



Australian Government



Jobs and Skills Australia

# 2024 Occupation Shortage Drivers Report

14 October 2024



# Contents

<b>Introduction</b> .....	<b>3</b>
Producing occupation shortage drivers.....	3
Changes in the methodology for the 2024 edition.....	4
<b>Concepts and definitions</b> .....	<b>4</b>
Four different types of shortage drivers .....	4
<b>Summary of 2024 results</b> .....	<b>6</b>
Changes from 2023 to 2024 .....	12
<b>Data Sources and methodology</b> .....	<b>14</b>
Data sources .....	14
Criteria for classifying unit groups into shortage drivers.....	14
Occupation similarity scores from the Australian Skills Classification (ACS).....	15
Creating a unit group shortage list.....	15

## List of figures

Figure 1: Occupation Shortage Drivers by number of unit groups (No.), 2023 and 2024 .....	7
Figure 2: Converting occupation ratings to unit group ratings.....	16

## List of tables

Table 1: Richardson’s occupation shortage classifications .....	4
Table 2: Jobs and Skills Australia’s occupation shortage driver typology .....	5
Table 3: Occupation shortage drivers for the highest employing unit groups (No.), 2024 .....	7
Table 4: Distribution of shortage drivers by Skill Level .....	8
Table 5: Top 10 largest employing unit groups for each shortage driver (No.).....	9
Table 6: Unit groups rated as Shortage in 2023 and No Shortage in 2024 .....	12
Table 7: Unit groups rated as No Shortage in 2023 and Shortage in 2024 .....	12
Table 8: Unit groups that changed shortage driver classification from 2023 to 2024 .....	13
Table 9: Data sources used for occupation shortage drivers .....	14
Table 10: Occupation shortage driver classification criteria, 2024 .....	14

# Introduction

The Occupation Shortage List (OSL), produced by Jobs and Skills Australia, provides a list of occupations in shortage in Australia and in each state and territory.<sup>1</sup> The OSL is released annually and is a point-in-time assessment of the shortage status of occupations in the labour market.

Understanding the potential reason occupations are in shortage is important for generating insights on solutions to address shortages. While there may be multiple reasons for a shortage, classifying primary drivers is important for developing targeted policies and strategies to enable employers, industry bodies and training providers to identify opportunities and tailor their pathways to employment to address these shortages.

Occupation Shortage Drivers (OSD), formerly known as Skill Shortage Drivers (SSD), is a classification of occupation shortage drivers into 4 types, based on the most likely cause of the shortage.<sup>2</sup>

The categorisation was first introduced in the inaugural 2023 Jobs and Skills Report, *Towards a National Jobs and Skills Roadmap*. The 4 types (Long training gap, Short training gap, Suitability gap and Retention gap) are discussed in the **Concepts and definitions** section of the report. The data sources and methodology are described in **Data Sources and methodology**. As new data becomes available, the methodology used to categorise the occupation shortages will be refined. As the OSD database grows over the coming years, the data will enable researchers and policy makers to identify whether occupations in shortage are driven by one factor, consistently, or multiple factors due to changing economic conditions. This insight may further inform the development of targeted labour market and training policies and programs.

## Producing occupation shortage drivers

The OSL was produced at the 2022 and 2013 *Australian and New Zealand Standard Classification of Occupations* (ANZSCO) occupation level.<sup>3</sup> Only ANZSCO Skill Levels 1 to 4 were included in the OSL due to their link to education and training.<sup>4</sup>

Analysis of the shortage drivers of occupations, however, was undertaken at the unit group level. To do this, a unit group version of the OSL was first created.

The OSD was based on unit groups as it more easily aligned with other Jobs and Skills Australia and Australian Bureau of Statistics (ABS) data that are readily available for unit groups. Analysis at unit group level also overcomes data limitations that arise when using more granular occupation data.

Unit groups are less detailed than occupations and therefore have fewer job categories and more general titles. For instance, in the 2022 ANZSCO version of the 2024 OSL, there were 303 occupations in shortage. These translated into 114 unit groups in shortage for the OSD.

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<sup>1</sup> In this report, Shortage (with a capital S) is used to indicate an OSL rating. When referring to a labour market condition, lowercase s for shortage is used.

<sup>2</sup> The product branding has changed consistent with the rebranding of the Skills Priority List to Occupation Shortage List (OSL). The OSL has been rebranded to better align to the definition of occupation shortage used and the insights generated. To be consistent with the current title of the report, the 2023 SSD report will be referred to as the 2023 OSD report.

<sup>3</sup> ANZSCO is a skill-based classification used to classify all occupations and jobs in the Australian and New Zealand labour markets. It is organised into a 5-level hierarchy: major groups, sub-major groups, minor groups, unit groups and occupations. Occupation level refers to the most granular 6 digit ANZSCO. For more details on ANZSCO refer to the [Australian Bureau of Statistics \(ABS\) website](#).

<sup>4</sup> Please refer to the 2024 OSL Methodology Paper for more details.

The methodology used to map occupations to unit groups is described in **Data Sources and methodology**.

## Changes in the methodology for the 2024 edition

Beyond data updates, the 2024 OSD methodology was amended slightly from the 2023 OSD methodology.

- Skill Levels were added to the Long training gap and Short training gap definitions. This more clearly distinguished the 2 definitions and enabled unit groups to be more easily categorised into the 4 types. Definitions are detailed further in **Concepts and definitions**.
- The criteria and definitions used to categorise unit groups into the 4 types were based on an average of 2022–23 and 2023–24 data. That is, for the 2024 edition, a 2-year average was used. The 2023 OSD criteria were based on average data from 2022–23 only. Using a 2-year average minimised the impact of data volatility.

# Concepts and definitions

## Four different types of shortage drivers

The OSD categorised unit group shortages into 4 types based on data from the *Survey of Employers who have Recently Advertised (SERA)*. The categorisation was based on a typology published in Richardson (2007), which proposed 4 classifications of shortages each with different policy implications (Table 1).

The downloadable workbook and OSD dashboard provide the OSD categorisations for unit groups, on the 2013 and 2022 ANZSCO versions.

**Table 1: Richardson’s occupation shortage classifications**

Classification	Definition
<b>Level 1 shortage</b>	Only a few people have the essential technical skills and there is a long training time for development.
<b>Level 2 shortage</b>	Only a few people have the essential technical skills and there is a short training time for development.
<b>Quality gap</b>	There are sufficient people with the essential technical skills, but they lack some qualities that employers consider important.
<b>Skills mismatch</b>	There are sufficient people who have the essential technical skills, but they are not willing to apply for the vacancies under current conditions.

Source: Richardson, S. (2007), “What is a skill shortage?”. National Institute of Labour Studies – Flinders University – NCVER.

Considering Richardson’s typology and using data from SERA, Jobs and Skills Australia produced the shortage typology described in Table 2.

**Table 2: Jobs and Skills Australia’s occupation shortage driver typology**

Classification	Definition
<p><b>Long training gap</b></p>	<p>Analogous to Richardson’s level 1 shortage. Using SERA data, a Long training gap shortage is defined by few qualified applicants per vacancy and a long training pathway – corresponding to a certificate III or above.</p> <p>This suggests a need to increase the number of available skilled workers but with significant time lags involved in the training process. Solutions to shortages caused by a lack of qualified workers will largely come from policy and educational providers.</p>
<p><b>Short training gap</b></p>	<p>Analogous to Richardson’s level 2 shortage. Using SERA data, a Short training gap shortage arises when there are few applicants per vacancy and a qualification less than a Certificate III is required.</p> <p>This suggests a need to increase the number of available skilled workers, with shorter time lags involved in the training process.</p>
<p><b>Suitability gap</b></p>	<p>Analogous to Richardson’s quality gap. The Suitability gap shortage is where there are enough qualified applicants, but they are not regarded as suitable. Reasons cited include a lack of employability skills and work experience. Another factor which may be in play is unconscious bias of employers, including employers may have unrealistic expectations of graduates and workers.</p> <p>Data from SERA was used to calculate the threshold for the Suitability gap classification where there was a high number of qualified applicants, but the suitable applicants were low.</p> <p>This is a category where simply increasing the throughput of qualified people is a questionable strategy. The solution is to enhance the attributes of qualified applicants through investing in their employability skills and work experience.</p>
<p><b>Retention gap</b></p>	<p>Analogous to Richardson’s skills mismatch. A Retention gap shortage is where there are below average rates of retention, potentially reinforced by low numbers of new applicants per vacancy.</p> <p>There may be enough people with the requisite skills, qualifications and experience to fill vacancies in each unit group, but workers for these unit groups may not remain in the role long due to current working conditions. As such, employers are required to undertake more regular/frequent recruitment activities to fill the vacant roles. Data from the ABS <i>Participation, Job Search and Mobility</i> survey and SERA were used to determine Retention gaps.</p> <p>This is a category where increasing the throughput of qualified applicants is unlikely to solve the shortage problem because of the low likelihood of retaining workers. Ways to enhance the attractiveness to workers is through improved remuneration and/or working conditions, professional development and clearer career pathways.</p>

Classification	Definition
<b>Uncertain/unknown<sup>5</sup></b>	There may be cases where the shortage driver of a unit group is uncertain. This may occur when unit groups do not satisfy any of the above definitions or requirements. Uncertainty can also arise when there is not enough data of sufficient quality to identify the primary driver of a shortage.

Source: Jobs and Skills Australia.

The 4 classifications may appear mutually exclusive; however, not all unit group shortages fit neatly in one category or another. Some unit groups assigned to one category may have some issues in common with unit groups in other categories. For example, a unit group may be simultaneously experiencing a lack of qualified applicants and a large amount of turnover. The shortage driver given by Jobs and Skills Australia for a unit group, therefore, was the primary driver of shortage (based on available evidence).

This typology is a useful way to understand a complex set of dynamics in the labour market. In reality, for some unit groups it is likely that there are several factors which lead to their shortage ratings and elements from more than one of the drivers outlined in this section may be at play. This means that responding to shortages may require multiple strategies. For example, resolving a particular shortage may involve increasing training places, combined with higher wages and better working conditions to attract and retain more workers.

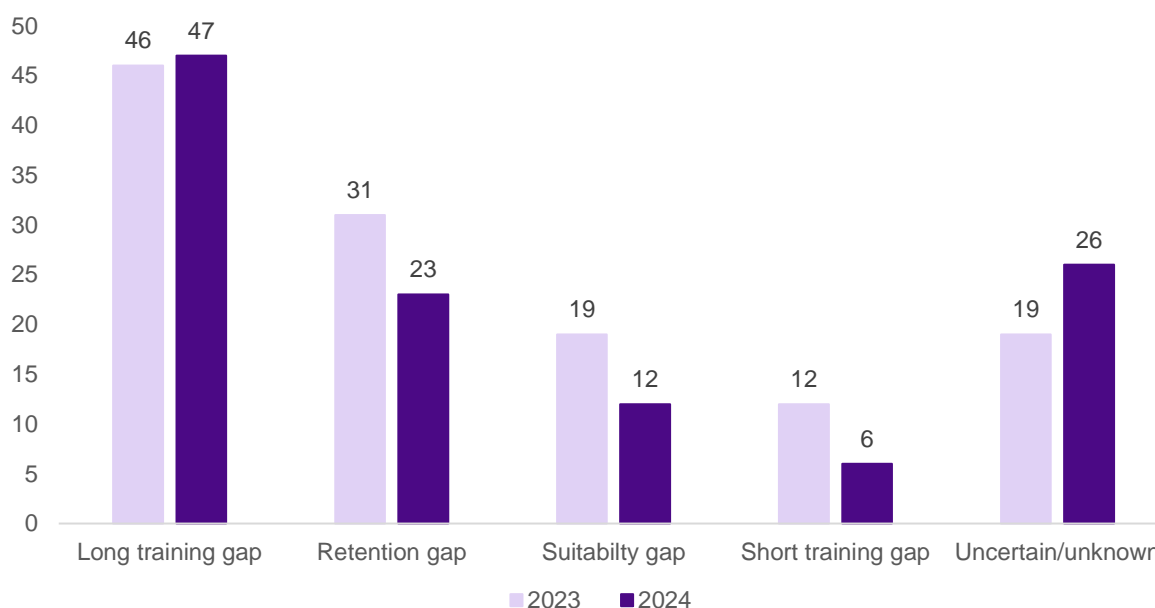
## Summary of 2024 results

Jobs and Skills Australia has found that 114 occupational unit groups are in national Shortage in 2024, down from 127 unit groups being in national Shortage in 2023.

In 2024, the most common occupation shortage driver was Long training gap, with this being identified as the primary driver of shortages for 47 of the 114 unit groups.

<sup>5</sup> Unit groups are classified into the 4 shortage driver types based on a set of criteria which uses averages of various metrics (or boundary/threshold rules). These boundary/threshold rules help determine the primary shortage driver of a unit group. Uncertainty arises when unit groups fall on the boundary/threshold rather than being above or below it. For example, a unit group with above average job mobility and below average qualified applicants per vacancy would be classified as Retention Gap. However, it would be challenging to establish the primary shortage driver of the unit group, if it had both average job mobility and average qualified applicants per vacancy. The criteria used to classify the unit groups are in Table 10 in **Data sources and methodology** section of the report.

**Figure 1: Occupation Shortage Drivers by number of unit groups (No.), 2023 and 2024**



Source: Jobs and Skills Australia.

This was followed by 26 unit groups where the primary shortage driver was Uncertain/unknown and 23 unit groups in the Retention gap category (Figure 1).<sup>6</sup> This result pattern was broadly consistent with the 2023 results, albeit with a noticeable reduction in the incidence of both Retention gaps and Suitability gaps.

Table 3 lists the 10 largest employing unit groups that were in Shortage.

**Table 3: Occupation shortage drivers for the highest employing unit groups (No.), 2024**

Unit group title	Shortage Driver	Employed (No.)
Registered Nurses	Long training gap	262,743
Aged and Disabled Carers	Retention gap	227,542
Primary School Teachers	Long training gap	164,895
Child Carers	Retention gap	162,484
Truck Drivers	Short training gap	161,582
Secondary School Teachers	Long training gap	155,850
Advertising, Public Relations and Sales Managers	Suitability gap	135,802
Electricians	Long training gap	131,921
Software and Applications Programmers	Suitability gap	117,682
Construction Managers	Suitability gap	113,709

Source: Jobs and Skills Australia; Australian Bureau of Statistics, 2021 Census of Population and Housing.

Table 4 shows the distribution of unit groups across the 4 types of shortage drivers by Skill Level.

<sup>6</sup> Shortage ratings for unit groups were based on the 2024 unit group shortage list.



**Table 4: Distribution of shortage drivers by Skill Level**

	Long training gap	Short training gap	Suitability gap	Retention gap	Uncertain/unknown
Skill Level 1	28	0	11	1	7
Skill Level 2	1	0	0	6	3
Skill Level 3	18	5	0	8	11
Skill Level 4	0	1	1	8	5

Source: Jobs and Skills Australia.

Table 5 (next page) shows the top 10 employing unit groups for each shortage driver.

**Table 5: Top 10 largest employing unit groups for each shortage driver (No.)**

Long training gap	Short training gap	Suitability gap	Retention gap	Uncertain/unknown
Registered Nurses	Truck Drivers	Advertising, Public Relations and Sales Managers	Aged and Disabled Carers	Earthmoving Plant Operators
Primary School Teachers	Landscape Gardeners and Irrigation Technicians	Software and Applications Programmers	Child Carers	Auditors, Company Secretaries and Corporate Treasurers
Secondary School Teachers	Electronics Trades Workers	Construction Managers	Nursing Support and Personal Care Workers	Plasterers and Renderers
Electricians	Telecommunications Trades Workers	Civil Engineering Professionals	Chefs	Other Medical Practitioners
Carpenters and Joiners	Aircraft Maintenance Engineers	Security Officers and Guards	Structural Steel and Welding Trades Workers	Air Transport Professionals
Motor Mechanics	Floor Finishers	Financial Investment Advisers and Managers	Drillers, Miners and Shot Firers	Veterinary Nurses
Metal Fitters and Machinists		Industrial, Mechanical and Production Engineers	Enrolled and Mothercraft Nurses	Train and Tram Drivers
Plumbers		Architects and Landscape Architects	Cooks	Civil Engineering Draftspersons and Technicians
Solicitors		Engineering Managers	Bakers and Pastrycooks	Tourism and Travel Advisers
General Practitioners and Resident Medical Officers		Electrical Engineers	Structural Steel Construction Workers	Agricultural, Forestry and Horticultural Plant Operators

Source: Jobs and Skills.

Note: There were only 6 unit groups with a Short training gap classification in 2024

Together, Table 3, Table 4 and Table 5 reveal a clear pattern of results.

- For Skill Level 1 (equivalent to a bachelor degree or above) unit groups and large employing unit groups in the Professionals major group, Long training gap and Suitability gap were the primary shortage driver.
- For large employing care, other non-registered nurses, and food and hospitality related unit groups, Retention Gap was the primary shortage driver.
- For large employing managers and engineers, Suitability gap was the primary shortage driver.
- For Skill Level 3 unit groups (equivalent to a Certificate III or IV qualification) and large employing Technicians and Trades Workers unit groups, training gap (long and short) and Retention gap were the primary shortage drivers.
- Retention gap or Uncertain/unknown categories were the primary shortage drivers for Skill Level 2 unit groups and lower Skill Level 4 unit groups, which include Machinery Operators and Drivers.

## Box 1: Construction and health workers in focus

### Construction

Many 2024 OSD unit groups in shortage are prevalent in the Construction industry. These unit groups encompass construction managers, architects and engineers to electricians, plumbers and machinery operators. This suggests that the industry requires a palette of skills.

As indicated in the analysis, alleviating shortage pressures in the industry may therefore require addressing the lack of supply of qualified workers, ensuring workers are equipped with the skills and experience demanded and the lack of attractiveness of existing and potential workers. Young people are hesitant to join the industry due to work-life balance issues.<sup>6</sup> The 2024 OSL Key Findings and Insights Report and additional research shows that the occupations employed in the industry have predominately male workforces and has issues attracting women to its workforce, due to excessive and rigid work hours, gendered culture and informal rules, limited career development opportunities, and negative perceptions of women's abilities within the industry.<sup>7</sup>

The shortage pressure on the occupations and in the industry may be exacerbated by the need to address the housing crisis in Australia and the impact of backlog of infrastructure projects.<sup>8</sup>

### Health

As the population gets older, there is a higher prevalence of chronic conditions and a higher demand for medical care. In 2022, the population aged 65 and over was around 17% of the Australian population. By 2050, people aged 65 and over are expected to represent around 22% of the nationwide population.<sup>9</sup>

For some time now, Australia's healthcare system has faced increasing strain despite a high level of recruitment. The number of healthcare workers in Australia increased from 503,995 to 688,555 (36.6%) between 2013 and 2022, much more rapidly than population growth during the same period (22%). The largest increase (66.5%) concerned health practitioners who were not doctors, nurses or dentists.<sup>10</sup>

The Long training gap is the primary shortage driver for the healthcare industry, while the Retention gap is the secondary driver. Many factors contribute to the attraction and retention of healthcare workers which includes an ageing workforce, lack of job satisfaction, violence and inadequate staff-to-patient ratios leading to burnout.<sup>11</sup>

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<sup>7</sup> The Construction Industry Culture Taskforce (CICT) report, led by RMIT University, follows the experiences of 136 NSW trainees who spent 2 years in the infrastructure construction while completing a TAFE course. The male and female trainees aged between 17 and 23 observed the long hours worked in construction and most reported it was not an industry they would choose to work in. The report also shows that 79% of the participants are looking for a job with hours that allow them time for non-work roles and interests, with a low 31% believing they could combine a career in infrastructure with family and social commitments. Only 26% reported they could combine construction with parenthood, and just 30% stated that a job in the industry would give them some control over their work time or would not take them away from home for long periods of time.

<sup>8</sup> Ghanbaripour, A. N., Tumpa, R. J., Sunindijo, R. Y., Zhang, W., Yousefian, P., Camozzi, R. N., Hon, C., Talebian, N., Liu, T., & Hemmati, M. (2023). Retention over Attraction: A Review of Women's Experiences in the Australian Construction Industry; Challenges and Solutions. *Buildings*, 13(2), 1-19. Article 490. <https://doi.org/10.3390/buildings13020490>

<sup>9</sup> National Housing Supply and Affordable Council, 2024

<sup>10</sup> Australian Institute of Health and Welfare (2024) – Older Australians 2024.

<sup>11</sup> Australian Institute of Health and Welfare (2024) – Health Workforce 2024.

<sup>12</sup> De Vries et al (2023) – The Race to Retain Healthcare Workers: A Systematic Review on Factors that Impact Retention of Nurses and Physicians in Hospitals

## Changes from 2023 to 2024

There were 16 unit groups that transitioned from a Shortage in 2023 to No Shortage in 2024. These are shown in Table 6 with their previous 2023 shortage drivers. There were a mix of Skill Level 1 to 4 unit groups. Half of these unit groups were in the Retention gap category in 2023.

**Table 6: Unit groups rated as Shortage in 2023 and No Shortage in 2024**

Unit group title	2023 shortage driver
Other Accommodation and Hospitality Managers	Uncertain/unknown
Retail Managers	Short training gap
Human Resource Professionals	Retention gap
Advertising and Marketing Professionals	Suitability gap
Technical Sales Representatives	Short training gap
Interior Designers	Suitability gap
Multimedia Specialists and Web Developers	Suitability gap
Computer Network Professionals	Suitability gap
Other Building and Engineering Technicians	Retention gap
Diversional Therapists	Retention gap
Waiters	Retention gap
Insurance Investigators, Loss Adjusters and Risk Surveyors	Retention gap
Plastics and Rubber Production Machine Operators	Retention gap
Bus and Coach Drivers	Short training gap
Insulation and Home Improvement Installers	Retention gap
Other Construction and Mining Labourers	Retention gap

Source: Jobs and Skills Australia.

Three unit groups that transitioned from No Shortage in 2023 to Shortage in 2024 are shown in Table 7 with their current 2024 shortage driver statuses.

**Table 7: Unit groups rated as No Shortage in 2023 and Shortage in 2024**

Unit group title	2024 shortage driver
Hotel and Motel Managers	Retention gap
Marine Transport Professionals	Uncertain/unknown
Indigenous Health Workers	Retention gap

Source: Jobs and Skills Australia.

For unit groups that were in Shortage in both 2023 and 2024, 17 had a different primary shortage driver in 2024 than in 2023 (Table 8). This means that in 2024, different factors were the predominant drivers of the Shortage ratings for the unit groups.

There were 8 unit groups which transitioned from a specific shortage driver group in 2023 to the category where the primary driver was Uncertain/unknown in 2024. As shown in Figure 1, there were more unit groups in Uncertain/unknown. This implies there was a less

pronounced primary driver in 2024. These more subtle trends indicate that responses (across government, industry, workers and the skills system) to address the observed 2023 shortage drivers are potentially showing early signs of positive outcomes.

Some of these switches could also be due to unit groups that were already marginal in their previous 2023 driver classification and moved to a different driver in 2024 as a result of data movements. Labour markets are dynamic and evolve over time, which can mean that the balance of factors (such as training, suitability and retention gaps) that drive shortage will also evolve over time.

The transitions can also reinforce the concept that reasons for shortage of a unit group, and therefore shortage driver types, are multifaceted.

**Table 8: Unit groups that changed shortage driver classification from 2023 to 2024**

Unit group	2023 Shortage driver	2024 Shortage driver
Auditors, Company Secretaries and Corporate Treasurers	SG	U/U
Urban and Regional Planners	SG	LTG
Mining Engineers	SG	U/U
Agricultural, Fisheries and Forestry Scientists	SG	U/U
Civil Engineering Draftspersons and Technicians	RG	U/U
Metal Casting, Forging and Finishing Trades Workers	LTG	RG
Sheetmetal Workers	LTG	RG
Structural Steel and Welding Trades Workers	LTG	RG
Aircraft Maintenance Engineers	U/U	STG
Bricklayers and Stonemasons	STG	LTG
Glaziers	RG	LTG
Plasterers and Renderers	RG	U/U
Roof Tilers	RG	U/U
Wall and Floor Tilers	RG	LTG
Security Officers and Guards	STG	SG
Gallery, Museum and Tour Guides	STG	U/U
Tourism and Travel Advisers	STG	U/U

Source: Jobs and Skills Australia.

Note: LTG: Long training gap, RG: Retention gap, SG: Suitability gap, STG: Short training gap and U/U: Uncertain/unknown.

There were a further 10 unit groups where the 2023 primary shortage driver was assessed as a Long training gap (9 of these 10) or a Retention gap (1 of these 10). They were originally Uncertain/unknown in 2024 but Jobs and Skills Australia retained their 2023 assessment in 2024. This was done as the 2023 shortage drivers were still likely to be the main reason for the Shortage ratings of these unit groups in 2024.

For the 9 of the 10 Long training gap unit groups, 4 were specialised medical professionals, requiring high qualifications and extensive training. The unit groups that retained their 2023 Long training gap classification include: Surveyors and Spatial Scientists; Vocational

Education Teachers / Polytechnic Teachers; General Practitioners and Resident Medical Officers; Anaesthetists; Specialist Physicians; Surgeons; Vehicle Body Builders and Trimmers; Carpenters and Joiners; and Painters.

The one Retention gap unit group was Aged and Disabled Carers. For this unit group, issues pertaining to working hours, a lack of career progression, poor workforce training outcomes and negative public perceptions of the care sector are only likely to resolve over time and remain the primary driver of shortages.

## Data Sources and methodology

### Data sources

The OSD analysis used 4 data sources, listed in Table 9.

**Table 9: Data sources used for occupation shortage drivers**

Data source	Source owner
Survey of Employers who have Recently Advertised (SERA) <sup>13</sup>	Jobs and Skills Australia
Australian Skills Classification (where unit group SERA data was insufficient) <sup>14</sup>	Jobs and Skills Australia
Occupation Shortage List	Jobs and Skills Australia
Participation, Job Search and Mobility Survey (PJSM)	ABS

Source: Jobs and Skills Australia.

### Criteria for classifying unit groups into shortage drivers

The criteria used to classify unit groups into 1 of the 4 shortage drivers are shown in Table 10.

**Table 10: Occupation shortage driver classification criteria, 2024**

Shortage driver	Criteria
Long training gap	<ul style="list-style-type: none"> <li>Below-average job mobility: 11.2%</li> <li>Below-average qualified applicants per vacancy: 7.0</li> <li>Above-average proportion of job vacancy requiring Certificate III or above qualification (weighted by the proportion of employers requiring a qualification at all): 70.9%</li> <li>Skill Levels 1, 2 and 3</li> </ul>

<sup>13</sup> SERA is the survey of employers who have had recent interactions with the labour market and are, therefore, able to provide information on current recruitment conditions and identify issues for selected occupations. The survey asks employers a range of questions regarding their recruitment experience for an advertised vacancy, collecting both quantitative and qualitative data. For more information on SERA, please refer to the 2024 OSL Methodology Paper.

<sup>14</sup> OSD analysis uses occupation similarity scores from the *Australian Skills Classification* (ASC), which was developed to provide a common language of skills to increase understanding and recognition of skills across occupations, sectors and contexts. More information on the ASC is available on the Jobs and Skills Australia [webpage](#).

Shortage driver	Criteria
Short training gap	<ul style="list-style-type: none"> <li>• Below-average job mobility: 11.2%</li> <li>• Below-average qualified applicants per vacancy: 7.0</li> <li>• Below-average proportion of job vacancy requiring Certificate III or above qualification (weighted by the proportion of employers needing a qualification at all): 70.9%</li> <li>• Skill Levels 3 and 4</li> </ul>
Retention gap	<ul style="list-style-type: none"> <li>• Above-average job mobility: 11.2%</li> <li>• Below-average qualified applicants per vacancy: 7.0</li> </ul>
Suitability gap	<ul style="list-style-type: none"> <li>• Below-average job mobility: 11.2%</li> <li>• Above-average qualified applicants per vacancy: 7.0</li> </ul>
Uncertain/unknown	<ul style="list-style-type: none"> <li>• Not enough data to be of sufficient quality or did not satisfy any of the above requirements.</li> </ul>

Source: Jobs and Skills Australia; Australian Bureau of Statistics, Participation, Job Search and Mobility, Australia.

Note: The averages are based on a 2-year average of 2022–23 and 2023–24 data.

## Occupation similarity scores from the Australian Skills Classification (ASC)

Where SERA unit group data was insufficient, occupation similarity scores were used to impute unit group data in SERA to increase the sample size. Combining information from multiple similar unit groups together enables the use of a more reliable dataset.

Only unit groups with more than 85% similarity were included.

The formula used to weight SERA data for the metric of qualified applicants per vacancy using similarity scores is:

$$\text{Qualified applicants per vacancy} = \frac{\sum_{i=0}^n \text{similarity}_i * \text{qualified applicants}_i}{\sum_{i=0}^n \text{similarity}_i * \text{vacancies}_i}$$

Where:

- *i* represents the index of each similar unit group. When *i* is zero, it is referring to the unit group itself.
- *n* is the number of similar unit groups.
- *Similarity* is the similarity score for each unit group. When *i* is zero, the similarity score is 100%.
- *Qualified applicants* refer to the total number of qualified applicants.
- *Vacancies* is the total number of vacancies employers were aiming to fill with their recruitment.

This weighting is applied to other SERA metrics used and listed in Table 10.

## Creating a unit group shortage list

As previously mentioned, the OSL was converted into a unit group shortage list for the purpose of producing OSD analysis. The ANZSCO framework groups similar occupations



into broader unit groups, which have fewer and more general titles. For example, in the 2022 ANZSCO, 916 occupations were grouped into 311 distinct unit groups.

The data sources used to apply a shortage rating to a unit group were as follows:

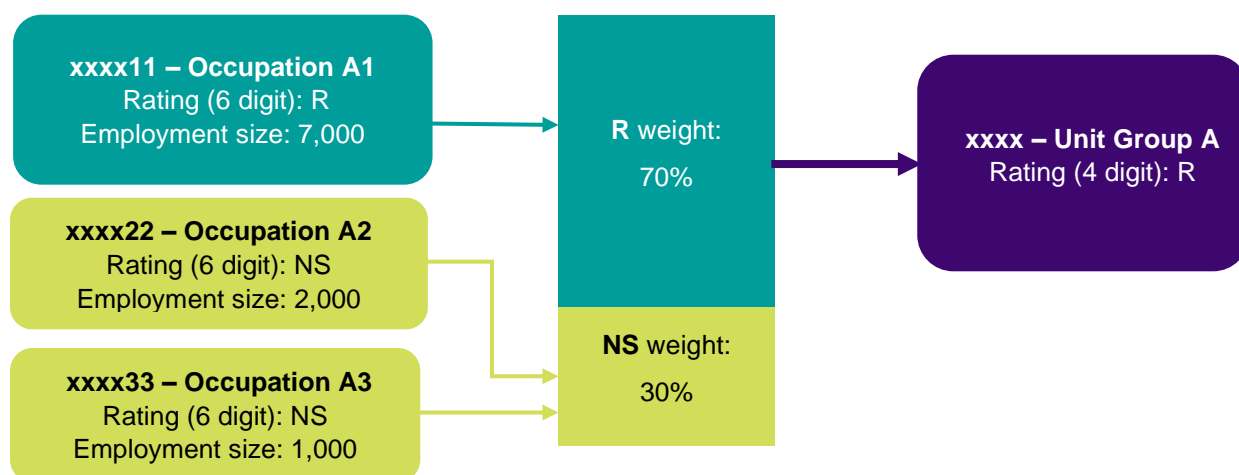
- Jobs and Skills Australia OSL<sup>15</sup>
- Employment size from ABS 2021 Census of Population and Housing
- ABS ANZSCO (mapping between occupations and unit groups).

As each unit group has multiple occupations within it, determining an appropriate shortage rating at the unit group-level can be a challenge. Where the OSL ratings all match within a unit group, this becomes the rating of the unit group (Shortage, No Shortage, Regional Shortage, Metropolitan Shortage).

Where they do not match, occupations were weighted by employment size to make a determination for the unit group. That is, the unit group shortage rating (Shortage, No Shortage, Regional Shortage, Metropolitan Shortage) was the rating of the occupations that had a majority employment share within that unit group. Only occupations within scope of the OSL were used generate unit group ratings.<sup>16</sup>

The mapping is illustrated in Figure 2.

**Figure 2: Converting occupation ratings to unit group ratings**



Source: Jobs and Skills Australia.

<sup>15</sup> Please refer to the 2024 OSL Methodology Paper for details on how the OSL is produced.

<sup>16</sup> Please refer to 2024 OSL Methodology Paper to see further detail on scope of OSL.