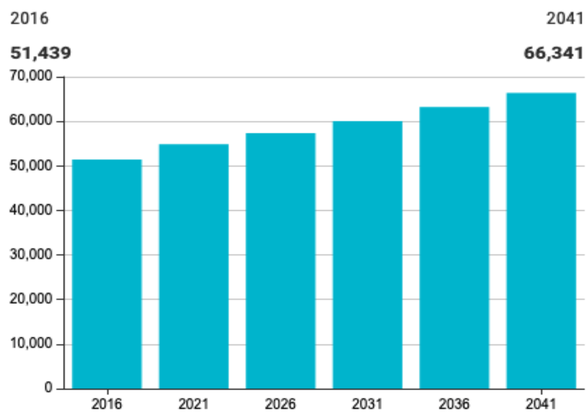
Dubbo Regional LGA is situated in central NSW. It forms part of the Orana Region, which covers the central and north-western areas of NSW. This report will focus on the key localities of the LGA, Dubbo and Wellington, and the surrounding villages of Eumungerie, Wongarbon, Geurie, Stuart Town, Mumbil, and Elong Elong.

ORANA REGION IN NEW SOUTH WALES[1]

2.1 Population

Dubbo Regional LGA's population is expected to grow from 54,195 in 2021 to 66,341 in 2041, which equates to a projected growth rate of approximately 1.02% per year (Graph 1). The area within Dubbo which is forecast to experience the largest increase is South East Dubbo, which is expected to represent 38.96% of Dubbo's total population growth in this time.

GRAPH 1. DUBBO REGIONAL LOCAL GOVERNMENT AREA POPULATION FORECAST TO 2041[2]



[1] RDA Orana, 2019: https://www.rdaorana.org.au/about-us/#:~:text=RDA%20Orana%20is%20an%20incorporated,to%20local%20priorities%20and%20needs.

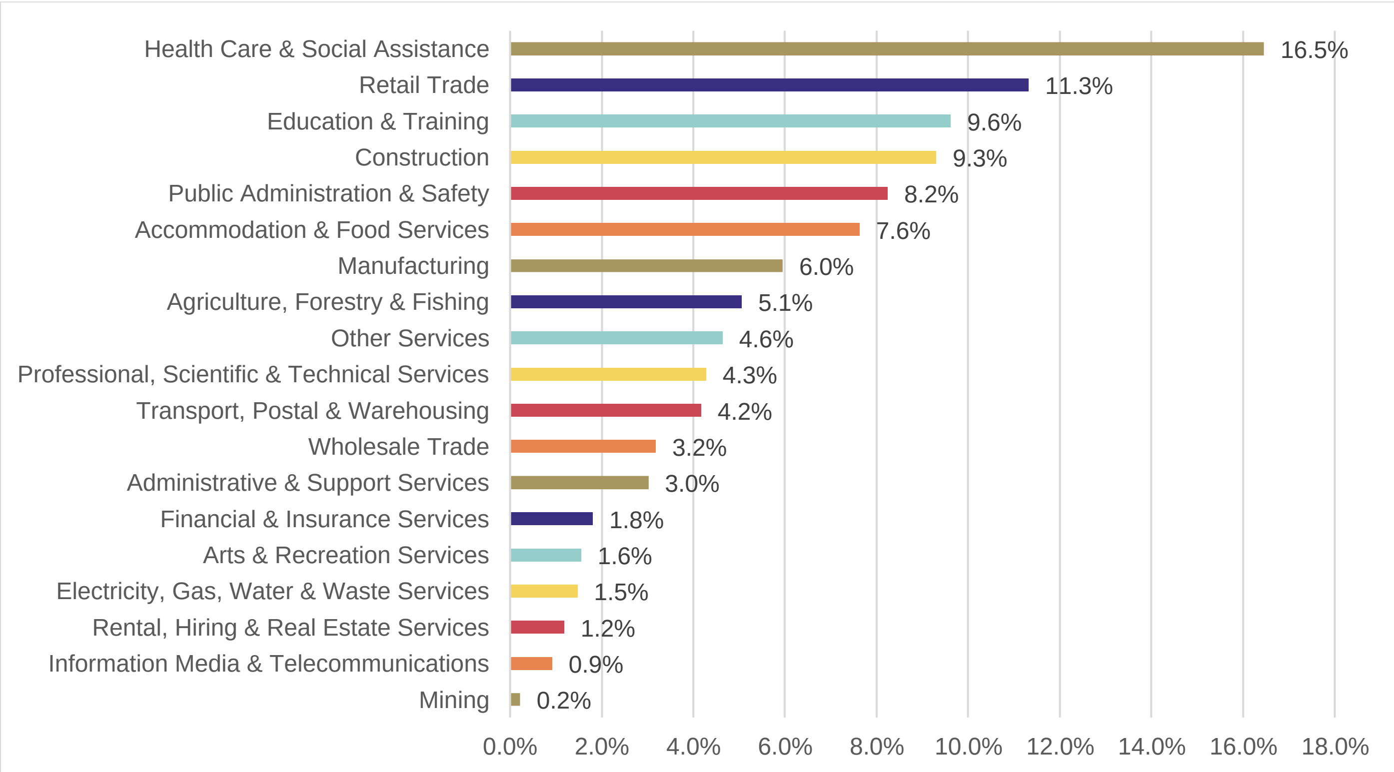
[2] Remplan, 2022: https://app.remplan.com.au/dubboregionalcouncil/economy/summary?state=MLy4F4X2dI5mGNzsMNdkAltEHwHVwB

Dubbo is the largest locality in the region, with a population of 43,516, while Wellington has a population of 4,096 (Remplan, 2022). In 2021, 37 was the median age in the LGA, compared to 38 years in 2016.

2.2 Economy and Labour Force

The Dubbo Regional economy is driven by a labour force of 22,957. The largest employer in the region is health care and social assistance, making up 16.5% of jobs in the LGA (Graph 2).

GRAPH 2. ECONOMIC SECTORS RANKED BY PERCENTAGE OF JOBS IN DUBBO LGA[3]



Of note to this project is the combined 38.5% of jobs in the Dubbo region supported by sectors for which short-term accommodation would be particularly impactful:

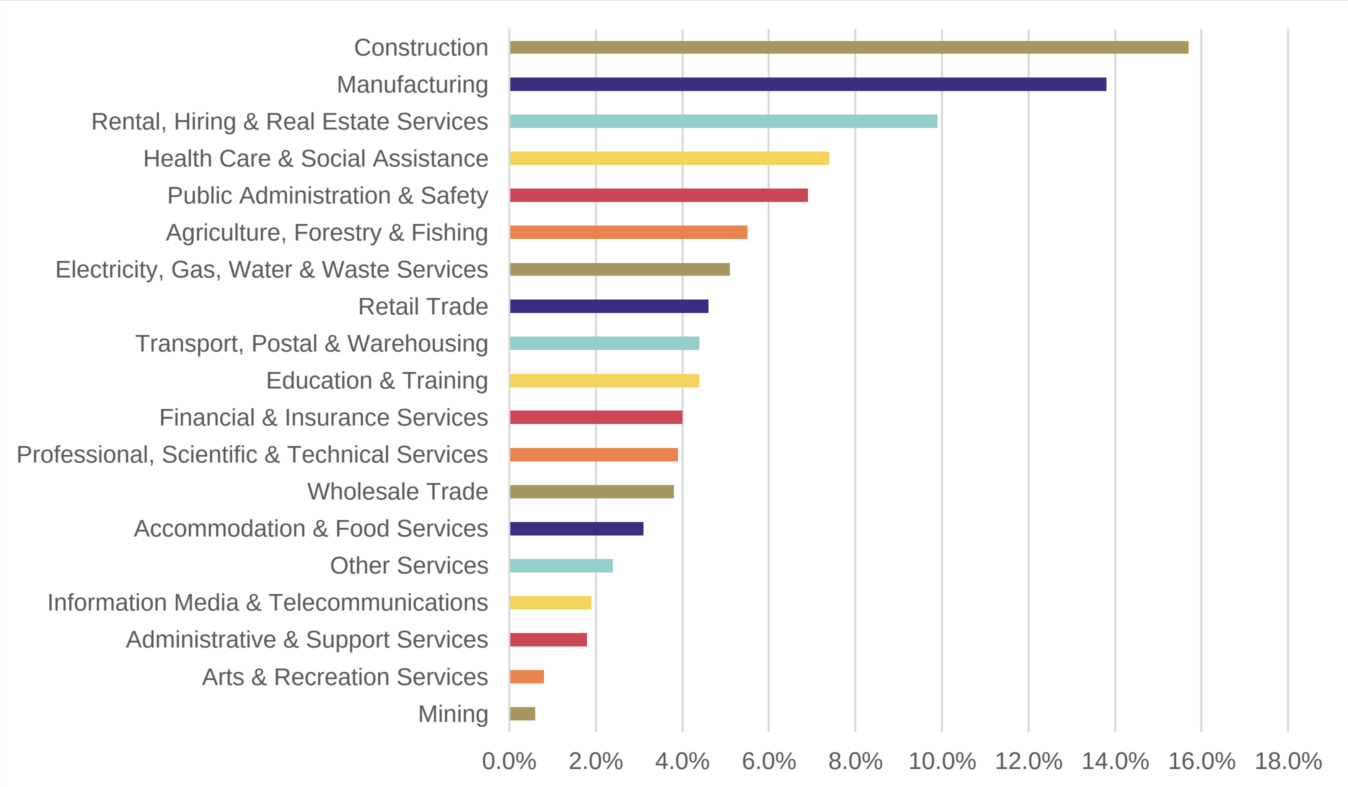
- Health Care & Social Assistance (e.g. at Dubbo Base Hospital, primary hospital for the Far West)
- Manufacturing
- Electricity, Gas, Water & Waste Services (for example through projects comprising the Central West and Orana Regional Energy Zone)
- Construction (e.g. Inland Rail at Narromine)
- Agriculture, Forestry and Fishing
- Mining (for example through the Critical Minerals Hub, including Australian Strategic Minerals project at Toongi)

[3] Remplan, 2022: https://app.remplan.com.au/dubboregionalcouncil/economy/summary?state=MLy4F4X2dI5mGNzsMNdkAltEHwHVwB

The unemployment rate for the Dubbo LGA as of March 2022 was 2.9%, substantially below the NSW rate of 4.0%, indicating strong employment demand across the region.

The Dubbo LGA has a Gross Regional Product (GRP) of $3.79 billion, representing 0.6% of the NSW Gross State Product (GSP).

GRAPH 3. ECONOMIC SECTORS RANKED BY PERCENTAGE OF DUBBO GRP CONTRIBUTED[4]



Of the 6 economic sectors identified above as most likely to be impacted by the need for short-term worker accommodation, 5 are within the 7 largest contributors to Dubbo's GRP. This indicates that the expansion of local short-term accommodation is essential to maintaining and growing the Dubbo economy now and into the future.

2.3 Housing

The following observations have been made regarding housing in Dubbo Regional LGA.

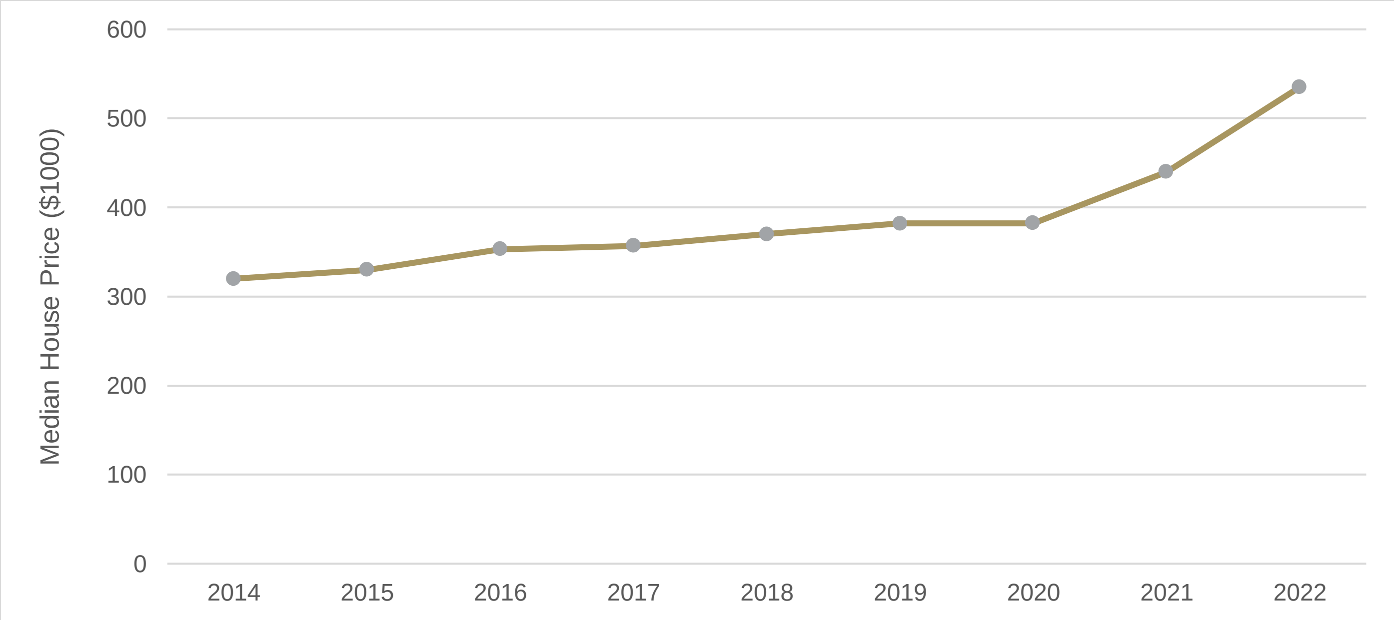
2.3.1 Supply and Demand

Land release for residential development is focussed in Dubbo's North West, West and South East, as initially outlined in the *Residential Areas Development Strategy* (1996) and enacted through later project documents such as *South-East Dubbo Residential Urban Release Area Stage 1 Structure Plan* (2016).

[4] Remplan, 2022: https://app.remplan.com.au/dubboregionalcouncil/economy/summary?state=MLy4F4X2dl5mGNzsMNdkAltEHwHVwB

As demonstrated in Graph 4, Dubbo has experienced a significant increase in median house price (44.5%) in the period 2018-2022.

GRAPH 4. MEDIAN HOUSE PRICES IN DUBBO 2018-2022 (CORELOGIC, 2022)



Rental prices have followed a similar trajectory, demonstrating the growing demand for accommodation in the region. This trend is demonstrated in Table 1 below.

TABLE 1 RENT INCREASES PER DWELLING TYPE IN DUBBO BETWEEN 2011 AND 2022 (PRD NATIONWIDE RESEARCH, 2011; HTAG ANALYTICS, 2022)

Dwelling	2 Bedroom	3 Bedroom
2011 Median Weekly Rent	$170	$260
2022 Median Weekly Rent	$324	$378
$ Increase	$154	$118
% Change	90.5%	45.4 %

2.3.2 Vacancy Rates

Dubbo has a rental vacancy rate of 0.5%, indicating significant rental demand and limited supply. The vacancy rates of Central West and Regional NSW were 1.30% and 1.33% respectively for June 2022 (REINSW, 2022).

3. Strategic Context

Understanding the strategic context of a regional area is critical to any policy analysis and recommendations. A brief summary of the regional and local context is below.

3.1 Regional Context

Important context for the wider region surrounding the LGA includes:

3.1.1 Central West and Orana Regional Plan

The NSW Government has developed the Central West and Orana Regional Plan as a 20-year land-use blueprint to support a prosperous future for the region, of which Dubbo Regional LGA is a core part. The Plan outlines objectives, and subsequent strategies that provide guidance for councils in preparing local strategic plans, project plans, and planning proposals, as well as setting direction for state agencies to support the objectives of the Plan.

Objective 10 of the Plan is to provide accommodation options for temporary workers, recognising that the area experiences high demand for short-term accommodation due to large scale infrastructure, renewable energy and mining projects, as well as seasonal agricultural employment. Under this objective, Councils are guided to prepare local housing strategies and local plans which enable safe, secure, quality and well-located housing for temporary workers.

3.1.2 Regional Development Australia Orana

Regional Development Australia (RDA) Orana aims to support economic development of the Orana Region by:

- Facilitating industry collaboration
- Encouraging public and private investment
- Supporting cooperation between all stakeholders.

This is achieved by building partnerships and working with all relevant governments and agencies to respond to local priorities and needs.

ORANA REGION DESIGNATED AREA MIGRATION AGREEMENT

RDA Orana and the Australian Government have reached agreement on the *Orana Region Designated Area Migration Agreement* (DAMA). The Orana DAMA is an-employer sponsored visa program to provide employers a tool to sponsor skilled overseas workers in specified industries in the region that are currently experiencing critical skill and labour shortages. The occupations list sets out eligible occupations for sponsorship in the area. These occupations are mainly in the health and social assistance, agricultural, and professional services sectors.

3.1.3 Central West Orana Renewable Energy Zone

The Central West Orana Renewable Energy Zone (REZ) will be the first in NSW and covers 20,000 square kilometres, including Dubbo and Wellington. Some key points include:

- By 2030, it is expected to provide at least 3000 megawatts of cheap, reliable electricity, enough to power 1.4 million homes and drive $5.2 billion in private investment into the Central West.
- The REZ is expected to support around 3,900 peak construction jobs and 500 ongoing positions in the Central West Region.

EnergyCo NSW will act as Infrastructure Planner to assess and recommend REZ network infrastructure projects that best suit each community's needs. One of the first phases of the REZ development will be transmission corridor upgrades, set to begin in 2023.

3.2 Local Context

The Dubbo Regional LGA local context is important to consider. This section will outline the strategic underpinnings for development and growth in the LGA that may influence the supply and demand for housing, and short-term worker accommodation.

The *Community Strategic Plan* (CSP) is the highest-level strategy that will guide and influence the direction of Council, the community and other levels of Government over the coming years. A major theme of the CSP is housing with the following objectives pertaining to housing, including short-term accommodation:

- Housing meets the current and future needs of our community
- An adequate supply of land is located close to community services and facilities
- Short-term and emergency accommodation is available

3.2.1 Land Use Planning

The *Urban Areas Development Strategy* (UADS) and the *Rural Areas Development Strategy* (RADS) were adopted in 1996 and reviewed in 2007. These form the basis for land use zoning and planning controls in the *Dubbo Regional Local Environmental Plan 2022* (LEP).

The mechanisms and controls to ensure orderly residential development is outlined in the Residential Release Strategies that guide the provision, timing, and level of residential development in the Urban Release Areas identified in the west and the southeast of the City.

The UADS outlines the economic basis for a coordinated and logical evolution of urban development to the west, and southeast of the City, where new development will 'balance' the predominant easterly spread of Dubbo.

3.2.2 Economic Development

The *Economic Development Strategy* outlines the strategic themes that have been identified as the 10 Steps to Dubbo's Economic Success:

- Infrastructure development
- Tourism destination development
- Agricultural sustainability and diversification
- Workforce and skills development
- Marketing and investment attraction
- Mining and mining services
- Transport and distribution
- The region’s service centre
- Advocacy and leadership
- Business and industry expansion

3.2.3 Dubbo Mining Areas Land Use Strategy

The *Dubbo Mining Areas Land Use Strategy 2015* promotes growth in the mining and mining technology/services industry. It aims to ensure the impacts of mining are adequately managed to maintain the unique quality of life residents enjoy and the environmental values of the LGA.

Strategy Two of the overall document notes the importance of ensuring the housing needs of the Dubbo community are met, acknowledging that housing is a significant issue Council and the mining industry must carefully consider. Outcome 2.6 states that mining accommodation should be integrated into existing residential areas and provides for ongoing sustainable permanent infrastructure.

Other relevant Strategies and their key features are noted in the table below:

Document	Strategic Directions
CBD Precincts Plan	▶ Provides the strategic direction for Dubbo's Centre ▶ Aims to encourage increased activity through placemaking and development in the City Centre that will encourage economic development and build a stronger business environment within the commercial centre
Smart City Strategy	▶ Seeks to develop Dubbo in an innovative, liveable, and sustainable manner ▶ Embraces technology in town planning
Health, Education and Wellbeing Precinct Master Plan	▶ Partnership between DRC, Charles Sturt University, the Western NSW Local Health District and Department of Planning, Industry and Environment
Wellington Town Centre Plan	▶ Provides a strategic framework to re-vitalise the Town Centre and establish a vision for its future ▶ The key aim of the Plan is to create a safe, attractive and vibrant Town Centre for the future
Dubbo Transportation Strategy	▶ This Strategy provides a blueprint to resolving current transport issues in Dubbo, and maintain quality of life accounting for the growth in the region
Wellington Settlement Strategy	▶ Sets the strategic direction for planning in Wellington

4. Needs Analysis

Whilst a detailed quantitative supply/demand analysis of short-term worker accommodation and the broader Dubbo housing market exceed the scope of this project, the following forces have been assessed.

4.1 Supply

The current supply of accommodation in the Dubbo region is outlined below.

4.1.1 Dedicated Short-term Accommodation

Current short-term accommodation options in Dubbo primarily consist of motels, hotels, motor inns and cabins across the region. As of March 2022, there are 55 such venues across the LGA, offering a combined total of 1526 rooms and a capacity of 5684 occupants.

55	1526	5684
Motels, hotels, motor inns and caravan park proprietors	Total number of bookable rooms/lots/cabins available	Maximum capacity of all venues

Average occupancy of short-term accommodation in Dubbo is 75%, though this fluctuates throughout the year and periodically peaks at around 85-95% occupancy. That the region semi-regularly approaches near-complete short-term accommodation occupancy demonstrates the supply challenges it could face when projects such as the REZ, Critical Minerals Hub and Inland Rail cause worker populations to swell.

75%	85-90%	381
Average short-term accommodation room/lot occupancy in DRC	Peak occupancy levels for Dubbo short-term accommodation	Average number of rooms/lots available per night throughout the year

4.1.2 AirBnB Supply

Council may note that accommodation supply in Dubbo through Airbnb and other online rental-brokering platforms has grown in recent years.

Short-Term Rental Data Analytics platform AirDNA estimates there are approximately 150 dwellings available for short-term rent on these platforms in Dubbo LGA[5]. Using ABS figures for average people per dwelling in Dubbo (2.5), at full occupancy these dwellings could house an additional 360 short-term visitors to the region[6]. However, the availability of Airbnb accommodation is highly volatile (i.e. while motels are permanent, Airbnb properties can be withdrawn from the market at any time). Additionally, its scope and availability is not easily controlled by Council.

[5] AirDNA, 2022: https://www.airdna.co/vacation-rental-data/app/au/new-south-wales/dubbo-regional-council/overview

[6] ABS, 2022: https://abs.gov.au/census/find-census-data/quickstats/2021/10503

4.1.3 Land Release

Council planned and publicised the release of 52 residential lots as part of the Keswick East Stage 5 Release 2. These lots were presented under auction in October of 2022.

However, using house and land sales as proxies, it appears Council's current land release schedule could be under-equipped to meet demand trends. According to a 2021 analysis completed by CoreLogic Asia Pacific, between 2012 and 2021, Dubbo averaged 797 house sales per annum and 237 land lot sales per annum.[7] Thus Council could likely consider accelerating its land release schedule planned for the immediate future in order to improve residential property supply.

Housing in the Dubbo region is predominantly made up of low-density dwellings; separate houses constitute 82% of primary dwelling stock in Dubbo and 85% and Wellington. Townhouses constitute 8% of dwellings in Dubbo and units/flats 10%; in Wellington, they constitute 5% and 2% of dwellings respectively.

82%	10%
Percentage of dwelling stock that are separate houses in Dubbo	Percentage of dwelling stock that are units/flats in Dubbo

4.1.4 Future Developments

There are several medium-high density developments in various stages of development applications, which may have an impact on accommodation supply in the future. These include:

- No. 1 Church Street, Dubbo – 80 units
- Liberal Development, Macquarie Street, Dubbo – 162 Hotel Rooms and 41 residential apartments

4.1.5 3D Homes Potential

To address accommodation demand amid material and labour shortages, Council has initiated a trial of 3D-printed homes. While this innovative and exciting trial presents great potential for rapid accommodation construction at minimal cost, its implementation at scale will most likely only be possible in the medium-to-long term. Thus, it is an unlikely to make a sizeable contribution to Dubbo's short term worker supply quickly enough to address major industry project demands (see 'Demand' analysis below).

[7] CoreLogic Asia Pacific, https://d218r57cmet8do.cloudfront.net/downloads/Economic-Development-%E2%80%93-Dubbo-Suburb-Statistics-Report-%E2%80%93-October-2021.pdf

4.2 Demand

An overview of current and potential future demand for accommodation in the Dubbo Region is outlined below.

4.2.1 Population growth

Dubbo's population has grown consistently in recent years. According to REMPLAN data provided by Council, since 2016, the population has grown by 4,645 people to 56,049 in 2022. The population is predicted to grow to 58,048 by 2026, 60,514 by 2031 and 65,327 by 2041.[8]

4.2.2 Industry demands

There is a suite of major infrastructure and industry projects planned to commence or continue across the Dubbo region in the short-to-medium term.

Project proposals are not clear on the proportion of staff who will travel from outside the area and will require accommodation in Dubbo. However, given the proximity of each project, and given its facilities as a regional hub it is reasonable to expect a large fraction of travelling staff will seek accommodation in Dubbo.

Review of project timelines suggests that demand for short-term worker accommodation will peak across 2024-2025. The projects and enterprises that will contribute most significantly to worker accommodation demand are listed below, along with their expected **peak** staffing numbers:

- Inland Rail at Narromine: 250
- Regional Rail Maintenance Facility: 120
- Central West and Orana Region Regional Energy Zone: 3,900
- Australian Strategic Minerals project at Toongi: 1,000
- Fletcher International Exports processing plant: 400
- Transport for NSW / other NSW Government Departments: 500

The following analysis has assumed that these projects, along with other smaller ones, will create a **peak** demand at 5000 workers. This assumption has been reached on the bases that:

- Not all project workers will require accommodation (i.e. some staff will be locally based)
- Not all short-term workers requiring accommodation will do so in the Dubbo LGA (and therefore will not place strain on Dubbo's accommodation supply)
- It is unlikely that the maximum staffing amount for each project will neatly overlap (so the overall peak at any one time is less than simple addition of every individual project peak)

This expected peak would cause the LGA's population to swell by approximately 10% if all workers were housed in Dubbo. Note the analysis has also accounted for the permanent/ongoing workers associated with these projects, who have been allocated to long-term rather than short-term accommodation.

[8] Remplan, 2022: https://app.remplan.com.au/dubboregionalcouncil/community/summary?state=Z4QnTq1yxuwzQ52Sr1Dr0JsWFaFaJZ

5. Shortfall Analysis

This section estimates the magnitude of Dubbo's present and projected housing shortage, based on available information. It incorporates estimates of supply, demand, standard population growth, permanent/ongoing workers across major projects, and short-term workers across the same projects.

5.1 Calculations and Key Assumptions

To present a comprehensive estimation of Dubbo's present and projected dwellings shortfall, several important assumptions were made. These are major considerations in the analytical process and are summarised below to assist interpretation of key findings. A more detailed explanation of each assumption can be found in Appendix A.

5.1.1 Worker Demand

Worker Demand data was provided to Delos Delta by Council, and consisted of the following information:

ASSUMPTION / INPUT		INTERPRETATION / MEANING
At peak demand, 5000 short-term workers will be employed by major projects across the Dubbo region	→	Provides quantitative basis for accommodation demand across the 10-year scope
Analysis has assumed that 10% of this short-term worker peak (500 workers) will elect to stay in Dubbo permanently after project completion	→	Short-term workers also affect Dubbo's permanent housing supply for residents
1,860 ongoing full-time employment opportunities will be supported by upcoming projects across the Dubbo region	→	Ongoing employment is longer-term, and therefore will affect long-term accommodation demand

Standard Population Growth

Standard population growth accounts for births and permanent migration due to normal factors and forces. This takes place regardless of major projects in the Region. REMPLAN projections provided by Council were applied across the assessment period and included in the analysis as a factor that increases accommodation demand.

ASSUMPTION/ INPUT		INTERPRETATION / MEANING
Dubbo Regional Council is expected to grow from 56,049 (2022) to 60,935 (2032) – an increase of 8.7%	→	Provides the quantitative baseline for accommodation demand excluding short-term workers

Dwelling Occupancy

Using statistics procured from the ABS alongside data acquired from short-term accommodation providers, Dubbo's average dwelling occupancy rates were calculated for both accommodation types[9].

Long-term accommodation:	2.5 people per household
Short-term accommodation:	1.75 people per dwelling

Short-term Accommodation Supply

Short-term accommodation in Dubbo was limited to the following types to calculate accurately accommodation supply. They have been incorporated in the analysis as **'short-term dwellings'**. It is important to note that when included in the supply calculation across the 10-year period, these accommodation types were assumed to grow in proportion to (or in-step with) standard population growth.

ACCOMMODATION TYPE		ASSUMPTION / INPUT		INTERPRETATION / MEANING
Hotels/Motels/Short-stay accommodation	→	On average, **381** rooms/cabins/short-stay houses are available (vacant) per night across the Dubbo LGA	→	Vacant accommodation that could house short term workers; included in the accommodation supply calculation
Australian Strategic Minerals (ASM) Drive-In-Drive-Out (DIDO) worker accommodation	→	Data provided by Council suggests this supply type can house **200** short-term workers	→	Included in the supply calculation
Locum Drs	→	Data provided by Council suggets this supply type can house **50** short-term workers	→	Included in the supply calculation
AirBNB	→	Data procured from AirBNB suggests that this supply type can house **360** in short-term stays	→	Included in the supply calculation

[9] ABS, 2021: https://abs.gov.au/census/find-census-data/quickstats/2021/10503

Long-term Accommodation Supply

The following long-term supply elements have been incorporated as **'long-term dwellings'**. Parallel to the short-term supply assumptions made above, these accommodation types are assumed to grow in proportion to standard population growth.

ACCOMMODATION TYPE	ASSUMPTION / INPUT	INTERPRETATION / MEANING
Rentals	Dubbo has a rental vacancy of **1.5%** as of August 2022 (REINSW, Domain Research)	**Dubbo already has shortage of rental properties**
	30% of people in Dubbo live in a rented property	30% of 22,693 = 6,808 rentals
	22,693 private dwellings in Dubbo	1.5% of 6,808 = approx. shortage of **100** rental properties
Land Release	Data provided by Core Logic suggests average lot sales over the last 10 years in Dubbo is 237 per annum	Included in the supply calculation. Assume these lots become available as housing one year after sale

Allocation of People to Accommodation Types

It is unrealistic to treat all available room types (e.g., hotels/motels, land release, rentals) as equally available to all prospective permanent and temporary migrants. As such, the following assumptions were made with regards to population type and accommodation access. See Appendix B for a full breakdown of housing shortfall by population type.

ASSUMPTION / INPUT	INTERPRETATION / MEANING
Residents brought to Dubbo by standard growth (e.g., births, permanent migration) will not be using short-term stays for the long-term	'Standard growth' and ongoing worker population will live only in **rentals or land-released properties**
Short-term workers (<6 months) will not purchase newly released houses or take up rental contracts	Short-term workers will live only in **AirBNBs or Hotels/Motels/Short-term stays**

5.2 Analysis Scenarios

Shortfall modelling was conducted across a variety of scenarios. Each includes the short-term worker peak of 5,000 and a constant ongoing worker demand of 1,860 people. The scenarios differ only in their distribution of demand over the assessment period: for example, how quickly the demand peak is reached and how quickly it subsides as short-term workers leave the area. They are designed to reflect different possibilities regarding the need for short-term workers in the area over time.

The study period spans 10 years from 2023 to 2032 inclusive.

- **Scenario 1:** Rapid acceleration of worker demand to the peak (in 2026) followed by a rapid decline in worker demand, completely subsided by 2029
- **Scenario 2:** Gradual growth in short-term workers up to a peak in 2027, followed by a gradual decline in demand subsiding completely in 2031
- **Scenario 3:** Fast growth to the peak (in 2026) followed by a gradual decline (subsiding in 2030)
- **Scenario 4:** Slow growth to the worker peak (in 2027) followed by a rapid decline (finished in 2030)

Note that each of these scenarios was analysed across three demand assumptions, recognising that some short-term workers would be locally sourced and thus would not require new accommodation, or would find accommodation elsewhere than in DRC. Based on our experience, a figure approximately between Assumptions 2 and 3 is most realistic. Assumption 1 presents a theoretical maximum demand figure but is unlikely to eventuate in practice.

- **Assumption 1:** 100% of non-ongoing/short-term workers would require accommodation in Dubbo
- **Assumption 2:** 75% of non-ongoing/short-term workers would require accommodation in Dubbo
- **Assumption 3:** 50% of non-ongoing/short-term workers would require accommodation in Dubbo

- Based on the ‘short-term worker only’ analysis throughout the next section, it can be observed that short-term workers will likely absorb a significant proportion of accommodation at the peak of each scenario. This impact the accommodation types that Council may wish to prioritise.

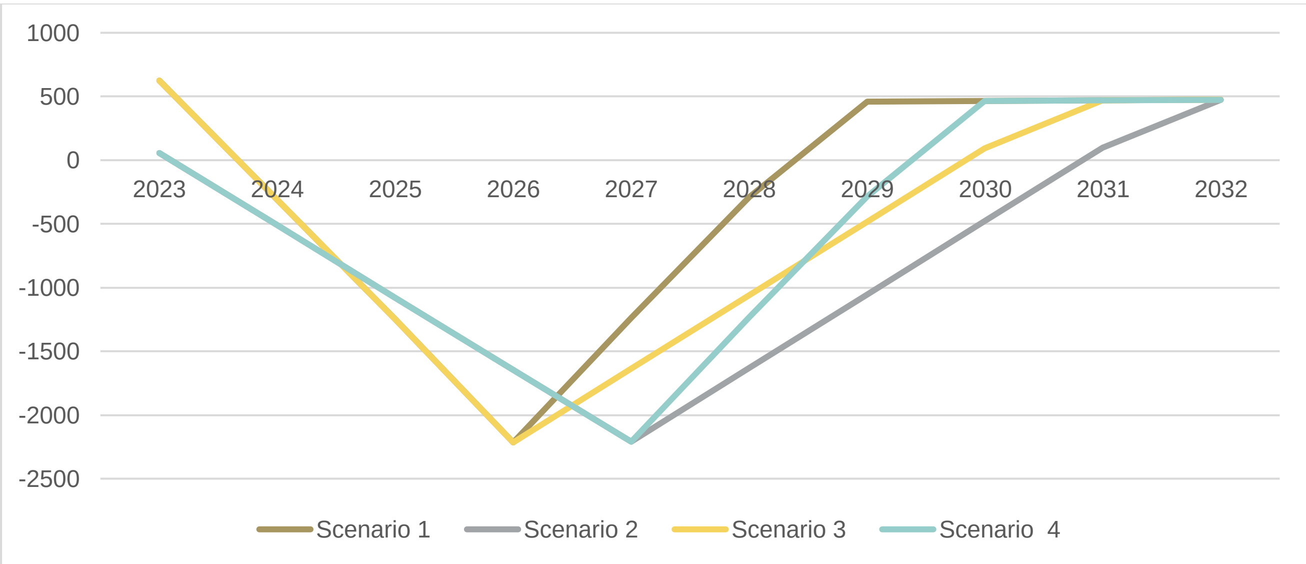
5.3 Key Findings

The below findings demonstrate the estimated accommodation shortfall for short-term workers across the assessment period. Note that each graph takes short-term worker demand against Dubbo's accommodation supply, with each of these inputs created via the assumptions and calculations made prior. For supplementary information and computations regarding this process, please refer to Appendix B.

The insights highlighted in this section focus on the demand of short-term workers only, as measured against the supply of appropriate short-term accommodation. It should be noted that the figures provided in the graphs are representative of short-term accommodation dwelling requirements.

Assumption 1: 100% of short-term workers require accommodation in Dubbo

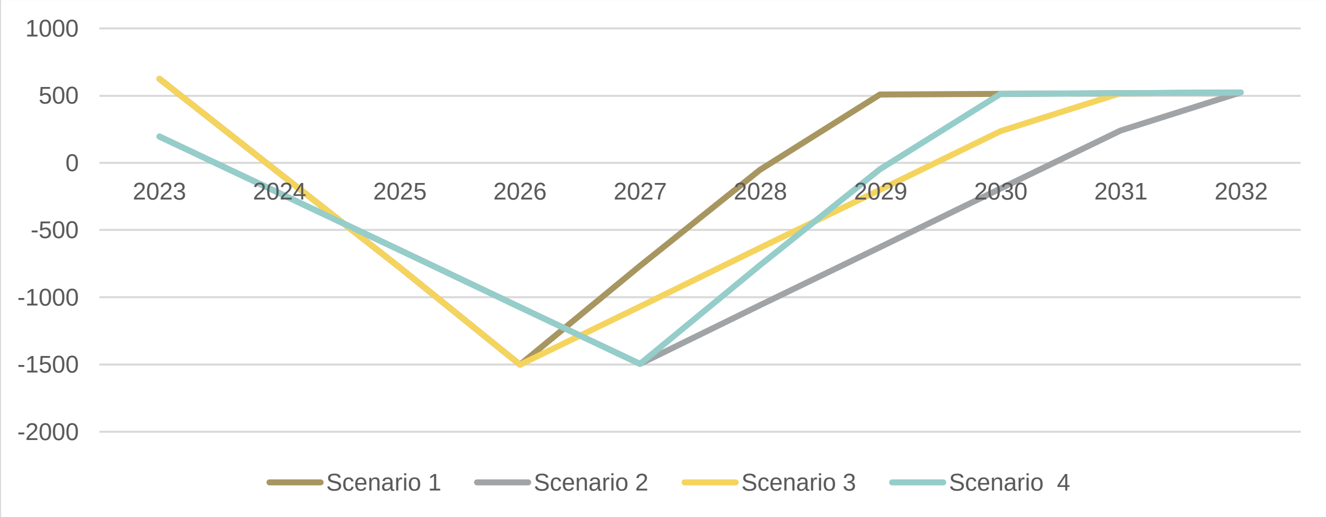
GRAPH 5. SHORTFALL PROJECTIONS – 100% SHORT-TERM WORKER DEMAND ONLY



The intensity of the short-term accommodation shortfall peaks at different times for different for scenarios. In 2026 Scenarios 1 and 3 demonstrate a shortfall of 2216 short-term dwellings, whereas that peak is reached in 2027 for Scenarios 2 and 4. All scenarios result in a surplus of 474 properties by the end of the assessment period, providing potential opportunity to repurpose infrastructure to address other forms of housing demand.

Assumption 2: 75% of short-term workers require accommodation in Dubbo

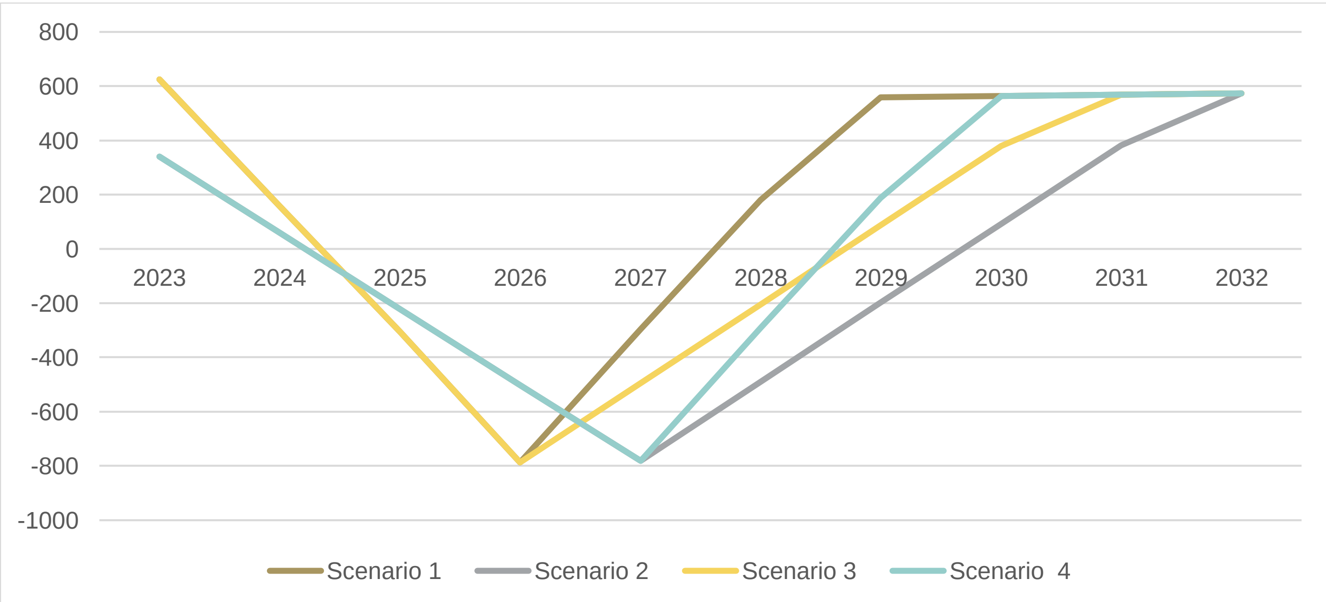
GRAPH 6. SHORTFALL PROJECTIONS – 75% SHORT-TERM WORKER DEMAND ONLY



The short-term accommodation shortfall peaks at 1500 dwellings – in 2026 for Scenarios 1 and 3, and in 2027 for Scenarios 2 and 4. Each scenario presents a surplus of 524 short term accommodation dwellings by the end of the assessment period.

Assumption 3: 50% of short-term workers require accommodation in Dubbo

GRAPH 7. SHORTFALL PROJECTIONS – 50% SHORT-TERM WORKER DEMAND ONLY



The short-term accommodation shortfall peaks at 784 dwellings – in 2026 for Scenarios 1 and 3, and in 2027 for Scenarios 2 and 4. Each scenario presents a surplus of 574 short term accommodation dwellings by the end of the assessment period.

6. Engagement Insights

The following section provides key insights generated through Delos Delta's engagement process. It draws on the experience and expertise of various community, government and industry members and leaders.

6.1 Current Strengths

This section articulates Dubbo's underlying unique strengths that, in the view of stakeholders engaged, could be leveraged to provide sufficient short-term housing.

6.1.1 Abundant Land Availability

Stakeholders noted that undeveloped land was widely available in and around Dubbo, especially in the town's South and East. These were identified as potential sites where accommodation supply could be provided. Stakeholders also noted that release of this land could be completed relatively quickly, in light of the sentiment that Dubbo is approximately three years behind in the land release required to match demand for accommodation.

6.1.2 Significant Tradesperson Supply

Stakeholders noted that the Dubbo region is home to a substantial supply of residential builders. This was noted as providing a workforce that could be leveraged to efficiently construct short-term housing stock in response to significant worker demands in the immediate future.

6.1.3 Economic Stability

Stakeholders noted Dubbo's economic growth and stability. This was noted as making the region a safe and attractive place for investment, including for housing/accommodation. Stakeholder recognised Dubbo's status as a regional service and economic hub to a catchment area exceeding 100,000 residents. They noted that the value of local assets is highly likely to grow stably, and this could attract lucrative partnerships with external investors to develop local accommodation.

6.2 Current Challenges

This section highlights the challenges recognised by Stakeholders within the Dubbo region in its attempts to provide adequate short-term worker accommodation.

6.2.1 Rapid Growth

Stakeholders felt that Dubbo's population growth, even excluding seasonal worker fluctuations, is outstripping the development of infrastructure, including accommodation and housing. Thus, it is likely that construction of longer-term housing solutions can only commence following development of a broad infrastructure suite (e.g. roads, electricity, sewerage). Stakeholders recognised that extending project timelines could be an implication of infrastructure supply not keeping up with housing demand.

6.2.2 Limited Rental Supply

Stakeholders acknowledged Dubbo has low rental availability, with a rental vacancy rate of 0.5%, coupled with increasing rental costs. This low availability was recognised as potentially deterring companies and/or workers taking residence in the town for medium term stays (e.g. 6-12 months).

6.2.3 Inflexible Zoning

Several stakeholders expressed their view that medium density housing could be an effective and important solution in solving accommodation supply issues. However, they also noted that since the *Residential Areas Development Strategy* (1996), through which the then Council elected against medium density housing, zoning for this housing type has been virtually eliminated across the city. Thus, developers and builders skilled and willing to produce medium density housing are no longer present in Dubbo, despite demand shifting towards this housing type.

6.3 Trends

This section expands upon broader demographic and economic trends identified by stakeholders as drivers of their current housing state. These trends potentially need to be addressed in the planning of a future state.

6.3.1 Demand Make-up Shift

Stakeholders noted that smaller families and single occupancy dwellings now constitute a larger proportion of Dubbo's housing and rental market than historically. This was revealed by stakeholders as providing broader impetus for higher density housing beyond just major industry projects. Demand posed by these trends leans away from traditional house-and-land blocks towards lower maintenance (even pre-furnished), smaller properties. Stakeholders considered that these housing types may reflect what is desired by workers moving to Dubbo for short-term work.

6.3.2 Motel Occupancy Rates

Analysis completed by Maas Construction analysed Dubbo's motel occupation rates. Demand is generally very high (70-90% occupancy) and tends to peak midweek as opposed to on weekends, suggesting these rooms are generally occupied by short-term workers rather than tourists and recreational visitors.

6.4 Opportunities

This section summarises the opportunities stakeholders noted that Dubbo could implement to leverage strengths and mitigate challenges.

6.4.1 Innovative Housing Solutions

Several stakeholders expressed the view that large sections of Dubbo's available land area should be rezoned, to allow development of medium-density housing. Stakeholders also felt that landowners should be given the opportunity (and indeed, incentive) to subdivide larger blocks and facilitate more effective use of land in providing accommodation.

6.4.2 Industry Partnerships

Stakeholders felt that large industry projects and enterprises attracting large number of workers to the region could meet their worker accommodation demands by forming local partnerships. For example, employers could work with Council to identify existing accommodation for their workers or could contract local tradespersons directly to construct short-term accommodation tailored to their project needs.

Additionally, project teams could work with local employment agencies to identify suitable workers who could be trained to staff projects, as this would offset demand for new staff housing. However, stakeholders felt it important to recognise that wholesale local recruitment should be avoided to avoid potential skills shortages in other industries. Analysis by Umwelt suggests it would be feasible for approximately 10% of large project staff to be sourced from pre-existing residents of the Dubbo LGA.

6.4.3 Worker Camps

Several stakeholders identified purpose-built short-term worker camps as a solution to staffing accommodation demands for the large industry projects discussed above. They also emphasised the importance of tailoring camp design not only to worker demand but also to community needs, as well as to pragmatic concerns of efficacy, including that:

- Camps should be located close to town so that workers have adequate access to services
- Camps should be built such that underlying infrastructure (sewer, water, power, digital) can remain for longer term community benefit when temporary structures are removed
- Camp design would cheaply and feasibly account for its position on the flood plain; for example, so that it could be easily evacuated in event of emergency

6.4.4 Improve village service delivery

In general, stakeholders felt that infrastructure and other services provided to Wellington and other towns surrounding Dubbo had been reduced. This was noted as forcing both pre-existing residents and migrants to the region to seek accommodation specifically in Dubbo, magnifying housing demand. They felt this demand could be more sustainably distributed across the region's townships if services were adequate. However, they also recognised that this distribution of demand would also be contingent on reliable transport between surrounding towns and Dubbo.

7. Recommendations and Options Analysis

Dubbo Regional Council faces the challenge of a housing shortfall. Without intervention, the impacts of this shortfall may be exacerbated by short-term accommodation supply and demand between 2025-2030 as major projects across the region see a spike in worker demand.

This section distils prior analysis into a series of actionable recommendations Council may consider regarding short-term worker accommodation in the LGA to overcome these potential effects. The suggested phasing (and as such, the period of time, be it immediate, short, or long term) is indicated in the following section. These options encompass methods including Policy Levers, Incentives and Direct Interventions (by Council):

1. Create, and support over the medium term, a 'Housing Coordinator' role in Council. Develop a job description, resourcing plan, and run a recruitment process.

2. Develop a supporting governance group within Council, including a housing taskforce or steering committee (hereafter referred to as The Taskforce). This group will identify and consider the key housing issues for Council at any point in time.

3. Build and strengthen data collection and management around housing in the Region, to inform an understanding of challenges, measuring progress and reporting. Regularly review these processes. Where appropriate, some of this data can be released publicly to drive innovation and public awareness.

4. Develop a single stakeholder engagement group to work with The Taskforce, bringing together stakeholders from across the housing market, Council, and New South Wales Government.

5. Leverage the Taskforce to investigate immediate policy options, market interventions, and partnerships including:

- Updating land release plans to immediately increase supply with a pricing strategy that dynamically reacts to changes in market sentiment
- Review of underutilised commercial and Council buildings, and investigate viability for residential, public housing, and short-term accommodation
- Incentives to property owners to maintain properties in the long-term rental market (including a limited timeframe for take-up of a rates waiver for a limited number of current Airbnb properties to return to the rental market)
- Development of a short-term worker camp to be eventually re-purposed for tourism
- Build-to-rent options for Council owned land
- Review relevant Council and NSW Government policies and strategies (e.g. Council Policy for Solar and Windfarm) to develop an embed a framework of for short term accommodation over the duration of projects

- Mandatory developer contributions for affordable and community housing, with consideration to the overall impact this may have on supply.
- Incentives for the development of shop top housing
- Incentives for the development of residential flat buildings
- Transportable and modular housing construction for residential release in the short term

6. Develop a Housing Strategy for Dubbo and Wellington, led by the Housing Coordinator. This should include an Affordable & Key Worker Housing Plan giving focus to affordable housing, housing availability, choice, and sustainability.

7. Collaborate with Community Housing Providers to understand accommodation requirements and investigate partnership opportunities, including:

- The provision of land on a shared equity basis for construction of affordable and key worker housing
- Tripartite partnerships between Council, New South Wales Government, and Community Housing Providers
- The gifting of land to Community Housing Providers
- Possible partnerships to provide key worker housing in the short term, and community housing in the long term

8. Advocate to New South Wales and Australian Governments to ensure issues of housing availability in the Region are understood.

9. Review and update density targets to gradually increase population density over time. Include this update in Council's spatial planning, and reference in the Housing Strategy for Dubbo and Wellington.

10. Review Council systems and process to assess avenues for acceleration, and improved efficiency, effectiveness, and transparency. Investigate methods to expedite all priority projects as identified by the Housing Coordinator, likely to include medium and high-density projects, dual-occupancies, and workers' camps.

8. Indicative Phasing

The following phasing is recommended to deliver improved housing outcomes over the short and medium term. Timings are indicative only and are to be confirmed in detail by Council.

	Year 1				Year 2				Year 3			
Action	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

9. Case Studies

The following examples demonstrate the efficacy of methods suggested above in practice.

9.1 Marketing and facilitation: Parkes-ARTC Partnerships

Rather than requiring workers to arrange accommodation of their own accord, ARTC (project lead of Inland Rail) leveraged local partnerships to house short-term workers staffing the Parkes-to-Narromine Inland Rail project. This development initially caused significant worker inflow and accommodation shortages in Parkes, but these were ultimately remedied by direct partnership between ARTC (Inland Rail project company) and local accommodation providers. They allowed systematic and efficient identification of vacant dwellings from across the township and allowed workers to be accommodated by making innovative use of existing resources.

9.2 Workers' Camps and Funded Housing: Gilgandra Inland Rail Workers' Camp

A workers' camp can prove a cost-effective and conditions-appropriate method for housing a large quantity of workers for a short-to-medium term project. This is demonstrated by the Temporary Workers Camp' proposed by Gilgandra Shire Council to house workers on the Inland Rail.

Located adjacent to Dubbo Regional Council, Gilgandra Shire Council faces a series of similar housing challenges which demonstrate the applicability of this solution to Dubbo:

- The township is predominantly low density housing
- Rental vacancy is 0%; all rentable properties are tenanted and real estate agencies operate waiting lists
- Housing stress and affordability currently affect a considerable portion of the population
- Large undeveloped Council lots occupy fringes of the township
- Inland Rail project will bring roughly 500 workers to the area, rapidly swelling the LGA's population by ~12%

Recognising that attempts to house these workers within existing supply will place extreme stress on an already strained Gilgandra housing market, Council have proposed a 500-person worker camp on the outskirts of the township. It is located such that residents can conveniently integrate into and participate in the Gilgandra community and economy without endangering housing stock for existing/longer-term residents.

In addition, Council will construct 10 prestige 'turn-key' properties (estimated $5 million in construction costs total) that will be leased to Inland Rail to house project managers across the 5-7 year project span. The lease agreement by Inland Rail provides Council the financial security needed to construct the homes, which will then be available for sale or rent to essential professional workers after the project concludes.

Given similar characteristics regarding housing stress and short-term worker demand by the two LGAs, Dubbo Regional Council could use this case study as a guide for its own short-term worker accommodation demands.

9.3 Transportable/modular housing: Dublin, Ireland

Council may wish to explore transportable housing as a means to quickly broaden the supply pool. This method quickly creates new housing stock at a low cost.

For example, Dublin City Council faced similar problems of short-term housing supply shortages, at times even resorting to placing families in bed and breakfast accommodation on an emergency basis. It remedied this shortage by quickly expanding its social housing supply base by placing modular housing on previously underutilised public land[10].

This allowed quick construction (for example, 50 houses in 20 weeks in the initial phase) of quality high-density modern housing (e.g. 2-storey, 3-bedroom houses on 97 square meters). As the trial expanded to larger plots it proved a generally cost-effective method of alleviating extreme emergency and short-term housing demand.

[10] Dublin City Council Housing Delivery Action Plan, 2022

Appendix A: Shortfall Analysis Assumptions

The table below details assumptions involved in the shortfall analysis.

TABLE A1: DETAILED CALCULATIONS AND KEY ASSUMPTIONS

Assumption	Description
Worker Demand	Based off worker data provided to Delos Delta by Council: ▶ An estimated 1860 ongoing FTEs will be supported by the major projects. Ongoing employment means these workers will live in the Dubbo region for a longer term, if not all, of the project period and thus will require more permanent accommodation ▶ At peak demand, 5000 short-term workers will be employed by major projects across the Dubbo region ▶ Note also that the analysis has assumed 10% of the short-term worker peak (500 workers) will elect to stay permanently in Dubbo once the projects have concluded, thereby lacing greater demand on the region's permanent housing supply.
Standard Growth	Demand for housing in Dubbo will also be exerted by standard population growth; that is, births and permanent migration other than that attracted by major projects. According to REMPLAN projections provided by Council, Dubbo Regional Council is expected to grow from 56,049 (2022) to 60,935 (2032) across the assessment period, a growth of 8.7%.
Dwelling Occupancy	Calculations for **long term accommodation** (i.e. rentals, purchasable homes, released land) have been performed by assuming the validity of ABS estimates of dwelling occupancy rates in Dubbo **(2.5 people per household).** Calculations for **short term accommodation** (see below for accommodation types considered in this category) have been performed by assuming on average across all dwelling types, each individual motel room, cabin, AirBnB property, and other short-stay dwelling will house **1.75 occupants.**
Short-Term Accommodation Supply	The following supply elements have been incorporated as **'short-term dwellings'**: ▶ **Hotels/motels/short-stay accommodation providers:** On an average night, 381 rooms/cabins/short-stay houses are available across accommodation providers is the Dubbo LGA. This figure was incorporated because it refers to vacant accommodation that *could* house short-term workers; as opposed to the region's ~1100 other rooms which are occupied and thus unable to accommodate further demand

Assumption	Description
	▶ **Locum Drs:** Data provided by Council suggests this accommodation supply can house 50 short term workers ▶ **AirBNB:** Data from AirBNB suggests this accommodation supply can house 360 people in short-term stays ▶ Overall, it is assumed that supply of these accommodation types grows in proportion to standard population growth. **This assumption is not likely not realistic**; as demand for short-term accommodation swells it is likely that the market will respond more sensitively than simple proportionate growth. This input is used merely to demonstrate the scale of the issue if no concerted effort is made to substantially improve supply.
Long-Term/Permanent Accommodation Supply	The following supply elements have been incorporated as '**long term dwellings'**: ▶ **Rentals:** Dubbo Regional Council had a rental vacancy rate of 1.5% in August 2022 (REINSW, Domain Research). Anything less than 3% is considered a shortage by REINSW, significantly driving up accessibility and affordability of rentals even if some properties are on the market. Thus rather than providing vacant supply**, Dubbo already has a rental shortfall**. To quantify the magnitude of this shortfall, the following ABS data was applied: • 30% of people in Dubbo live in a rented property • 22,693 private dwellings in Dubbo = 6,808 rental properties • Current shortfall to a healthy market = 1.5% (3% - 1.5%) • 1.5% of 6,808 = approximately 100 properties ▶ Thus the analysis was conducted on the assumption that there is a shortage of 100 rental dwellings (limiting general migration and population growth in Dubbo) rather than vacant dwellings that can be used for accommodation. ▶ **Land Release**: Data provided by Core Logic indicates that across the last ten years, averaged combined lot sales in Dubbo has averaged 237 lots / year. The analysis has assumed that these lots become available as housing one year after sale. Overall, it is assumed that supply of these accommodation types grows in proportion to standard population growth.
Allocation of people to dwellings	It is unrealistic to treat all available room types (e.g. hotels/motels, land release, rentals) as equally available to all prospective permanent and temporary migrants: ▶ Residents brought to Dubbo by standard growth (e.g. births, permanent migration) will not be using hotel rooms for the long-term ▶ Short-term workers (i.e. <6 months) are not going purchase newly released houses or take up rental contracts Thus this analysis has assumed that:

Assumption	Description
	▸ 'Standard growth' and ongoing worker populations will live only in **rentals or land-released properties** (and given how many dwellings in the supply pool are actually motel rooms, this significantly restricts supply for this growth stream) ▸ Short-term workers will live only in AirBnBs or motels/hotels and other short-term accommodation See the Appendix for a full breakdown of housing shortfall by population type (e.g. shortfall specifically for permanent/long-term migrants vs for short-term workers only).

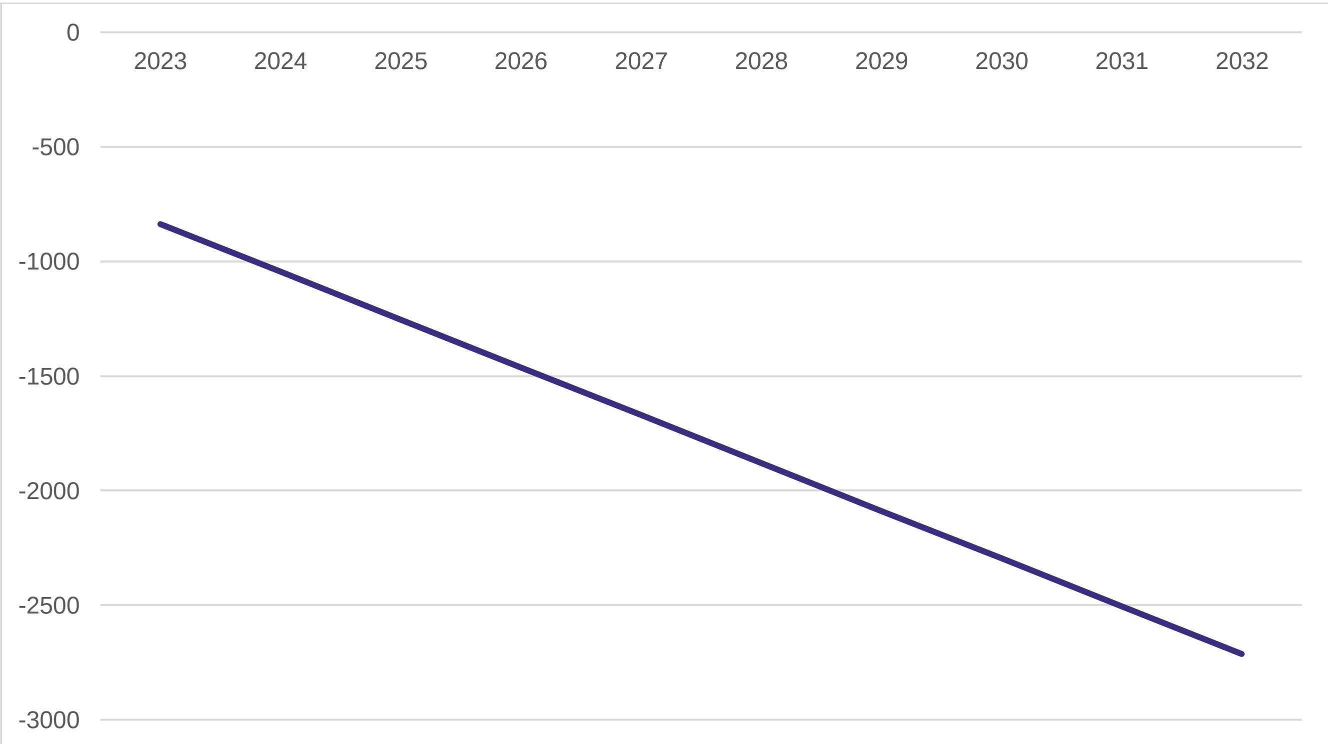
Appendix B: Additional Shortfall Modelling

The following items are provided as auxiliary information to support the shortfall modelling findings denoted prior in the report. Included are the demand projections for various levels of ongoing workers - the 4 scenarios used throughout the report used here for consistency - as well as the total shortfalls of these levels, and the shortfall correlated to the standard growth model. When observing the demand projections, it is important to recognise that the initial shortfall, as discussed above, has been adjusted according to standard population growth and is included in each scenario. The base case is defined as:

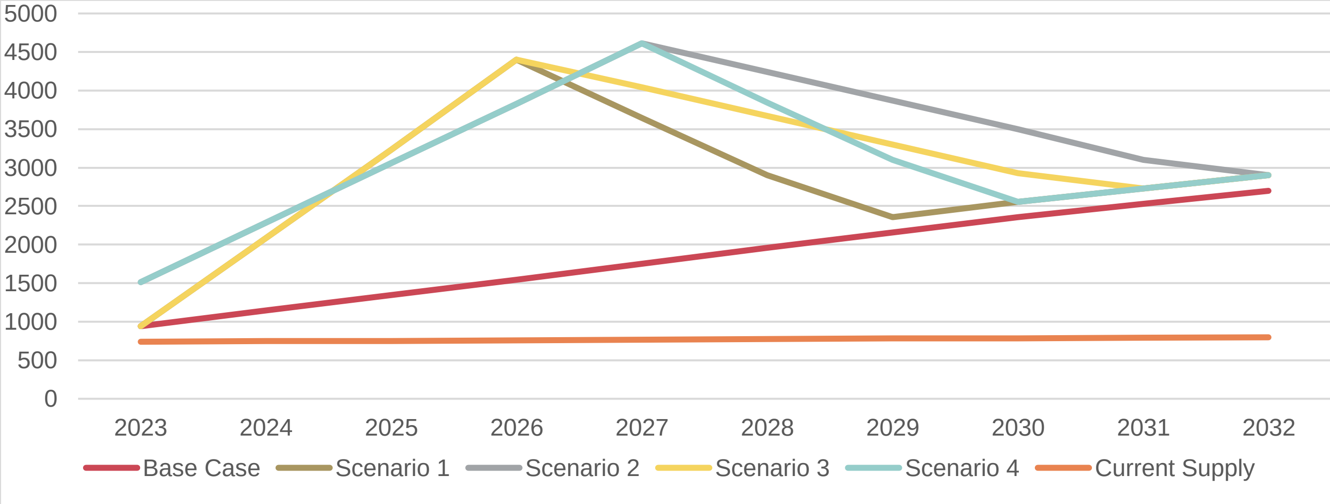
- **Base Case:** No short-term workers (Ongoing workers & standard population growth only)

As well as this, note that there is only one representation of the standard growth shortfall; this is because the standard growth model does not consider the varying levels of non-ongoing workers, as it is for standard growth and permanently based workers only. As such, this model remains consistent across all scenarios.

GRAPH 8. LONG-TERM RESIDENT SHORTFALL PROJECTIONS (STANDARD GROWTH & ONGOING PROJECT WORKERS; NO INCORPORATION OF SHORT-TERM WORKER DEMAND)

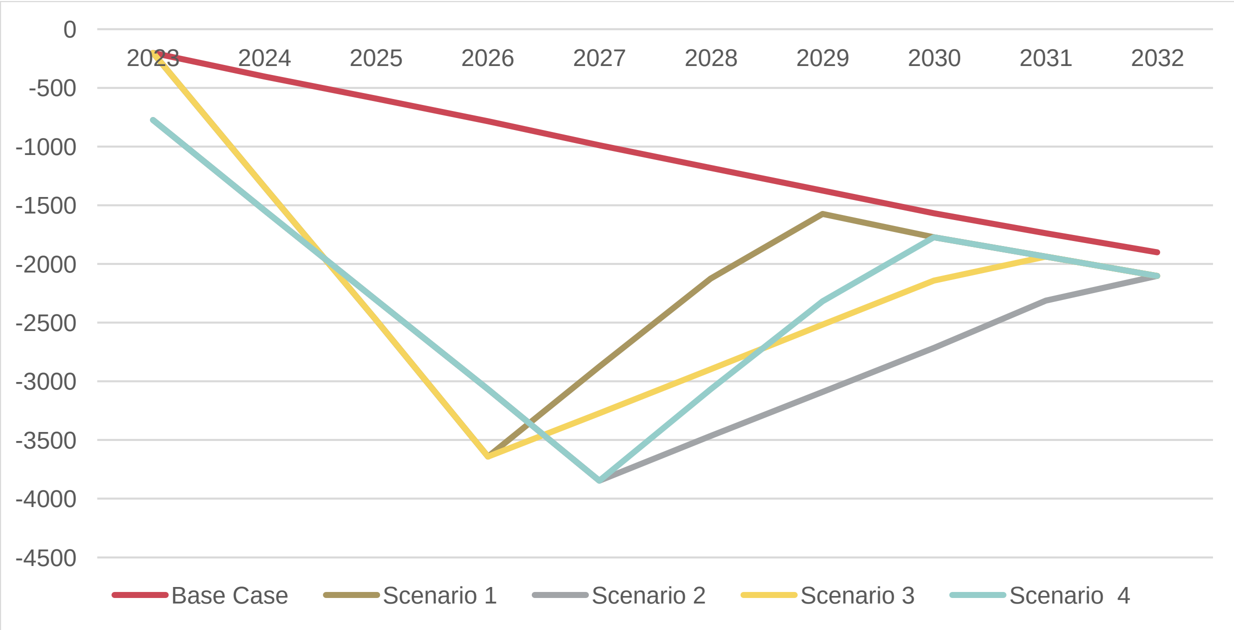


GRAPH 9. ASSUMPTION 1 DEMAND PROJECTIONS: NUMBER OF DWELLINGS REQUIRED IN ADDITION TO EXISTING SUPPLY (INCLUDING PERMANENT AND 100% SHORT-TERM STREAMS)



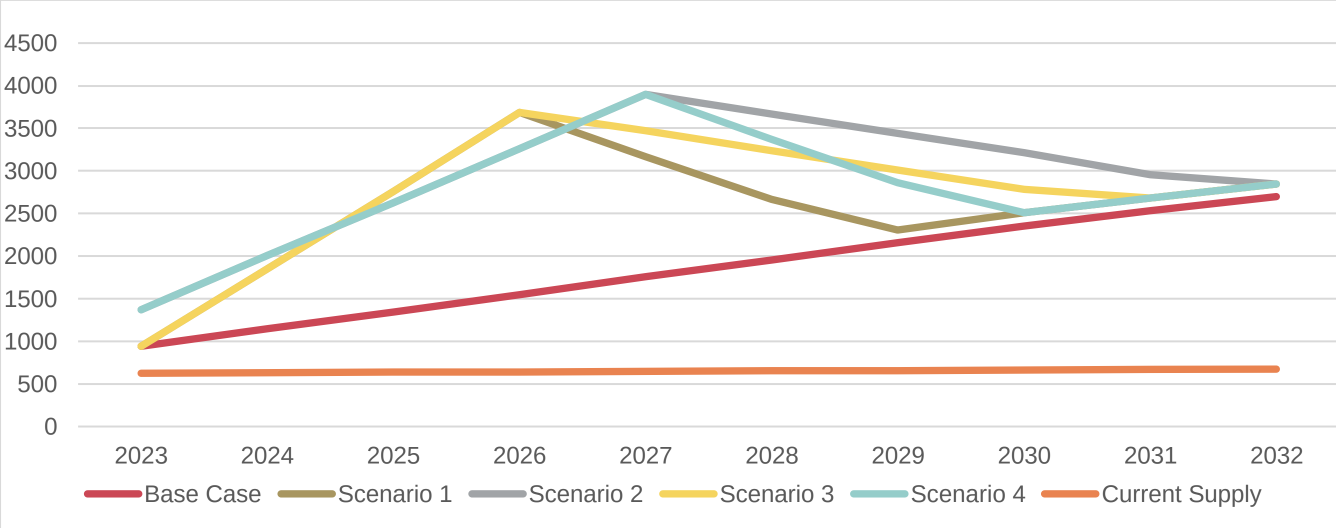
Overall accommodation demand **(all types)** peaks in 2027 at 3846 additional dwellings based on the worker distributions in Scenarios 2 and 4. All scenarios end the assessment period with a demand of 2898 additional dwellings by 2032 (relative to 2022 stock).

GRAPH 10. TOTAL SHORTFALL (ALL ACCOMODATION TYPES) FOR ASSUMPTION 1 (100% NON-ONGOING WORKERS ACCOMODATED IN DUBBO)



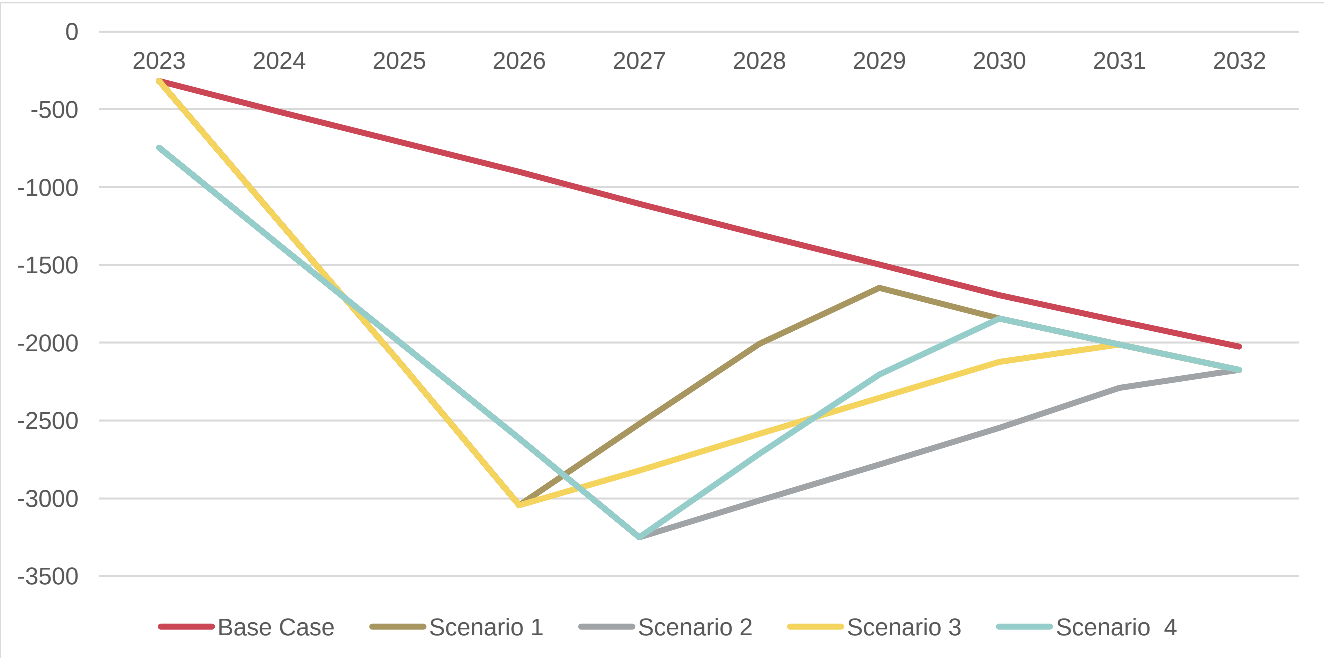
Shortfall in overall accommodation (across **all types**), under assumption 1, whereby 100% of short-term workers are accommodated in Dubbo.

GRAPH 11. ASSUMPTION 2 DEMAND PROJECTIONS: NUMBER OF DWELLINGS REQUIRED IN ADDITION TO EXISTING SUPPLY (INCLUDING PERMANENT AND 75% SHORT-TERM STREAMS)



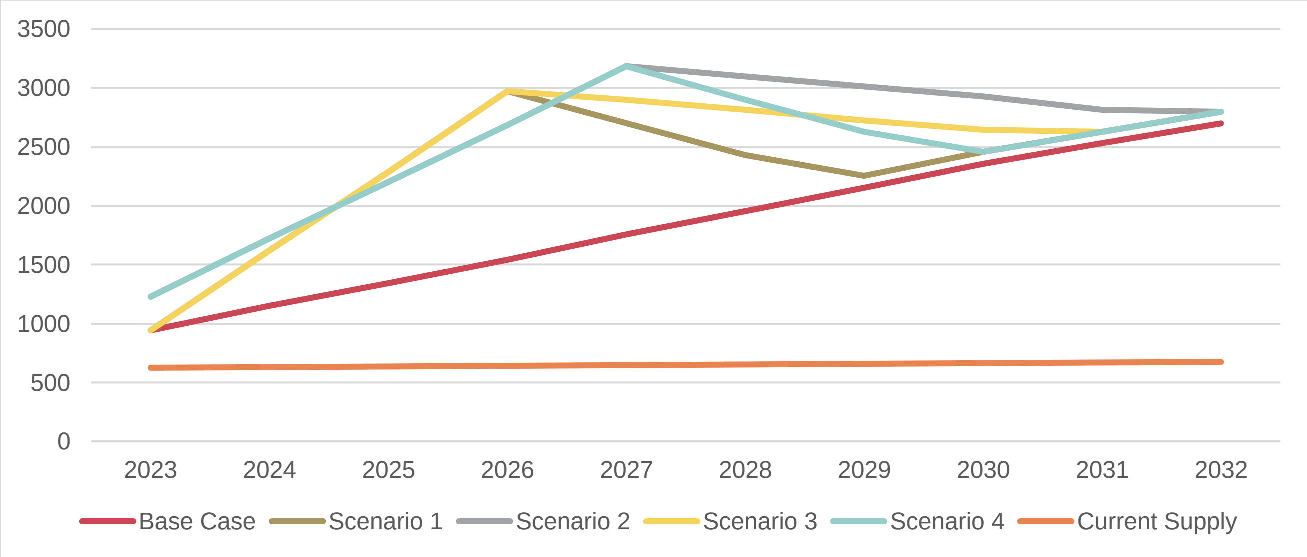
Overall accommodation demand **(all types)** peaks in 2027 at 3898 additional dwellings based on the worker distributions in Scenarios 2 and 4. All scenarios end the assessment period with a demand of 2,848 additional dwellings by 2032 (relative to 2022 stock).

GRAPH 12. TOTAL SHORTFALL (ALL GROWTH STREAMS) FOR ASSUMPTION 2 (75% NON-ONGOING WORKERS ACCOMODATED IN DUBBO)



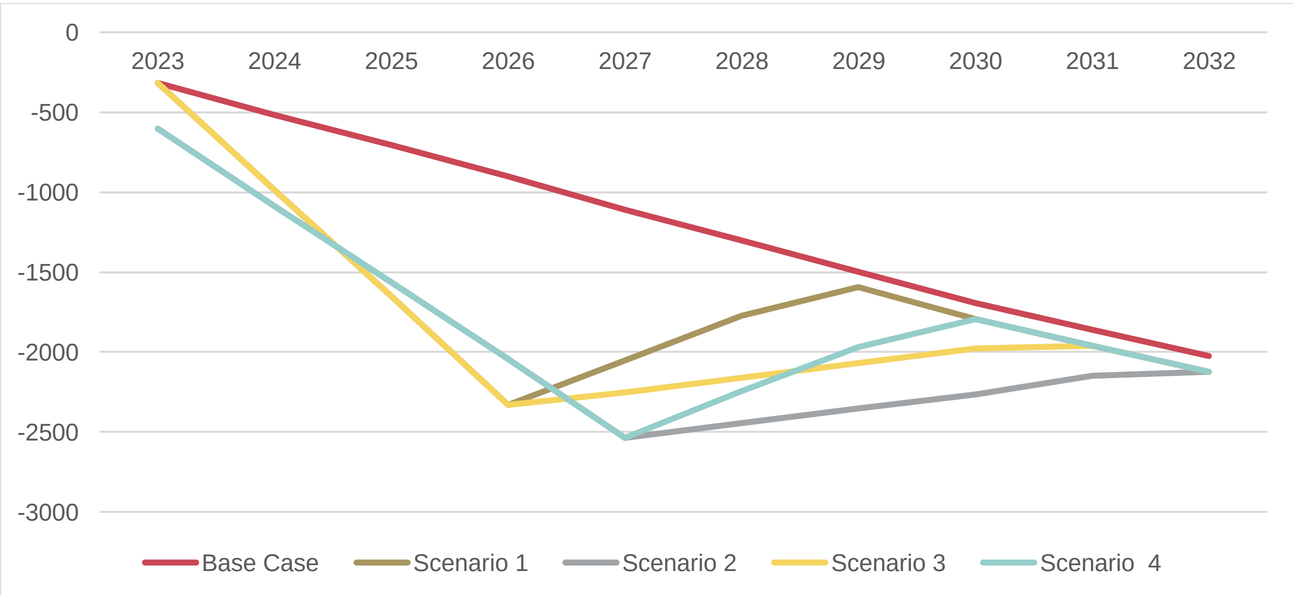
Shortfall in accommodation across all growth streams, under Assumption 2.

GRAPH 13. ASSUMPTION 3 DEMAND PROJECTIONS: NUMBER OF DWELLINGS REQUIRED IN ADDITION TO EXISTING SUPPLY (INCLUDING PERMANENT AND 50% SHORT-TERM STREAMS)



In the medium term, overall demand peaks across the scenarios in 2026-27 (2972 additional dwellings for Scenarios 1 and 3 on 2022 stock; 3184 for Scenarios 2 and 4); then grows gradually to the end of the assessment period where all scenarios require an additional 2798 dwellings beyond 2022 supply.

GRAPH 14. TOTAL SHORTFALL (ALL GROWTH STREAMS) FOR ASSUMPTION 3 (50% NON-ONGOING WORKERS ACCOMODATED IN DUBBO)



Total shortfall across all growth streams under Assumption 3.

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