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Inquiry into projecting Australia's urban and regional futures: population dynamics, regional mobility and planning responses

From the AHURI Inquiry: Inquiry into projecting Australia's urban and regional futures: population dynamics, regional mobility and planning responses

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Related reports and documents

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Buckle, C., Werner, G., Marshall, N., Osbaldiston, N., Searle, G., Sarkar, S., Kundu, D., and Gurran, N. (2024) *Placebased drivers and effective management of population growth and change in regional Australia,* AHURI Final Report No. 425, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/425, doi: 10.18408/ahuri7330301.

Han, H., Ng, M., Crommelin, L., Searle, G., Lee, B. and Hoseini, P. (2025) *Understanding contemporary demographic and economic drivers of household mobility and their policy implications,* AHURI Final Report No. 437, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/437, doi: 10.18408/ahuri7130201.

Yanotti, M.B., Kangogo, M., Wright, D., Sarkar, S. and Lyu, F. (2024) *House price dynamics and internal migration across Australia,* AHURI Final Report No. 421, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/421, doi: 10.18408/ahuri4130401

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AHURI's mission is to deliver high quality research that influences policy development and practice change to improve the housing and urban environments of all Australians.

Using high quality, independent evidence and through active, managed engagement, AHURI works to inform the policies and practices of governments and the housing and urban development industries and stimulate debate in the broader Australian community.

AHURI undertakes evidence-based policy development on a range of priority policy topics that are of interest to our audience groups, including housing and labour markets, urban growth and renewal, planning and infrastructure development, housing supply and affordability, homelessness, economic productivity, and social cohesion and wellbeing.

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Inquiry panel members

Each AHURI Inquiry is supported by a panel of experts drawn from the research, policy, and practice communities.

The Inquiry Panel are to provide guidance on ways to maximize the policy relevance of the research and draw together the research findings to address the key policy implications of the research. Panel members for this Inquiry:

Jordan George	Australian Government, The Treasury
Julie Chan	Australian Government, Department of Social Services
Mark Bruerton	Australian Government, The Treasury
Natalie Horvat	Australian Government, The Treasury
Ray Harris	Australian Government, Centre for Population
Shona Rosengren	Australian Government, Department of Infrastructure, Transport, Regional Development and Communications
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Liz Richie	Regional Australia Institute
Robert Knight	Australian Local Government Association
John Brockhoff	Planning Institute Australia

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Acronyms and abbreviations used in this report

AHURI	Australian Housing and Urban Research Institute Limited
ABS	Australian Bureau of Statistics
ERP	Estimated Resident Population
G-NAF	Geoscape Geocoded National Address File
HILDA	Household, Income and Labour Dynamics in Australia
IRP	Inquiry Research Project
LGA	local government area
NHFIC	National Housing Finance Investment Corporation
NSW	New South Wales
SA2	Statistical Area Level 2
SA3	Statistical Area Level 3
SA4	Statistical Area Level 4
SUA	significant urban area
VAR	vector autoregressive

Glossary

A list of definitions for terms commonly used by AHURI is available on the AHURI website ahuri.edu.au/glossary.

Executive summary

Key points

This Inquiry examined leading practice in projecting population growth and change, contemporary drivers of regional mobility and housing market spillovers, and implications for infrastructure and settlement planning.

By exploring household-level patterns of migration to and from capital cities and regional areas, the Inquiry identified place-based attributes as well as government policy settings that attract and retain regional populations.

The Inquiry findings highlight interactions between migration dynamics and housing market impacts that have important implications for more accurate and timely population projections.

The Inquiry findings also point to the need to address housing market impacts of regional migration through forward planning for new and diverse housing supply, targeted subsidies and potential restrictions on short-term rentals.

Understanding the dynamics of population change and mobility across urban and regional Australia is critical to effective settlement planning at national, regional and local scales. However, there has long been concern that Australia's population data are partial and unreliable, based on imprecise or historical information (Wilson 2015). There has been particular concern over the accuracy of data for rapidly growing locations, where sudden population increases can lead to critical infrastructure lags across transport, health and education (Sarkar, Moylan et al. 2021). Further, with recent policy interest in the potential for second tier cities and regional areas to sustain population growth beyond Australia's primate capital cities (Buckle and Osbaldiston 2022), and increasing preferences for regional living (Vij, Ardeshiri et al. 2024), it is important to better understand and monitor internal migration patterns.

To address these themes, this Inquiry aimed to:

- examine and test leading practice methods in projecting local area populations, informing efforts to develop nationally consistent approaches
- identify new insights into the contemporary drivers of regional mobility and the diverse place-based and demographic factors underpinning migration, local population growth and change
- measure housing spillovers arising from local and regional population movements.

The Inquiry was informed by four discrete research projects, each providing empirical evidence in relation to population projection and forecasting, demographic and place-based drivers of regional growth and change, and the housing market spillover impacts of regional migration.

An expert panel offered advice in response to the findings emerging from these research projects. In particular, the Inquiry Panel shared expert and practitioner insights on how population projections and other indicators of regional development and change are incorporated into settlement and infrastructure planning efforts, as well as key opportunities for improving the evidence base to better inform strategic policy interventions at national, state and local levels.

Research questions and key findings

Overall, the Inquiry research program asked:

How can leading practice methods in projecting population growth and change be implemented across the diversity of Australian cities and regions, informing nationally consistent approaches to settlement planning, and effective infrastructure, housing and service responses?

This overarching question was addressed through four sub-questions, each of which corresponded to a discrete research project within the overall Inquiry program:

1. How effective are local area population projections, and how can a best practice, nationally consistent program of local area population projections be implemented?
2. What are the contemporary demographic and economic drivers of regional mobility, within and between the Australian states and territories, and how do these drivers intersect with national, state and local policy settings?
3. What are the place-based determinants of population growth and change, and how best can local governments foster population growth and retention across the different economic and environmental contexts characterising non-metropolitan Australia?
4. What are the housing market spillover effects of local and regional population growth?

This final Inquiry report brings the findings of these research programs together, synthesising key findings and highlighting broader implications for policy development.

Best practice in local area population projections

Population projections are used by state agencies, local governments and the private sector in many ways to inform planning, resource allocation and investment decisions. The spatial scale of decision-making dictates the type of population projection method used.

Consistent, reliable and timely data, with clearer explanations of error and assumptions will improve decision-making.

As internal migration is the key driver of population change within Australia, better understanding household-level and place-based mobility drivers can help inform local area population forecasts.

There are many opportunities for methodological improvements in how projections are produced and provided to decision-makers and new administrative and commercial data sources that may help better monitor small area migration patterns and housing supply responses.

However, the Inquiry found a lack of public sector focus in driving new methods and novel datasets for small area population projection. While, to some degree, the private sector has evolved to supplement the existing projections and forecasts, there is a pressing need for public sector leadership and coordination.

Demographic and economic drivers of regional mobility

Australian Bureau of Statistics (ABS) Census data 2011–21 show that migration patterns within the Australian states have changed, with new regional migration clusters emerging in the five largest states: New South Wales, Victoria, Queensland, South Australia and Western Australia.

People leaving capital cities tend to have higher household net worth and be older than those moving to capital cities from a regional area. This trend has increased over the past decade, preceding the COVID-19 pandemic.

Analysis of Housing Income and Labour Dynamics in Australia (HILDA) data show that out-migrants from capital cities are most likely to cite lifestyle (27.8%) and personal reasons (25.2%), while those moving from regional areas to state capitals are motivated by employment (27.9%), closely followed by personal reasons (25.2%).

Place-based determinants of population growth and change

Place-based ‘push’ and ‘pull’ factors influence mobility to and from capital cities and regional areas, helping explain spatial patterns of population growth and decline.

Statistical modelling of population change reveals that regional growth is influenced by proximity to metropolitan and coastal areas, as well as climatic conditions. Regional areas with more university-educated graduates and/or larger tourism sectors of employment have higher growth. By contrast, higher dwelling prices are associated with lower levels of growth.

Community surveys in three case study areas highlight the different reasons attracting people to different regional locations. For instance, survey respondents primarily moved to Broken Hill (outback NSW) for employment reasons but to Port Macquarie Hastings (coastal NSW) for lifestyle.

Place-based factors may also help ‘push’ people away. For instance, higher dwelling prices are associated with lower population growth, while lower priced housing was a motivation for survey respondents to move from capital cities to regional areas. Inadequate secondary and tertiary education facilities and lack of health and disability services were identified as factors motivating people to leave regional locations.

Housing market spillovers from local and regional population growth

House price spillovers from one housing sub-market to another happen when price increases in one place generate increases elsewhere. In this study, spillover effects were estimated with reference to growth in median house prices.

Internal migration—where people move to and from—determines how price movements influence other sub-markets. The unexpected increase in migration to regional cities and fringe areas that occurred during the COVID-19 period led to a housing supply imbalance, impacting median house prices in regional and rural areas.

National patterns in Australian housing prices are increasingly being influenced by these population changes in regional cities and suburban fringe areas.

Policy development options

The findings of this Inquiry point to four key areas for policy development.

Improving and diversifying data sources and approaches to small area population projections

Developing approaches that make clear the distinctions between projections and forecasts, expose error margins and clarify state government assumptions would improve small area projections for the purposes of local governments and other stakeholders. This could include enhancing population 'nowcasting' using new technologies such as 5G. Accurate data are required to address housing needs and inform difficult infrastructure spending prioritisation to mobilise latent development opportunities.

Supporting choices to migrate to regional areas

This Inquiry revealed opportunities to better understand and support household choices to move to or from metropolitan areas in pursuit of employment opportunities or lifestyle aspirations. Recognising the emergence of regional migration clusters and the demographic characteristics of people likely to move into these areas can inform proactive planning strategies to ensure sufficient and appropriate housing and other facilities to support new residents and manage impacts on existing populations.

Of the numerous policies and programs that exist to encourage regional migration, many focus on specific sectors of the workforce, with health and education sectors predominating. There is potential to expand incentive schemes to other industries associated with high-value sectors likely to attract university graduates and to support growth (e.g. research and incubator/technology start-ups, urban planning or construction).

Place-based strategies to sustain non-metropolitan population growth and retention

Targeted investment in regional airports and transport infrastructure, higher education (university and TAFE campuses), as well as health and school facilities, will best support non-metropolitan population growth and retention.

There is an opportunity to target regional infrastructure investment in emerging focal points for migration. For instance, tourist centres have emerged as attracting higher levels of population growth and so should be a priority for new infrastructure investment, including in essential services such as schools and hospitals.

With air services also a positive factor for growth, state government subsidies and/or assistance for local governments to develop or upgrade existing airports are likely to support population growth and retention in emerging regional growth clusters.

The opportunity to support smaller centres as preferred retirement destinations would be supported by more targeted policies to attract and retain aged care workers, who are generally lower paid than the broader healthcare workforce and not currently a focus for incentive schemes (Han, Ng et al. 2025).

Place-based solutions to encourage and manage population growth in regional cities depend on effective coordination across federal, state and local governments as well as between government agencies and key industry sectors.

Responding to regional housing market spillovers

The Inquiry findings highlight the need for regional cities to anticipate population movements so they can be accommodated with sufficient new and diverse housing supply, as well as broader infrastructure and services.

Findings also highlight the potential impacts of internal migration on lower income renters in receiving destinations. Recognising the lag time between increased housing demand and new construction, financial assistance and rental relief measures would support low-income renters in regional areas experiencing market pressure.

State housing authorities should also monitor internal migration dynamics and housing market impacts to identify priorities for increased investment in social and affordable housing and emergency housing services.

Controlling the loss of permanent accommodation to the short-term rental market is also an important strategy where there is competition between residential and tourism uses of the housing stock.

Overall, better understanding the intersections between housing markets and internal mobility means that policy makers and planners can develop more proactive responses to forecast increases in housing demand.

Informing Australia's strategic settlement planning and population policy settings

Finally, drawing together more nuanced data sources informed by new knowledge about demographic and economic drivers of mobility and how policy settings may intersect with these drivers to support particular migration patterns will, in turn, lead to improved small area population forecasting. Similarly, better data about the housing market spillovers generated by internal migration allows more proactive planning to reduce unexpected price inflation and rental supply shocks, ensuring that 'receiving' destinations are able to absorb and sustain new growth.

Overall, the Inquiry findings point to the need for an Australian roadmap to develop a nationally consistent program of quality local area population projections utilising local knowledge and recognising place-based dynamics. Supporting these projections would be rapid and regularly updated guidance to stakeholders, informed by ongoing monitoring of small area migration and housing data. Further, the roadmap would incorporate a strategy for training the next generation of demographers, addressing the continuing brain drain in the sector.

The study

The Inquiry design brought together qualitative methods (policy analysis and interviews) and quantitative approaches (population projection and modelling, community surveys and housing market analysis) across four discrete but complementary research projects.

Leading practice in projecting population growth and change was explored through a combination of population modelling and stakeholder/expert interviews (Baker, Coffee et al. 2024). The research team undertook spatial and temporal analysis of publicly available demographic data and tested new datasets with the potential to reflect population level and change. They also conducted semi-structured interviews with key state and local government and industry end users of small area population projections.

Changing migration patterns between cities within the Australian states over the period 2011–21 were analysed using ABS Census data (Han, Ng et al. 2025). The demographic characteristics of people moving to and from capital cities were examined using restricted release HILDA data over 20 waves (2001–20). Government policies that may contribute to these observed migration patterns, focusing on policies seeking to incentivise moves to regional areas, were analysed. A total of 101 federal and state/territory policies were identified for analysis.

To understand the place-based push-pull factors influencing contemporary population shifts to non-metropolitan regions, variables associated with population change were modelled using 2011, 2016 and 2021 ABS Census data, as well as property, climatic, geographical and air service information (Buckle, Werner et al. 2024). Three case study local government areas experiencing high population change (Port Macquarie Hastings, NSW; Ballarat, Victoria; Broken Hill, NSW) were selected for more detailed analysis through community surveys (n = 458, 485, 421 responses, respectively). These surveys explored reasons for moving or remaining in the case study locations as well as place-based factors influencing people to move to, from or remain in each area. To explore impacts and responses to population change in each case study location, 19 interviews were held across the three case study areas, with a range of community, government and industry representatives.

An analysis of annual house price growth rates for local government areas (LGAs) across all Australian states was undertaken using CoreLogic Australian house price data to explore changes between the interconnection of housing sub-markets between January 2009 and December 2021 (Yanotti, Kangogo et al. 2024).

A spillover measure reflecting the interconnectedness of house prices across LGAs and across state and territories was calculated. Using a vector autoregressive (VAR) model, this measure was able to reveal magnitude, strength and direction of house price spillovers from one LGA to another. A discrete analysis was conducted on the data during the pandemic period (March 2020–December 2021), and more detailed analysis was conducted on New South Wales and Victorian urban and regional clusters. Migration, average household income and labour market indicators, as well as local amenity and location indicators, were identified to explain differences in market spillovers, using regression analysis.

Implications for infrastructure and settlement planning were identified in each of the research projects. Insights offered by the Inquiry Panel of leading industry practitioners and policy experts contributed to the overall analysis of research findings and broader implications for urban and regional planning and housing policy.

1. Introduction to the Inquiry

- **There is rising interest in the potential for Australia's non-metropolitan areas to attract and sustain new populations, as well as the policy settings needed to support and respond to growth.**
- **This Inquiry addressed the need for a sound evidence base to inform these policy settings. It examined leading practice in projecting population growth and change, identified regional migration clusters and explored the 'push-pull' factors influencing choices to move to or from regional areas.**
- **Recognising the interactions between housing markets and regional mobility, research in this Inquiry program also examined how house price movements in one location 'spillover' to other areas.**
- **This Final Report summarises the findings of the Inquiry research program and identifies broader implications for policy.**

Understanding the dynamics of population change and mobility across urban and regional Australia is critical to effective settlement planning at national, regional and local scales. These dynamics are shaped by changing patterns of international and internal migration, regional demographic shifts, economic trends and climate considerations. Yet accurate data on these changes and their impacts on spatial settlement patterns and housing spillovers remain limited. In particular, population data tend to be unreliable, especially for 'small area' forecasts (Wilson 2015), while specific drivers of regional migration and population change remain unclear, particularly in relation to Australia's diverse non-metropolitan regions.

In this context, the Australian Housing and Urban Research Institute (AHURI) funded an Inquiry to examine leading practice in projecting population growth and change, contemporary drivers of regional mobility and housing market spillovers, and implications for infrastructure and settlement planning.

With rising interest in the potential for Australia's non-metropolitan areas to attract and sustain new populations, this Inquiry recognised the need for a sound evidence base to inform policy, planning and investment decisions at all scales of government. Therefore, the Inquiry research program aimed to:

- examine and test leading practice methods in projecting local area populations, informing efforts to develop nationally consistent approaches
- identify new insights into the contemporary drivers of regional mobility and the diverse place-based and demographic factors underpinning local population growth and change
- measure housing spillovers arising from local and regional population movements.

The Inquiry was informed by four discrete research projects, each providing empirical evidence in relation to population projection and forecasting, demographic and place-based drivers of regional growth and change, and the housing market spillover impacts of regional migration.

An expert panel offered advice in response to the findings emerging from these research projects. In particular, the Inquiry Panel shared expert and practitioner insights on how population projections and other indicators of regional development and change are incorporated into settlement and infrastructure planning efforts, as well as key opportunities for improving the evidence base to better inform strategic policy interventions at national, state and local levels.

1.1 Policy context

A number of policy settings influence population size and distribution in Australia. These range from national immigration policy through to specific initiatives and funding programs designed to support growth in regional areas as well as broader government activities and policy settings that may impact on household mobility decisions.

Throughout this Inquiry, a key theme was to understand how these policy settings influence patterns of internal migration to or from regional Australia and identify opportunities for new or improved strategic interventions.

1.1.1 Australia's population policy framework

The federal government sets Australia's overarching population policy including the levels of international migration that shape overall population size at the national level. Over the past decade, the Australian Government has expressed increasing policy interest around population balance between urban and regional Australia. However, specific interventions to encourage growth beyond the major cities have been limited to some decentralisation of federal agencies and incentives for international migrants to work in regional areas.

The National Population and Planning Framework seeks to coordinate population planning processes across the different levels of government in Australia but does not establish policy settings for distributing population growth. As part of the framework, Australia's national-level migration numbers are articulated (although subject to changes in policy), while regular intergenerational reports outline long-term demographic and economic trends.

The Regional Investment Framework articulates the basis for the Australian Government's direct funding in regional areas, which is oriented towards 'responding' to challenges and opportunities rather than seeking to shape particular settlement outcomes (Australian Government 2024: 11).

Table 1 summarises key policy documents, publications and programs relevant to Australian population policy and regional development.

Table 1: Key national-level policies for population and regional development

Title	Description
National Population and Planning Framework (2020)	Agreed by the former Council of Australian Governments in February 2020. Seeks to coordinate population planning processes across federal, state, territory and local governments, encouraging cooperation and transparency in data sharing.
Planning for Australia's Future Population (2019)	Sets out the Australian Government's plan for overall migration numbers, managing population growth in cities and supporting regional growth.
2023 Intergenerational Report	Regular reporting of demographic trends in relation to Australia's long-range economic outlook over the next 40 years.
Regional Investment Framework (2023–)	Australian Government policy framework to guide funding for regional areas; recognises need for targeted and consultative place-based investment in infrastructure, human services, industry support and local capacity (education, leadership).
City and Regional Deals	Place-based funding agreements for major infrastructure investment (includes two regional areas).
Growing Regions Program (2023–)	Australian Government competitive grants scheme providing $500,000 and $15 million to local government and not-for-profit organisations for community and economic infrastructure projects across regional and rural Australia.
Regional Precincts and Partnerships Program (2023–)	Funding for precinct master planning, consultation, design, business cases and partnership establishment between local governments and communities, including infrastructure works.
Regional Jobs and Investment Packages (2023–)	Funding for 10 pilot programs in regional Australia to develop economic initiatives designed to support investment and jobs growth.
Regional Development Australia committees	Network of regionally based committees comprised of local leaders who work with all levels of government on regional economic development.
State of Australia's Regions Report (2024)	Brings together information and data on regional population and economic trends, to inform regional investment priorities and government services.
National Urban Policy (consultation draft, May 2024)	Sets out key policy and planning objectives and principles for Australia's cities and suburbs.

Source: the authors.

1.1.2 Policies and programs for regional development

As shown in Table 1, there are a range of Australian Government programs and funding schemes relevant to regional development in Australia. In addition to the Regional Investment Framework discussed above, these include City and Regional Deals, which are place-based funding agreements intended to bring together the different levels of government around catalytic infrastructure investments, and a series of smaller grant programs to support master planning for new development, as well as economic and industry-based investment.

Regional Development Australia committees are a network of regionally based organisations comprised of local-level stakeholders who collaborate between the three levels of government to encourage economic development in their regions.

As outlined further in this report, the states and territories have instigated numerous schemes designed to encourage or support migration to regional areas. These include grants to support firms and employees to relocate, place marketing initiatives, and state investment in regional infrastructure and services.

1.2 Existing research

The Inquiry was informed by several discrete bodies of research evidence from population science and demographic literature to regional studies and housing economics.

1.2.1 Population science and demography

Existing research has shown that Australian population projections are often partial and unreliable, based on imprecise or historical information, as well as unclear assumptions. Margins for error are known to rise over longer time spans (Wilson 2015; 2016; Wilson and Rowe 2011). There has been particular concern over the accuracy of data for rapidly growing LGAs such as those in metropolitan 'greenfield' locations, where sudden population increases can lead to infrastructure lags (Sarkar, Moylan et al. 2021). Concerns about the accuracy of population projections have long been expressed by officials in non-metropolitan regions as well, particularly those with smaller base communities, where transitory peaks as well as ongoing 'churn' associated with visitors or fly-in fly-out workers can be difficult to capture via traditional methods and data sources (Hugo, Feist et al. 2015; Hugo and Harris 2013). However, there was a dearth of research examining how existing population projections are used and by whom, as well as the performance of these different models, relative to their applications. Consequently, a key focus of this Inquiry program has been to test various existing and potential projection models for accuracy, while better understanding the range of user needs across different levels of government and in different urban and regional settings.

1.2.2 Regional studies

Within the regional studies literature there is a vast body of research examining the broad drivers of regional migration. Broadly speaking, these can be understood as 'push factors' encouraging people to leave a particular locality or region, and 'pull factors' attracting people to new destinations. These push and pull factors reflect intersections between place-based characteristics (e.g. the nature of employment opportunities, amenities, climate or housing costs) and household-level circumstances (e.g. age, employment status, social networks, housing circumstances and aspirations) (Bourne, Houghton et al. 2020; Gordon, Champion et al. 2015; Gosnell and Abrams 2011; Partridge 2010; Rupasingha, Liu et al. 2015). Overall, the literature suggests that most people move to improve their economic circumstances—typically for better employment opportunities. Consequently, the economic geography of a nation—the spatial distribution of urban areas and employment centres—plays a large part in explaining and predicting regional population growth and change.

In Australia this has manifested in an urban configuration dominated by eight primate state and territorial capital cities (Han, Ng et al. 2025). The self-reinforcing nature of this metropolitan primacy has been underpinned by the agglomeration processes associated with the 'knowledge economy', which, in Australia as elsewhere, has seen highly skilled jobs increasingly concentrated in central city locations, while former industrial areas in outer suburbs have experienced decline. Similarly, restructuring across primary industries has contributed to population losses in rural and outer-regional populations of Australia, particularly in remote inland regions and Australia's wheat–sheep belt (Smailes, Griffin et al. 2019). Young adults have tended to leave non-metropolitan regions for education and/or employment, resulting in ageing regional populations (Smailes, Griffin et al. 2019).

Nevertheless, some non-metropolitan regions of Australia have experienced growth, driven largely by internal migration (Leishman, Gurran et al. 2021; Rees, Bell et al. 2017). Even so, direct policy attempts to support growth in regional centres—for instance, by easing visa requirements to encourage migrants to settle in regional areas, regional refugee resettlement programs and decentralisation of government agencies—had mixed success at preventing population decline or supporting high growth areas until the COVID-19 period of 2020 (Department of Home Affairs 2021; Parliament of Australia 2018).

If research evidence suggests that Australia's modest policy attempts to support regional migration have had limited demonstrable effect, the migration literature does point to a number of place-based factors known to impact population growth and retention in regional areas. These include proximity to larger cities and employment centres, which offer access to specialised services and markets (Poot, Alimi et al. 2016), and transport connectivity within and between regional areas (Gurran, Forsyth et al. 2021). Further, the availability of services and infrastructure, from hospitals and medical centres to schools, as well as strong telecommunications connectivity, supports diverse employment opportunities, including in service sectors (e.g. health, education, and retail) that are associated with higher levels of regional growth (Guaralda, Hearn et al. 2020). Amenity and lifestyle factors have also long been associated with 'counter-urban' migration (Buckle and Osbaldiston 2022), although, in Australia, this is often related to older people on fixed retirement incomes or nearing retirement, who are not dependent on employment opportunities (Burnley and Murphy 2004; Gurran 2008).

Housing market factors such as dwelling prices or rents also act as both a 'push' factor, encouraging people to leave expensive markets, and a 'pull' factor, enticing people to move to lower cost and/or better-quality homes (Crommelin and Osbaldiston 2022; Marshall, Murphy et al. 2003).

This Inquiry research program sought to build on this existing evidence base by examining in more detail the *household-level* drivers of migration to and from regional areas, and the *place-based factors* attracting people to migrate to, from, or remain in particular locations. An important contribution of the research program was to extend this analysis to identify dynamic housing market interactions between these household-level and place-based factors influencing migration decisions.

1.2.3 Housing economics

A growing body of research evidence within the housing economics literature suggests that there are dynamic interactions between regional migration patterns and housing markets. The traditional urban economic model assumes that migration between places is cost neutral, with high wage costs offset by higher living costs (including housing) and lower wage areas balanced by lower costs and high amenities (Glaeser and Gottlieb 2009). However, if housing supply does not expand in response to population increases, Glaeser and Gottlieb argue that disproportionate price increases (spillovers) will arise (Glaeser and Gottlieb 2009; Yanotti, Kangogo et al. 2024). This may help explain why individuals move from cities to peripheral suburbs and regions, potentially taking an income cut and reducing their access to higher quality services (Yanotti, Kangogo et al. 2024). Thus, house prices and affordability can help explain patterns of regional migration, both pushing some households to move while limiting the relocation options of others (Crommelin, Denham et al. 2022).

Understanding these intersections is important in the Australian context, given the significant increase in the total value of Australia's dwelling stock over the past two decades (Yanotti, Kangogo et al. 2024). There has been particularly rapid growth since March 2019, aside from a slowdown during the early months of the COVID-19 pandemic. Average house prices for Australia's eight capital cities rose by 23.7 per cent between 2021 and 2022, the largest annual rise since September 2003. It is likely that this strong growth in house prices across capital cities, and lower relative prices in regional areas, combined with the possibility for employees to work remotely, influenced housing decisions during the COVID-19 pandemic.

Internationally and in Australia, evidence suggests that housing demand shifted away from inner-city dwellings to regional centres with the onset of the global pandemic (Denham 2021; Hopkins and Houghton 2021; McManus 2022; RAI 2022; Verdouw, Yanotti et al. 2021). For instance, the pandemic brought house price and rent declines in city centres across the United States, matched with price and rent increases in less dense areas surrounding the centres, 'flattening the bid-rent curve' in most metropolitan areas (Gupta, Mittal et al. 2022).

In Australia, emerging evidence suggests that housing demand appeared to shift away from inner-city dwellings to regional centres during the pandemic (Denham 2021; Hopkins and Houghton 2021; McManus 2022; RAI 2022; Verdouw, Yanotti et al. 2021). Hu, Lee et al. (2021) show that during the COVID-19 pandemic, housing demand was most adversely affected in dense neighbourhoods, explained by both the lower value of workplace access and access to amenities and city-specific attributes. However, it is not yet clear whether people moving to more regional areas will become a permanent shift (NHFIC 2020: 6).

Overall, this Inquiry program sought to address the lack of research on regional housing market spillovers in Australia. Better understanding these spillovers will inform more timely responses to population shifts, whether these be ongoing post-COVID-19 regional migration or a return to higher levels of metropolitan growth.

1.2.4 Summary and research gaps

In summary, accurate population forecasting is critical for effective policy and planning, particularly in regional areas experiencing rapid growth or change. A variety of approaches to forecasting are used by Australian governments at federal, state/territory and local levels, but there is uncertainty and a lack of transparency about the accuracy of data, the nature of assumptions and margins for error. More broadly, the drivers of regional mobility that influence local area population change include a combination of push-pull factors, including housing costs. The COVID-19 pandemic, which accelerated trends towards more flexible and remote working patterns, may have altered long-term patterns of regional migration and their dynamic intersections with metropolitan and regional housing markets, but the extent of long-term change remains unclear.

Overall, understanding these factors and their contribution to Australia's population growth and change at the small area level is key to accurate forecasting, which in turn will support timely and effective policy and planning at all scales of intervention.

1.3 Inquiry conceptual framework

In this context, Figure 1 illustrates our conceptual framework for the Inquiry. It shows how a combination of socio-economic and place-based push and pull factors influence regional migration decisions and consequent population growth and change, including spillover impacts such as housing market effects. In turn, these housing market impacts may influence regional mobility more widely, for instance, by 'pushing' out lower income earners in locations impacted by rising costs or limiting housing choices in high demand areas.

Figure 1: Intersections between migration drivers, impacts and policy responses

Source: the authors.

Better understanding these factors and their interactions will inform more timely and accurate local area population projections, underpinning the wider range of potential policy and planning interventions available to governments at federal, state/territory and local levels.

1.4 Inquiry questions

In this context, the overall research question for the Inquiry program was as follows:

How can leading practice methods in projecting population growth and change be implemented across the diversity of Australian cities and regions, informing nationally consistent approaches to settlement planning, and effective infrastructure, housing and service responses?

This overarching question was addressed through the following four sub-questions, each of which correspond to discrete but interlinked Inquiry projects:

1. How effective are local area population projections, and how can a best practice, nationally consistent program of local area population projections be implemented?
2. What are the contemporary demographic and economic drivers of regional mobility within and between the Australian states and territories, and how do these drivers intersect with federal, state/territory and local policy settings?
3. What are the place-based determinants of population growth and change, and how best can local governments foster population growth and retention across the different economic and environmental contexts characterising non-metropolitan Australia?
4. What are the housing market spillover effects of local and regional population growth?

More detail on the supporting research projects for this Inquiry is outlined below.

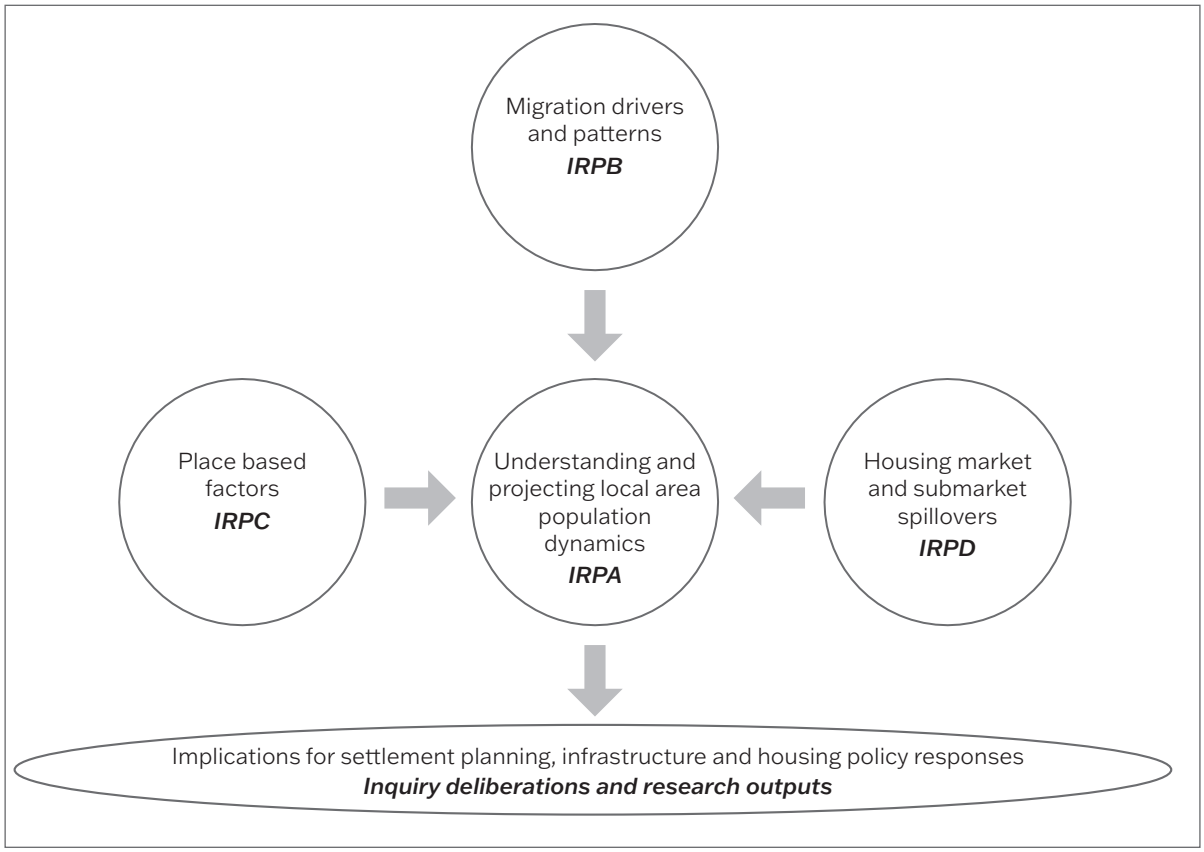
1.5 Research design and methods

Through these research projects, the Inquiry design brought together quantitative and qualitative methods and data. As discussed in greater detail below, the qualitative methods included interviews, focus groups and policy analysis, while the quantitative research involved population projection and modelling, community surveys and housing market analysis.

Population dynamics are shaped by four types of drivers: people, places, markets and economies, and interventions. Change driven by people includes natural population change; and migration driven by personal preferences and circumstances, such as family connections. Migration is also often driven by place-based factors, such as amenity and availability of health and education services; and economic drivers and interventions, such as government incentives.

Figure 2 summarises the logic of the Inquiry design. As shown, understanding and accurately projecting local area population dynamics is central to the Inquiry as a basis for effective policy intervention. More widely, the Inquiry examines the drivers of individual migration decisions, the place-based factors influencing population growth and decline, and the housing market and sub-market spillovers arising from regional mobility, all of which have implications for settlement planning and may be shaped by particular policy responses.

Figure 2: Inquiry program logic



Source: the authors.

Note: IRPA = Inquiry Research Project A; IRPB = Inquiry Research Project B; IRPC = Inquiry Research Project C; IRPD = Inquiry Research Project D (IRPD)

1.5.1 Inquiry research projects

Four interlinked research projects informed the Inquiry. Data sources and research methodologies are summarised in Table 2.

Inquiry Research Project A (IRPA): Improving small area population projections

This project reviewed and critiqued different population projection models, quantifying the variation between estimated and actual populations over the past decade, and consulting with local-, state- and national-level agencies to determine user requirements. Recognising the diversity of local population dynamics, IRPA reviewed new data sets—from the Geoscape/Public Sector Mapping Agency buildings data set, which is updated quarterly and has demonstrable utility for understanding growth in rapidly expanding metropolitan fringe areas (Sarkar, Moylan et al. 2021), to the Geoscape Geocoded National Address File (G-NAF) postal address information, to rental bond data, and visitor and tourist accommodation survey data. In this way, the project sought to develop and demonstrate a nationally consistent approach to small area projection, as well as opportunities to capture the population 'churn' and 'seasonality' common in many non-metropolitan regions (Hugo and Harris 2013).

Inquiry Research Project B (IRPB): Understanding contemporary demographic and economic drivers of household mobility and their policy implications

This project sought to offer new and significant insights into household-level drivers of mobility to and from Australia's primate metropolitan cities and regional areas. Examining interregional mobility patterns at a national scale, the project developed a framework model to examine regional population input/output flows (using ABS and G-NAF data) in relation to household characteristics, including socio-economic status, family composition, housing tenure and stress (using HILDA survey data). The project also identified the national, state and local policies and programs likely to intersect with these household-level mobility decisions.

Inquiry Research Project C (IRPC): Place-based drivers and effective management of population growth and change in regional Australia

This project took a place-based approach to discover, quantify and explain contemporary drivers of population growth and change in non-metropolitan Australia. Building directly on AHURI research on regional population growth, connectivity and planning (Gurran, Forsyth et al. 2021), this project examined 'place-based' factors thought to attract or retain populations (e.g. base population size and composition, economic structure, connectivity and infrastructure, education/health/public institutions and housing market trends) using a regression analysis to determine how these variables affect population change from metropolitan to non-metropolitan Australia.

The project also conducted case study research across three localities (Port Macquarie Hastings, Ballarat and Broken Hill), selected to examine different patterns of growth and change. In each case study, interviews were held with local and state government personnel exploring impacts of regional/local growth trends, the role of local and state governments in responding to these trends, and the opportunities and challenges associated with population growth and change trajectories. Further, community surveys (n = approx. 450 per case study area) examined the place-based push-pull factors driving population migration and retention in these selected case study regions. The survey design replicated elements of a regional migration survey conducted by team member Dr Nancy Marshall for AHURI in the early 2000s (Marshall, Murphy et al. 2003).

Inquiry Research Project D (IRPD): Regional housing market spillovers

This project used LGA-level CoreLogic house price and rent data (2000–21) to examine local housing market spillovers arising from population change at geographical sub-market level (distinguishing between metropolitan, fringe, city and rural LGAs across Australia). Spillover analysis highlights the effects of price changes in one market on other markets. This sheds light on migration dynamics in Australia due to the strong links between price changes and population movements. A decade-long sample was used to investigate changes in the interconnectedness between sub-markets over time.

A house price spillover index was constructed across LGA sub-markets to measure source, direction and magnitude of the interconnectedness across housing sub-markets. Then the factors that determine interconnectedness across housing sub-markets was explored through a regression analysis.

In addition to examining interconnectedness across housing sub-markets, the project included a specific focus on the impact of population change during the COVID-19 pandemic.

Table 2: Summary of Inquiry research project methods and data sources

Research question	Data sources	Methodology
Inquiry Research Project A		
a) How effective are local area population projections, and how can a best practice, nationally consistent program of local area population projections be implemented?	ABS usual resident population data—births, deaths and migration data by Census period (2011, 2016, 2021); G-NAF, Geoscape, Survey of Tourist Accommodation data, rental bonds	Spatial and temporal analysis of publicly available demographic data, and new datasets with the potential to reflect population level and change Semi-structured interviews with key government/end users
Inquiry Research Project B		
b) What are the contemporary demographic and economic drivers of regional mobility, within and between the Australian states and territories, and how do these drivers intersect with national, state and local policy settings?	ABS Census data: 2016, 2021; for SA4 ABS Census Journey to Work Geocoded National Address File (G-NAF) HILDA: 20 waves (2001–20)	Input-output analysis of migration patterns with origin and destination matrix Longitudinal analysis of socio-economic, demographic, housing and neighbourhood attributes for in- and out-migration decisions Multiple discriminant model (DV: in- and out-migrants by the five capital cities; IVs: age, income, household debt, mobility distance)
Inquiry Research Project C		
c) What are the place-based determinants of population growth and change, and how best can local governments foster population growth and retention across the different economic and environmental contexts characterising non-metropolitan Australia?	ABS SUA Populations, doctor numbers and university size 2011, 2016, 2021 ABS ERP Populations (2020/2021, during the COVID-19 period) House prices, employment, at LGA/SA2 levels Non-ABS public sources for variables (e.g. doctor numbers, air services, distance to metro area, climate, university size and coastal location)	Regression model of growing/declining regions (SA2), using explanatory variables Community surveys (n = 385–500 responses, x three) Case studies of selected LGAs (three) that have recorded high levels of population growth/change Semi-structured interviews with local government and industry personnel in the three case study areas
Inquiry Research Project D		
d) What are the housing market spillover effects of local and regional population growth?	CoreLogic RP data: 2000 to, 2021; LGAs, interstate sub-markets, all states ABS data (interest rates, average household income and unemployment rate, interstate and international migration, household size and housing related factors, such as location, etc.)	House prices, rents prices, house price-to-rent ratios (monthly) Forecast error variance decomposition of a VAR framework to establish the interactions across housing markets/'spillover index' Regression analysis on the determinants of the spillover index

Source: The authors.

1.6 Structure of this report

The following chapters synthesise the findings of the Inquiry research projects. Chapter 2 outlines the research findings in relation to leading practice in population projections and opportunities for innovation. Chapter 3 examines the demographic and place-based drivers of regional population change and policy settings to influence and/or support population growth and retention. Chapter 4 examines housing market spillovers of regional mobility in Australia. Chapter 5 concludes by summarising these findings in relation to the Inquiry research questions and identifies policy development options and priorities.

2. Towards leading practice in population projection in Australia

- This Inquiry critically assessed population projection resources available to Australian decision-makers and planners, focusing particularly on the small area level. It also reviewed opportunities for improving methodologies and data sources.
- Interviews with government, policy and industry stakeholders revealed a shared and generous concern to collaborate on improving the projection landscape in Australia.
- Currently, the provision of small area projections differs on a state-by-state basis and may not be available in some jurisdictions. This reflects a lack of agreement across the projection agencies in relation to methods, definitions and datasets.
- To improve decision-making there is a need for greater consistency across methods, definitions and shared datasets used to inform population projections. Error and uncertainty in the available projections must be made more explicit.
- The use and creation of projections in Australia is relatively conservative. There is currently limited use of novel generation methods and non-traditional data sources.
- Rather than a single approach, diverse projection methods and data sources are needed to meet the very different requirements of the diversity of users who apply projections to a very wide set of decision-making uses.

2.1 Introduction

Population projection and forecasting are essential tools to plan for future population dynamics, regional mobility and planning system responses. Population 'projections' are based on a set of assumptions about patterns of change. They are not predictions that these changes will actually take place. By contrast, population 'forecasts' assert expectations that particular events will occur, so communicate a level of confidence about future levels of population change (ABS 2024). In practice, however, the terms 'projections' and 'forecasts' are used interchangeably. To communicate different potential scenarios, the ABS produces low, medium and high growth projection series, which are based on different assumptions about fertility, mortality and migration (Baker, Coffee et al. 2024).

This chapter summarises the findings of Inquiry Research Project A in light of the broader Inquiry program. It outlines population projection resources available to Australian decision-makers and planners, particularly:

- how projections are used to inform policy decision-making
- the types of decision-making supported by current projection datasets
- the relative trade-offs made around reliability and certainty
- opportunities for methodological and data improvement, and future innovation.

2.2 How projections are used

National, state, territory and local governments, as well as private business, use population projections and forecasts to inform a wide range of decision-making processes. These are summarised in Table 3. As shown, these uses range from apportioning funding across the states and territories and establishing electoral boundaries, to identifying the need for new infrastructure and housing in urban or regional areas and informing business investment decisions.

Table 3: Using population projections in Australia

Use	National	State	Local	Private sector
Identifying the need for new infrastructure	x	x	x	
GST apportionment across states and territories	x			
Electoral boundaries	x	x		
Housing targets, land release requirements, redevelopment opportunities		x	x	x
Hospital, health and community service requirements	x	x	x	
School enrolment dynamics and need		x		
Business/retail opportunities				x
Labour force data, business development plans	x	x	x	x

Source: the authors.

Interview data revealed that projections used in government funding and resource allocations tend to rely on data at larger spatial levels, with longer publication time frames. These projections are predominantly based on assumptions about future demographic change. Within these contexts, government stakeholders described population forecasts as being a shared reference point to ensure all decision-makers are using a single consistent and authoritative source of information.

By contrast, stakeholders from private enterprise, research and consultancy sectors more often conceived population projections as guidance for what is likely to happen 'on the ground'. Therefore, with frequent updating, it was acceptable for these projections to draw on a larger variety and quantity of input data, and to apply these to shorter time horizons and smaller spatial areas.

Given their significance in informing decisions about future housing, infrastructure and service needs, it is important to review the methods and data sources used to construct population projections in Australia.

2.3 How projections are made: methods and data sources

Across Australia, many different organisations and agencies from both the public and private sectors are involved in providing population projections. These range from national-level public sector organisations, such as the ABS, to the Australian Government's Centre for Population Projections, to state governments and planning authorities. Leading private sector organisations providing population forecasts and projections at the small area level include REMPLAN and Forecast.id, which also provides demographic analytic services to many local governments in Australia.

Methods used by these organisations to construct population projections and forecasts range from simple extrapolations to more refined probabilistic methods, social and time-series analysis methods, and detailed component-based approaches. These are summarised in Box 1.

Box 1: Population projection approaches

The cohort component method is the preferred method for national-, state- and regional-level projections. It is used by the ABS at the national level, and by state planning departments at state and sub-state spatial units (SA3, SA2, LGA levels) in modified/refined forms. The model is based on assumptions about fertility, mortality and migration by different age-based cohorts of the population, and advanced year by year, for each spatial unit. However, the model does not include information about land and dwellings, which may limit accuracy at the local level where a lack of housing units can inhibit migration and household formation. Accuracy may also be affected by unanticipated events that impact on migration trends.

Trend exploration methods are simple mathematical functions that extend a trend observed over a specified base period into the future. However, these methods are more accurate in areas experiencing stable populations with little change over time, and offer limited insights as to age and sex profiles.

Comparative methods, or ratio-share models, use larger area projections to create smaller, sub-regional area projections using relationships, such as the share of population, the share of growth or the growth difference. Share of population methods simply assign a portion of the larger region's population to the smaller component areas. Similarly, share of growth models add a share of the parent region's projected population growth to the jump-off year population of the local area. Growth difference models assume a specified difference in growth between a local area and its parent region, and apply this difference to a past year to project into the future. More complex versions of this method also apply shares across the age and sex variables of component areas, while also adjusting the share over time to reflect changing circumstances. These models are often used in conjunction with a 'top-down' cohort model, and 'bottom-up' view of land availability. Outputs of comparative or ratio-share models are generally more useful in the short term.

Economic base methods use exogenous projections of labour and employment numbers (or other economic indicators) to derive population projections by applying a population–employment ratio of a local area to a total employment number. They are most frequently employed in circumstances where the introduction of a large-scale project is likely to result in large socio-economic and demographic shifts in the population. These methods are particularly relevant for resource driven areas (e.g. mining in Western Australia), but less helpful for more diverse areas where other factors such as housing, family requirements of education or leisure, climate and other amenity driven growth or changing commuting patterns (e.g. the relationships of satellite towns to metropolitan areas) are important.

Housing unit methods project total population based on the approvals, completions, demolitions and projections of the number of new and existing stock of housing units in an area. These calculations include estimations, or future scenarios, of occupancy rates (proportions of units occupied on a usual residence basis), vacancy rates (proportions of units not occupied on a usual residence basis) and other factors, such as average household size. The housing unit method is an excellent input to small area forecasting; however, accessing key data—for instance, on demolitions—can be difficult and inconsistent across LGAs, states and territories.

Land use allocation methods mimic the land development process and employ independent projections of dwelling units for a larger area, distributing these over smaller local areas, based on each small area's probability of development in each projection interval. This probability is affected by factors such as the amount of available land, land zoning regulations, distance from employment nodes, transportation connectivity and availability, access to schools and retail facilities, and adjacency to existing development. Like the housing unit method, the land allocation approach is highly dependent on the quality and scale of available data.

Averaged and integrated projections. The outputs from various projection methods can be averaged into single, integrated projections. The assumption is that producing a smoothed average from multiple methods could result in a lower error in practice and, therefore, reduce the variance introduced from the different projection methods. However, in an integrated approach, the projections from the individual input models need to be of high accuracy and reliability, as, if the errors in individual forecasts were too low or too high, a smoothed average would include this range of errors. Averaged and integrated projections can also be time consuming, as they require multiple models to be run separately to produce a single average.

Small area forecasting models. These are integrated approaches that incorporate a top-down cohort model, informed by a bottom-up land/housing constraint model, applied to a small area. While more conceptually robust and able to consider local conditions that might otherwise be missed using a pure demographic model, these models take more time and resources to project. In addition to the detailed model inputs, the forecasts are monitored annually and updated if required. Forecast.id is a key developer of integrated projections for small areas and currently provides projections to 136 local governments in Australia.

Source: Baker, Coffee et al. (2024).

The accuracy of key projection series was assessed. ABS projections from 2017 to 2021 (using the 2016 Census as a base) estimated a larger population increase relative to the one that actually occurred. The medium range projection overestimated national growth by 613,195 people, with the biggest differences being in Victoria and New South Wales (over estimations) and Tasmania (under-estimated growth). However, this is likely to reflect the impacts of the COVID-19 pandemic, which severely limited overseas migration and also restricted intrastate migration. Projections also differed by age cohort, with less reliable estimates for very young people and early working aged people.

Projections generated by state agencies performed better than the ABS overall, with the exception of Queensland. However, for the most part, absolute errors were small across all of the projections (less than 10%). Forecast.id projections provided to LGAs were also tested and found to perform similarly to national and state agencies.

Overall, the analysis found that projection accuracy degrades over time, with five-year projections most reliable aside from very young and young adult age cohorts. Smaller geography projections are not supported by state agencies, as they rely on demographic data in comparison to the range of locally available data used by private agencies such as Forecast.id.

2.4 Towards leading practice

As outlined above, data components of population projections have traditionally been tied to national censuses and large-scale agency collections. Recent (and potential) developments in technology have almost certainly expanded the depth and diversity of data that can form the basis of reliable population projections. For example, many of our expert panel participants referred to the usefulness of diverse residential dwelling data, such as from sales, land development applications or the planning system.

Importantly, the investigation revealed a more conservative approach to data than anticipated, with very limited uptake of novel datasets (such as G-NAF). Opportunities to improve population projections were explored with stakeholders. At the high level, stakeholders spoke to aspirational goals such as increased data sharing, automation of forecast models, attaining data at the finest possible spatial scales, integration of technology and developing user 'dashboards'.

Suggestions for data improvement also included having the ability to access a suite of measures providing information on the same variable—for example, looking at change of address requests on drivers licenses to understand internal migration, as well as developing some capacity to translate anecdotal observations into usable forms. This could relate to local insights, such as knowledge of new employment opportunities (e.g. the opening of a new company in a regional town bringing a specified number of jobs) and likely implications for population growth.

2.5 Policy development options and priorities

The review of population projections and methods was undertaken during a period of active policy reflection on the adequacy of Australia's current population projections. Consequently, discussions with stakeholders yielded a number of policy relevant insights for further developing population data sources and approaches.

2.5.1 Priorities for data quality

For future policy to be based on solid and reliable estimates of population numbers and composition at the small area level, it is critical to prioritise:

- consistent approaches and shared information sources
- good quality, reliable and timely data
- a thorough understanding of land and dwelling supply
- better methods (especially for estimating small area populations)
- a more widespread understanding of error and accuracy.

Rather than scientific predictions, projections must be understood as well-informed estimates of Australia's future population, meaning that considerations of error are important for accurate interpretation. Better decision-making will result from regularly reviewing assumptions underlying projections over the period to determine how well the projection is tracking against the population.

Relatedly, while available population projections may provide a long-term view of the population 20–50 years into the future, it is widely agreed that the *reliable* time span of the projections we use is significantly shorter (5–10 years).

2.5.2 Diverse approaches for diverse applications

While the need for consistency is reinforced, we also acknowledge and highlight the diverse uses (and users) of population projections. This means that one package of projections cannot meet the diversity of applications required. Different scales, error tolerances and foundational data, for example, are necessary to meet the decision-making needs of local governments versus Commonwealth agencies. Perhaps a less expected finding of this project was the value placed on more responsive, detailed 'bottom-up' generated estimates. Looking wider to the characterisation of what projections Australia should have in its decision-support armoury, there is a place for strong top-down projections, and more flexible targeted bottom-up ones.

The data landscape for population projections has changed in recent years, and we should be considerate of these changes in our future planning. Traditionally, the data components of projections were tied to national censuses and large-scale agency collections. Recent (and potential) developments in technology have expanded the depth and diversity of data that can form the basis of reliable population projections. Many expert panel participants, for example, referred to the usefulness of a diversity of residential dwelling data, such as from sales, land development applications or the planning system.

2.5.3 Training the next generation of Australian demographers

It is important to reflect on the widespread concern in the stakeholder community that our ability to provide high quality and reliable projections has been affected (and likely caused in part) by a national 'demography brain drain'. Anecdotal evidence suggests that the offering of demographic training has declined in Australian universities and that there are relatively few graduates with high-level skills. This problem has been reinforced by a parallel shift in government demographic units towards outsourcing. Together there are fewer opportunities for training in high-level demographic skills. This is an area that requires action to ensure there is a qualified workforce in this field.

2.5.4 A platform for collaboration and future action

Finally, this research has highlighted a shared and generous concern—across government, policy and industry stakeholders—to work together on improving the projection landscape in Australia. What is needed is a body to take the lead and drive the discussion. An initial step might be to bring the main players together to review the present situation and start to develop an agenda for future action. AHURI has a clear place in leading this discussion, or at least providing a platform for it to occur.

3. Demographic and place-based drivers of regional population change

- To better understand and respond to population trends and migration drivers, the Inquiry investigated mobility between Australian cities and towns (2002–20), examining characteristics and motivations of movers.
- The analysis highlighted new regional migration clusters and some changes in the demographic characteristics and motivations of those leaving metropolitan areas for regional Australia.
- Higher-income groups dominated the cohort of those moving out of primate cities during the most recent period. Those leaving capital cities are more likely to become owner occupiers in their new location.
- Recent movers to regional areas are increasingly motivated by opportunities for lower cost housing and lifestyle benefits, while concern over potential natural disasters and the ability to telecommute for work factored into decisions about where to relocate.
- Other push-pull factors that influence decisions to move to or from particular regional areas combine household demographic considerations, such as life-stage, with place-based characteristics associated with particular regions.

3.1 Introduction

International migration contributes significantly to Australian population growth overall. However, despite policies to encourage migration to regional areas being implemented at all levels of government (Crommelin, Denham et al. 2022; Hugo 2008) the majority of international migrants settle in major cities. For non-metropolitan Australia, internal rather than international migration is the biggest contributor to population change (Rees, Bell et al. 2017) and, hence, dominates the focus of policy efforts to respond to or influence growth outside major cities.

This chapter synthesises the findings of two Inquiry research projects that sought to shed new light on the demographic drivers of domestic regional mobility patterns (Han, Ng et al. 2025) as well as the place-based factors motivating household decisions to move (Buckle, Werner et al. 2024). Understanding the intersections between household and place-based push-pull mobility drivers between metropolitan and regional Australia can inform more accurate small area population forecasting efforts. In turn, predicting mobility patterns is key to more effective policy interventions—whether the objective is simply to respond to growth or to more proactively influence the nature, scale and location of regional migration.

The chapter first presents mobility trends between Australian cities and towns, analysing where people are moving to and from and their stated motivations. Second, it outlines some demographic characteristics of people who have moved from or to a capital city. The chapter then considers key place-based factors attracting people to move to, or remain in, particular regional destinations. Finally, the chapter examines this evidence in light of existing policies designed to support regional population growth and retention, drawing on an extensive policy analysis, before outlining future policy options and priorities.

3.2 Regional mobility patterns and drivers

The data summarised below outline changing migration patterns between cities within states, 2011–21, using data from the ABS Census, and presents a micro-behavioural analysis of in-migrants to capital cities and out-migrants from capital cities and their motivations, using the restricted release of the Household, Income and Labour Dynamics in Australia (HILDA) dataset from 2001 to 2020 (Han, Ng et al. 2025). Further insights on the specific place-based factors motivating decisions to migrate to and/or remain in regional areas are drawn from community surveys and interviews administered in three regional case studies (Broken Hill, Port Macquarie Hastings and Ballarat) (Buckle, Werner et al. 2024).

3.2.1 Where are people moving to and from?

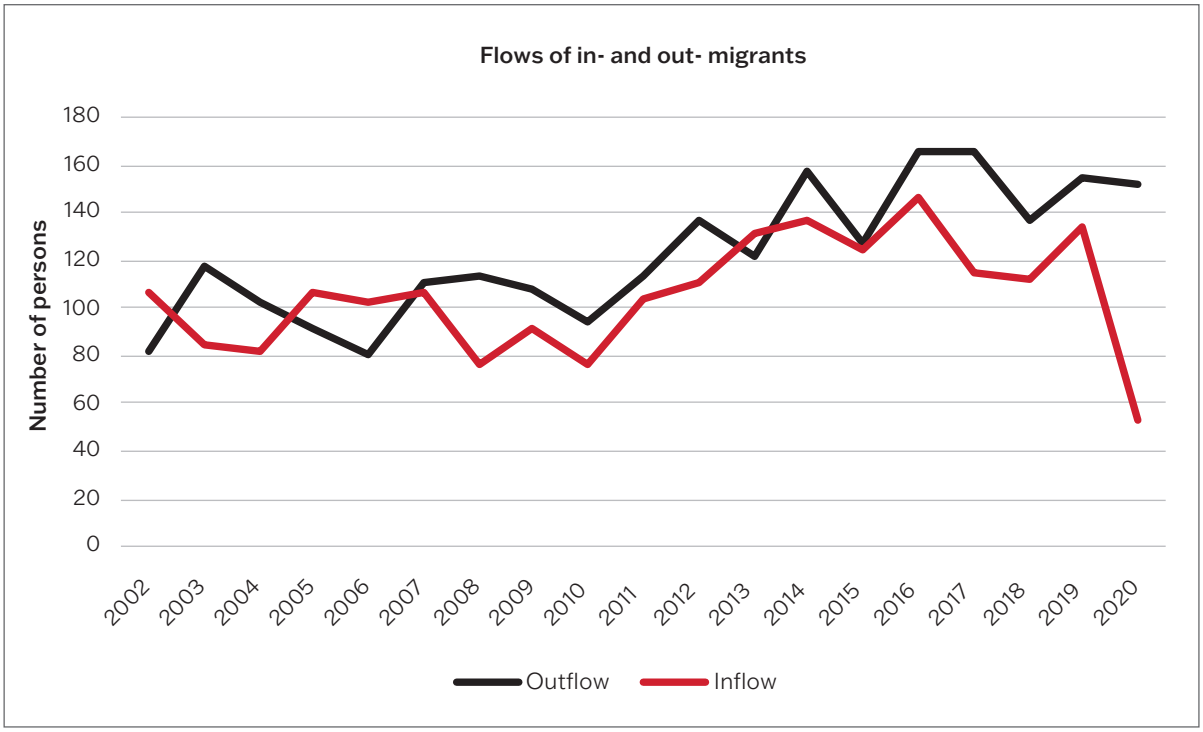
To analyse mobility patterns between key Australian metropolitan and regional areas, ABS Census data from 2016 and 2021 were used to generate an origin and destination matrix based on an individual's current and previous residences (five years ago) for selected cities and towns in New South Wales, Victoria, Queensland, South Australia and Western Australia (Han, Ng et al. 2025). The structure of the origin and destination matrix focused on the flow of migration between different regions within each state.

A social network analysis was used to measure relationships between origins and destinations, visualising movements with graphs. This revealed the strength of particular geographic locations (e.g. cities and towns) and clusters of places connected by movements of people (rather than distance). This analysis showed visually the interregional migration patterns within regional networks.

The analysis first confirmed the established trend that moves are predominantly relocations within the same city or region. Since the capital cities are the primary population centres, most moves are occurring within these capital city regions.

However, since 2007, the number of out-migrants from capital cities has trended higher than that of in-migrants to capital cities, except in 2013. This was particularly apparent in 2020 when COVID-19 lockdowns were implemented in Australia. Figure 3 shows this trend with reference to the HILDA dataset (2002–20) (Figure 3).

Figure 3: Annual in-migrants to capital cities and out-migrants from capital cities in New South Wales, Queensland, South Australia, Victoria and Western Australia, 2002–20



Source: Han, Ng et al. (2025), based on HILDA data, 2002–20.

The origin-destination analysis revealed new regional migration clusters emerging in the five largest states over the past two Census periods.

For instance, in New South Wales, the Namoi region (Tamworth–Gunnedah) area was a focus for people leaving Sydney between 2011 and 2016. However, between 2016 and 2021, Newcastle emerged as a focus, leading to a larger regional cluster connecting with Tamworth–Gunnedah, Maitland and the Hunter. Signs of connectivity between Tamworth–Gunnedah and Port Macquarie Hastings also appeared in 2021, indicating a new migration route.

In Victoria, connections between the regional towns of Bendigo and Shepparton and between Geelong and Shepparton reduced over the study period, while a new regional cluster of population movement formed between the Glenelg–Southern Grampians and Warrnambool, Colac–Corangamite areas. A population migration cluster unit between Bendigo, Heathcote–Castlemaine and Kyneton also appeared between 2011 and 2021.

In Queensland, population movements between Maryborough and Hervey Bay and the capital city Brisbane became more pronounced. A shift south in population movement from Townsville to Toowoomba also emerged over the period, while population movements between the Gold Coast and Sunshine Coast increased. By contrast, there has been decreased population movement between Cairns and Mackay and between Townsville and Rockhampton.

In South Australia, population movements between Eyre Peninsula and Southwest and Outback–North and East, and the connection between Murray and Mallee and Limestone Coast decreased between 2011 and 2021, reflecting an overall statewide shift to the capital city, Adelaide.

Similarly, in Western Australia, there has been a decrease in population movement between regions and a concentration of population movement from other regions to the capital city, Perth, although Bunbury remains a focus for regional migration.

Overall, the analysis revealed that new intermediate-sized urban conurbations are forming due to subtle changes in migration patterns, such as those surrounding Newcastle in New South Wales and Bendigo in Victoria. Over time, the dominance of the primate capital cities will remain a defining feature of Australia's urban structure, while smaller cities and regional areas are likely to continue to experience changing patterns of growth and decline based on their connectivity or isolation to other centres.

3.2.2 Who is moving and why?

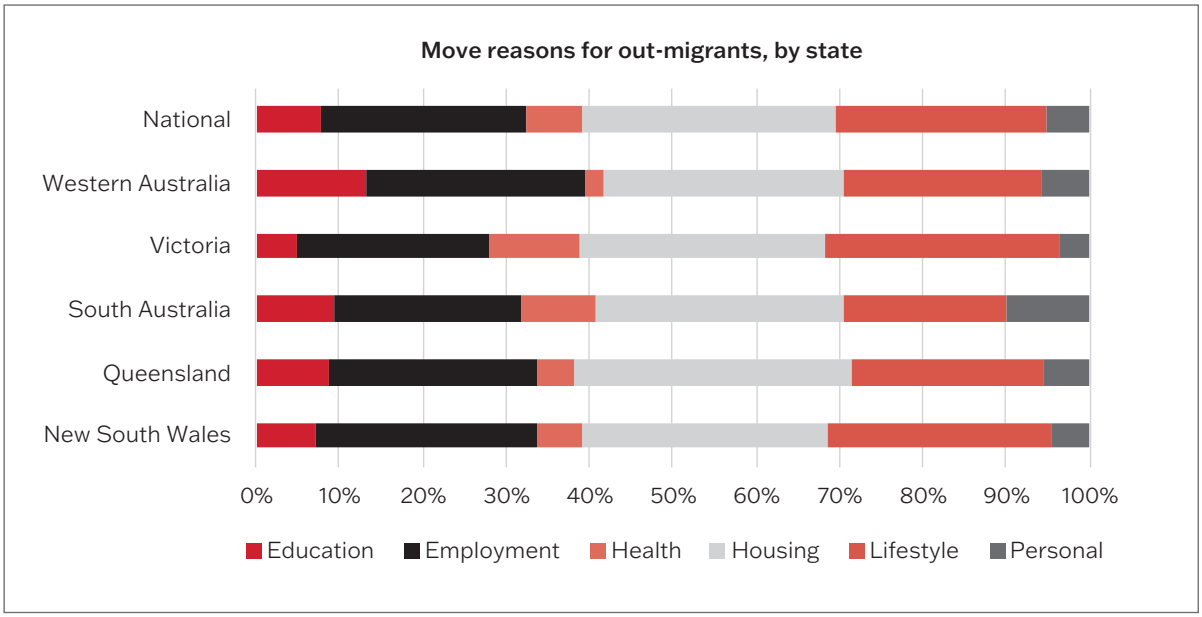
Understanding the demographic characteristics of people moving to and from regional areas and their motivations provides important insights for policy makers and planners seeking to predict and respond to population growth and change at the local level. The HILDA data set of movers was analysed in relation to individual movements into or out of a state capital city over 20 years (2001–20) to examine migrants' socio-economic characteristics (age, income and job satisfaction) and housing (tenure and dwelling type) after moving to capital cities (in-migrants) and from capital cities (out-migrants) (Han, Ng et al. 2025).

This analysis found that:

- People moving into the major cities were much more likely to be renters, and more likely to be in the 15–24-year-old age group.
- People moving out of cities were also more likely to be renters, but the proportion of owners and mortgage payers was much higher than for in-migrants, indicating more people leaving the major cities were able to purchase a home in their new locality.
- People leaving the cities were more likely to be in the over-54 age cohort, consistent with prior research and reflecting the popularity of amenity destinations for retirees (Burnley and Murphy 2004; Gurran 2008).
- An analysis of income groups shows that, while the distribution income between those moving to or from the capital cities is similar, the proportion of higher-income groups who moved from primate cities to outer regions during the COVID-19 pandemic in 2020 is higher.

Figure 4 summarises the main reasons for moving from the major state capital cities.

Figure 4: Primary motivations for moving from a capital city, by state, 2003–20



Source: Han, Ng et al. (2025), derived from HILDA 2003–20 records in each state: 626 in NSW, 607 in Queensland, 214 in Victoria, 547 in South Australia and 160 in Western Australia.

As shown, housing is a prominent driver for leaving capital cities across all states. For example, in New South Wales, where nearly a quarter of moves reflected housing aspirations, the desire for home ownership was cited by 13.6 per cent of people leaving Sydney; 6.2 per cent sought smaller or lower cost housing and 4.15 per cent wanted a larger or improved residence. Similar trends are seen across all states.

With the exception of South Australia, lifestyle factors play a major role in out-migration from the capital cities. Employment related reasons were also commonly cited as the main driver, nominated by more than a quarter of those leaving a major city.

A small but significant proportion of out-migrants moved to be closer to a place of study, particularly in Western Australia (13.13%), South Australia (9.35%) and Queensland (8.73%). This suggests that regional universities in these states have a role in attracting young people away from capital cities.

Health-motivated reasons for leaving capital cities differ across the sample. However, health was cited as the primary reason for 8.88 per cent of those moving in South Australia and 10.79 per cent in Victoria.

3.2.3 What are the place-based 'push-pull' factors influencing people to move to and remain in regional areas?

To further understand the reasons why particular regional areas in Australia have attracted or retained higher populations than others, ABS population data for small and medium significant urban areas (SUAs) in 2011–16 and 2016–21 were examined (Buckle, Werner et al. 2024). A national analysis was carried out on all SUAs with populations below 250,000, excluding SUAs within Sydney, Melbourne, Brisbane, Perth, Adelaide and Canberra. Statistical testing (via an ordinary least square regression model) was used to measure the influence of the following factors on differences in population change:

- amenity features (e.g. proximity to the coast, climate, proportion of hospitality and of arts workers)
- employment structure (level of employment specialisation)
- innovation opportunities (numbers of ICT professionals)
- health services (numbers and types of health professionals)
- education and research/human capital (education and research professionals)
- transport services (airflight movements)
- gravity effects of population and distance (location and connectivity)
- dwelling prices (median prices 2011, 2016).[1]

Place-based factors explaining differences in regional population change

The modelling indicated that, overall, the factors outlined above explained 79 per cent of variance in population change between 2011 and 2016, and 82 per cent between 2016 and 221. In particular, areas recording higher levels of population growth also have:

- larger proportions of graduates in the workforce
- more hospitality workers and higher industry specialisation
- warmer and wetter climates
- proximity to the coast and to major cities.

By contrast, areas with higher median house prices in 2011 and 2016 recorded lower levels of population growth.

1 For further information on the research approach and data sources, see Buckle, Werner et al. (2024).

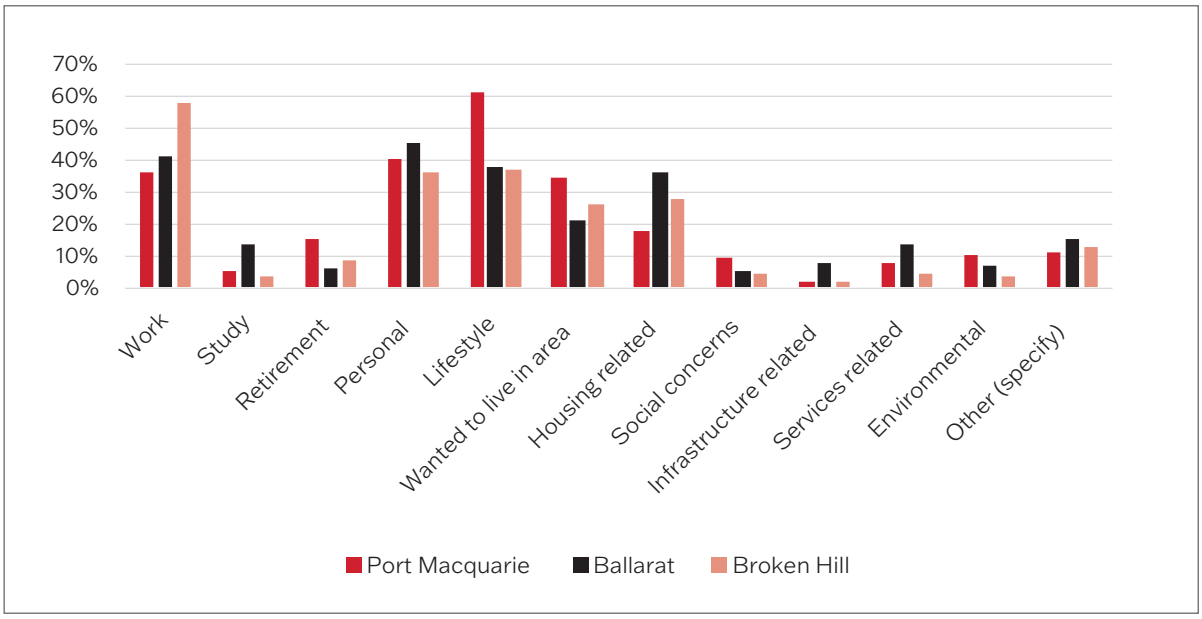
Notably, the similarity of outcomes across both Census periods, despite the 2021 Census being held during the COVID-19 pandemic, suggests that the underlying factors producing population change in urban centres in the 10,000 to 250,000 population range are quite deep-seated. They have remained relatively stable despite major disruptive factors such as the pandemic, at least over the contemporary timescale of a decade or so. This research finding can inform more accurate small area population forecasting and help to identify areas of potential policy leverage.

Community surveys and local government and economic development stakeholder interviews

The motivations for moving to, from or remaining in a regional area were explored further through the three case study community surveys conducted as part of the Inquiry research project on the place-based drivers of regional population growth and change (Buckle, Werner et al. 2024).

The community surveys (n = 1,012) revealed key differences in stated reasons for moving to each of the three case study areas (Broken Hill, n = 263 movers; Port Macquarie Hastings, n = 350 movers; and Ballarat, n = 399 movers), reflecting their different characteristics. For instance, those who had moved to the New South Wales coastal community of Port Macquarie Hastings were most likely to describe 'lifestyle' reasons as a key motivation (61%). By contrast, 58 per cent of respondents who had moved to Broken Hill in New South Wales said they had done so for work, while those moving to the Victorian town of Ballarat were more likely to select a combination of 'personal', 'work', 'housing' and 'lifestyle' related reasons as motivating their move (Figure 5).[2]

Figure 5: Percentage of total movers to each case study area by stated reason for moving



Source: Buckle, Werner et al. (2024).

Survey respondents were also questioned about their intentions to remain in each case study area. Respondents in Broken Hill were most likely to say they would move away in the next five years, followed by those in Ballarat. Across the case studies, the most likely reasons for moving related to 'personal reasons' and 'work', although the availability of services was a consideration for those expecting to leave Broken Hill (Buckle, Werner et al. 2024).

2 Note: respondents were able to select up to three responses.

While there were clear differences, commonalities in motivations for moving were also found between case study areas. In each area, most respondents rated lifestyle, work-life balance and housing as either a 'definitely true' or 'mostly true' reason for moving. Respondents thus reported liveability-related reasons as the most important motivation for moving.

Consistent with existing research on regional migration, the age of respondents affected their likelihood to anticipate moving in the next five years, with those aged 18–29 years most likely to move from each case study area.

Interviews with local government and economic development stakeholders in the case study areas revealed key challenges in managing population change. These related to effective service and infrastructure delivery to match the needs of existing and new residents, such as road and transport infrastructure, housing, educational facilities and childcare, and healthcare services. While not necessarily considered 'pull' factors, interview participants saw sufficient local service and infrastructure delivery as important for local population retention and to create 'deep' populations. Another common challenge discussed across each case study area was the difficulty in attracting and retaining the key workers required for the provision of these essential services.

Interview participants discussed how potential solutions to address the challenges of managing population change and the place-based needs required coordination across tiers of government, between departments and with industry, and needed to be timed with the pace of their changing local populations.

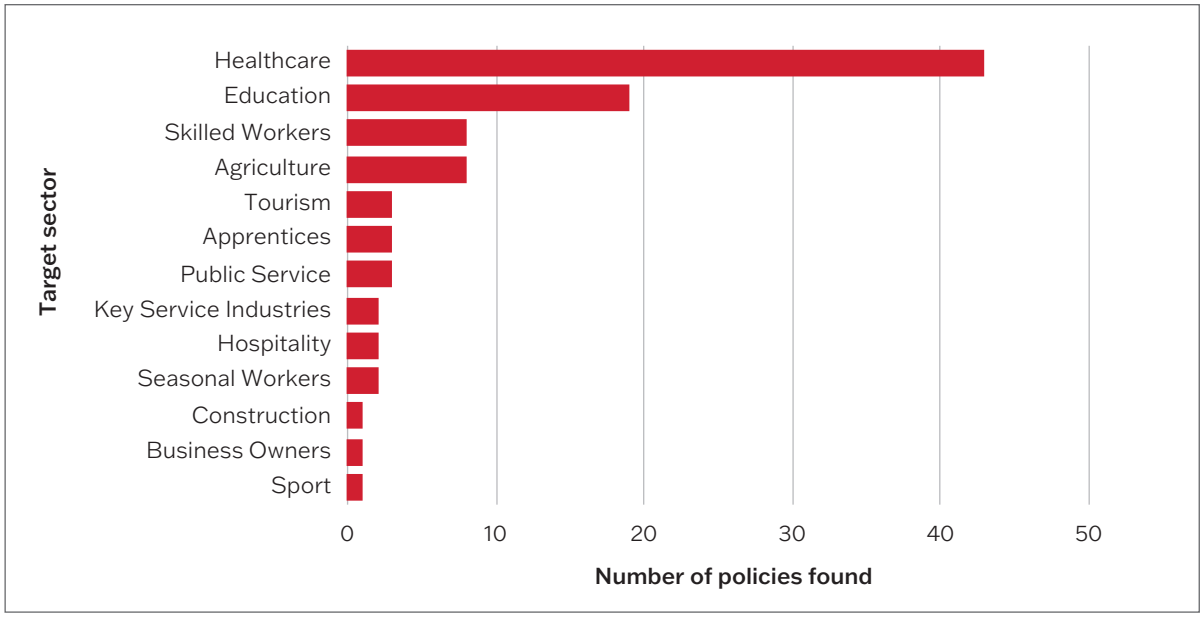
3.3 Policy options and priorities

The research findings presented here point to opportunities for better informing small area population forecasts with new insights into regional mobility trends and drivers, and for reviewing and recalibrating existing policies and programs for regional growth and change.

3.3.1 Review of existing policies and mechanisms to support regional population growth and retention

To understand the existing and potential role of government policies in influencing regional growth outcomes, 142 federal and state/territory policies and programs were identified and reviewed. These included federal schemes to encourage international migrants to move to regional areas (e.g. the Regional Sponsored Migration Scheme visa program); relocation incentive schemes (e.g. the federal Relocation Assistance to Take Up a Job program); policies targeting regional tertiary education facilities (e.g. regional student/trainee rotation programs); locational variations in government assistance (e.g. additional Remote Area Allowance for recipients of federal income support payments and the regional seniors travel card); and housing assistance programs in regional areas (e.g. regional First Home Owner Grant).

Figure 6: Number of policies targeting specific sectors/workforces (n = 101)



Source: Han, Ng et al. (2025).

Overall, policies were split between those designed to attract internal and international migrants to move to a regional area, and those intended to retain existing populations.

In numerical terms, policies targeting particular sectors of the workforce (especially health and education sectors) predominated. This analysis suggests there is potential to expand incentive schemes to other industries associated with high-value sectors likely to attract university graduates and to support growth (e.g. research and incubator/ technology start-ups, urban planning, or construction).

3.3.2 Better targeting policies designed to encourage migration to regional areas

Overall, the analysis of regional mobility trends and drivers points to opportunities for better targeting the particular 'push' and 'pull' factors that influence decisions to relocate or remain in a particular area.

The need to move to a capital city for tertiary education remains strong, so increasing investment in the range and quality of tertiary opportunities in regional areas is likely to attract and retain younger populations and support other economic benefits. The large proportion of in-migrants in Victoria who move to Melbourne for educational reasons may highlight a need to support regional university campuses in that state.

Housing aspirations are driving regional migration, while lack of affordable and diverse rental housing constrains growth in regional areas. In addition to investing in housing assistance programs to support new social and affordable development in regional areas, policies to attract skilled labour in urban planning, architecture and construction may also be beneficial in supporting the sustainable expansion of regional housing supply.

State governments need to recognise new focal points to growth in targeting regional infrastructure investment. For instance, tourist centres have emerged as attracting higher levels of population growth and so should be a priority for new infrastructure investment, including in essential services such as schools and hospitals.

With air services also a positive factor for growth, state government subsidies and/or assistance for local governments to develop or upgrade existing airports are likely to support population growth and retention in emerging regional growth clusters.

The opportunity to support smaller centres as preferred retirement destinations would be supported by more targeted policies to attract and retain aged care workers, who are generally lower paid than the broader healthcare workforce and not currently a focus for incentive schemes (Han, Ng et al. 2025).

3.3.3 Housing impacts

The finding that higher house prices are associated with lower population growth (Buckle, Werner et al. 2024) is likely to extend to higher rents and low vacancy rates, both of which make it difficult for health, hospitality and other key workers to relocate to or remain in regional areas. Further, the identified income and net worth disparities between those moving into and leaving capital cities and regional areas suggests the need to address potential risks of displacement, whereby lower income residents become priced out of growing regional areas by newly arrived out-migrants from capital cities.

Overall, these findings suggest a need for:

- government investment in social and affordable housing development in regional areas
- schemes to support and/or require employers to provide housing for employees
- limits on short-term renting of homes and apartments, as in Byron Shire LGA (Byron Shire Council 2023)
- additional support for regional homelessness, crisis support, and tenancy advice and advocacy services
- research and investment to support innovative housing design, construction and tenure models that respond to regional contexts and opportunities and help diversify the existing housing stock.

These issues are considered further in the following chapters.

4. Housing markets and regional migration

- **The relationship between regional migration and housing markets is complex. Housing is recognised as a key factor influencing decisions to move from capital cities to regional areas and intrastate.**
- **Regional cities and suburban fringe areas play an increasingly important role in influencing national house price patterns in Australia.**
- **The Inquiry research program examined relationships between internal migration and house prices, and found that population gains and price increases in one housing sub-market results in increased housing prices in other sub-markets.**
- **The relationship between house prices across different housing sub-markets has changed considerably since 2020, reflecting differences in the impact of COVID-19 and varying responses from state and territory governments.**
- **The unexpected increase in migration to regional cities and fringe areas led to a housing supply imbalance in regional and rural areas, exacerbating housing affordability pressures.**
- **Better understanding the intersections between housing markets and regional migration can inform more accurate population forecasts and more timely policy responses.**

4.1 Introduction

Housing has emerged as a key 'push-pull' factor in regional mobility. This chapter draws on the findings of Inquiry research on the relationship between house price dynamics and regional migration in Australia (Yanotti, Kangogo et al. 2024). It first summarises research on housing sub-market trends in Australia's pre- and post-COVID-19 period, then examines housing price spillovers within and across states. Next, the chapter explores the key drivers of regional housing price spillovers before identifying key implications and options for policy.

4.2 Understanding the nature and drivers of regional housing market spillovers in Australia

In this Inquiry, the house price 'spillover effect' is defined as 'the dynamic where housing price changes in one market spread to other housing markets, impacting community welfare' (Yanotti, Kangogo et al. 2024: 2). A spillover 'contributor' influences other markets, while a spillover 'receiver' is a market impacted by others. House price spillovers occur when increasing house prices in the 'contributor' market leads to predictable increases in other 'receiving' markets.

4.2.1 Housing sub-market trends in Australia

House prices have increased across Australia since 2019, but the scale of increase in regional areas (41.6% between mid-2020 and April 2022) is almost double that of Australia's eight capital cities (25.5%). Looking more closely at sub-markets in New South Wales and Victoria:

- In New South Wales, both regional city and rural/remote areas experienced sustained, if relatively gradual, house price growth after 2000, before rising sharply during the COVID-19 period. By contrast, metropolitan and surrounding fringe locations recorded periods of stagnation and even decline after 2000, but also recorded steep rises between 2019 and mid-2022.
- In Victoria, similar trends were recorded, although metro sub-markets recorded a slowdown during 2018 before accelerating again in the COVID-19 period.

4.2.2 Housing price spillovers within and between states

The analysis revealed that housing sub-markets are interconnected within and across states and territories and that these relationships changed over the COVID-19 period. In particular:

- During the pre-pandemic years (2009–19), Queensland, New South Wales, the Northen Territory and Tasmania were net contributors to house price spillovers.
- During the same period, the Australian Capital Territory, Western Australia, Victoria and South Australia were net receivers of house price spillovers.
- Over the pandemic period, Victoria became the strongest contributor to house price changes in all other states and territories. This reflects population movements in response to the government's strict COVID-19 lockdown measures.
- An analysis of the New South Wales sub-market shows that, before the pandemic, metro and (to a lesser extent) fringe areas were net contributors of house price spillovers over regional cities and rural areas, but, during the pandemic, house price increases in fringe and regional cities contributed to strong house price spillover effects to other sub-markets.
- In Victoria there was a strong reversal in the direction and magnitude of the interconnectivity between sub-markets during the pandemic years. Before the pandemic, the metro was the single net contributor of house price spillovers to the other sub-markets, but in 2020–21, the metro was a net receiver of house price spillovers from other sub-markets in Victoria.

4.2.3 Internal migration and housing market spillovers

The analysis showed that a net gain (loss) in people moving into (away) from a location increases (decreases) house price connectivity across markets:

- A 1 per cent increase in the proportion of people moving into an LGA will increase the house price net spillover index by 3.12 per cent, making it more statistically likely that the LGA will generate house price spillovers to other sub-markets.
- A 1 per cent increase in the proportion of the population departing from an LGA will decrease the net spillover index by 3.70 per cent. This increases the probability that the LGA will be a receiver of house price spillovers from other sub-markets (Yanotti, Kangogo et al. 2024).

Further, the analysis showed that when people move into an area, house prices rise not only in that region and surrounds but also, potentially, in other more distant areas that are not necessarily spatially contiguous with the primary destination. The data also showed that when house prices rise in response to a population increase, others may leave the area in response to that market effect. Again, these ripple effects are not necessarily spatially continuous.

4.3 Policy implications and options

There are a number of policy implications arising from the data reviewed here:

- The interconnectedness of housing markets means that internal migration can have significant impacts for lower income residents in receiving destinations, particularly those in the private rental sector. This may have implications for federal and state housing assistance policies, as well as for local community service and housing providers.
- State housing authorities should monitor internal migration dynamics and housing market impacts to identify priorities for increased investment in social and affordable housing and emergency housing services.
- Recognising the lag time between increased housing demand and new construction, federal and state financial assistance and rental relief measures would support low-income renters in regional areas experiencing market pressure.
- Regional cities need to anticipate population movements so that they can be accommodated with sufficient new housing supply, as well as broader infrastructure and services. Local governments will need support in ensuring that regional and local infrastructure provision is sufficient to accommodate these population shifts.
- Controlling the loss of permanent accommodation to the short-term rental market is also an important strategy where there is competition between residential and tourism uses of the housing stock. State and local policies and regulations are needed to preserve permanent housing supply and rental tenancies.
- The increased willingness of people to move in response to house price pressures and/or to seek a new lifestyle presents long-term opportunities for regional areas to grow, provided that these areas are supported in planning and delivering new housing supply.

Overall, monitoring interstate and intrastate housing sub-markets and connectivity can support more accurate population forecasting, in turn helping to inform local and regional infrastructure and service planning efforts.

5. Policy implications and priorities for further research

- The findings of this Inquiry have a number of implications for policy development and point to a need for further research to capture the dynamic relationships between housing markets and household mobility.
- Australia's internal migration patterns have changed over the past decade, and these changes accelerated during the COVID-19 period. New spatial clusters of regional migration have emerged in the five largest states: New South Wales, Victoria, Queensland, South Australia and Western Australia.
- Households appear more mobile in response to housing market trends, causing dynamic ripples of mobility and house price spillovers that are not necessarily spatially contiguous.
- People leaving capital cities tend to have higher household net worth and be older than those moving to capital cities from a regional area. This trend has increased over the past decade, preceding the COVID-19 pandemic. It suggests that policy measures are needed to manage risks that lower income renters will be displaced from regional markets experiencing population growth.
- Better understanding the intersections between household characteristics and place-based factors that influence mobility can inform more accurate population forecasting and enhance policies intended to support regional growth and change.
- There is a space for public sector leadership in the development and methodological innovation for small area forecasting.
- Similarly, policy makers can use housing market and other small area level data to inform more accurate and timely population forecasts at the small area level, in turn ensuring that local and state authorities are able to plan for sufficient land and housing supply, infrastructure and services.

This final chapter summarises the findings in relation to the Inquiry research questions and highlights potential policy options for further development.

5.1 Summary of findings in relation to the Inquiry research questions

Many of the research findings across the four supporting research projects aligned around the opportunities to improve population projections at the small area level by incorporating new and more nuanced data on household-level and place-based drivers of mobility. In turn these insights pointed to opportunities for better understanding and monitoring the dynamic relationships between regional mobility and housing market spillovers, again to inform more accurate population projections to ensure more targeted interventions.

5.1.1 Improving population projections

In critically assessing the population projection resources available to Australian decision-makers, particularly at the small area level, the Inquiry found that the provision of small area projections differs on a state-by-state basis and may not be available in some jurisdictions. This reflects a lack of coordination across the projection agencies in relation to methods, definitions and datasets.

Decision-making would benefit from greater consistency across methods, definitions and shared datasets used to inform population projections. Testing revealed that existing methods and data are reasonably accurate at the larger regional scale, but that accuracy drops off over time, at the level of smaller geographic units and with respect to particular demographic cohorts, such as young adults. This error and uncertainty in the available projections must be made more explicit.

The use and creation of projections in Australia was revealed to be relatively conservative. There is currently limited use of novel generation methods and non-traditional data sources. Nor has there been much use of housing market data, although some commercial providers incorporate housing development trends into their forecasting. Notably, major methodological and data innovation has tended to have been driven by private, rather than public sector agencies.

Interviewees cautioned against seeking a single approach to forecasting. Rather, they advised that there are very different requirements across the diversity of projection methods and data sources needed. This reflects the very different requirements of the decision-makers and decision-making uses.

Across government, policy and industry stakeholders there was willingness to collaborate to improve the projection landscape in Australia. We note the need for increased public sector focus on driving innovation to match and bind together the innovations of both data and methods being driven by the for-profit industry in this space. AHURI has a clear place in leading this discussion, or at least providing a platform for it to occur.

5.1.2 Understanding and responding to regional migration

The analysis of ABS Census and HILDA data since 2011 shows that migration patterns within the Australian states have changed, with new regional migration clusters emerging in the five largest states: New South Wales, Victoria, Queensland, South Australia and Western Australia.

The analysis also shows an increased willingness and/or ability for households to leave a metropolitan area, motivated by housing affordability as well as lifestyle reasons.

Reasons for moving to a non-metropolitan area differ according to the characteristics of specific places. Case study research highlights the importance of ‘lifestyle’ for people moving to the New South Wales coastal town of Port Macquarie Hastings, while ‘work’ dominated motivations for moving to Broken Hill and Ballarat.

There are complex but predictable feedback loops between specific drivers of migration, dwelling choice and affordability, and population growth. These operate separately but in addition to gravity effects generated by large primate metropolitan areas. This helps explain why internal mobility currently favours regional centres, with slightly higher numbers of people leaving primate cities to move to non-metropolitan areas than moving to them.

5.1.3 Monitoring and addressing housing market impacts in regional areas

Regional cities and suburban fringe areas play an increasingly important role in influencing national patterns in Australian housing prices. This evidence prompts an analysis on how regional cities adapt to changes. There is an opportunity to discuss the challenges and opportunities that arise for regions and their place-based sustainable growth paths.

Spillovers at the state and territory level changed during the pandemic. In the early pandemic years, Victoria (and New South Wales to a lesser extent) were net contributors of house price spillovers.

This suggests that the varied effects of COVID-19 and government responses to it, impacted spillover effects between states and territories, and also led to different spillover patterns within states and territories.

5.1.4 Implications of the COVID-19 pandemic and regional opportunities arising

The effects of the COVID-19 pandemic were felt strongly in metropolitan areas. For various reasons, people wanted to move away from the primate cities. While COVID-19 may not have been the principal reason for moving for most people, it did factor into their decision-making (Buckle, Werner et al. 2024). Those who left the primate cities during this time were more likely to have higher incomes (Han, Ng et al. 2025), suggesting that people on lower incomes may face more barriers to moving, such as reduced availability of rental accommodation in regional areas compared to metropolitan areas.

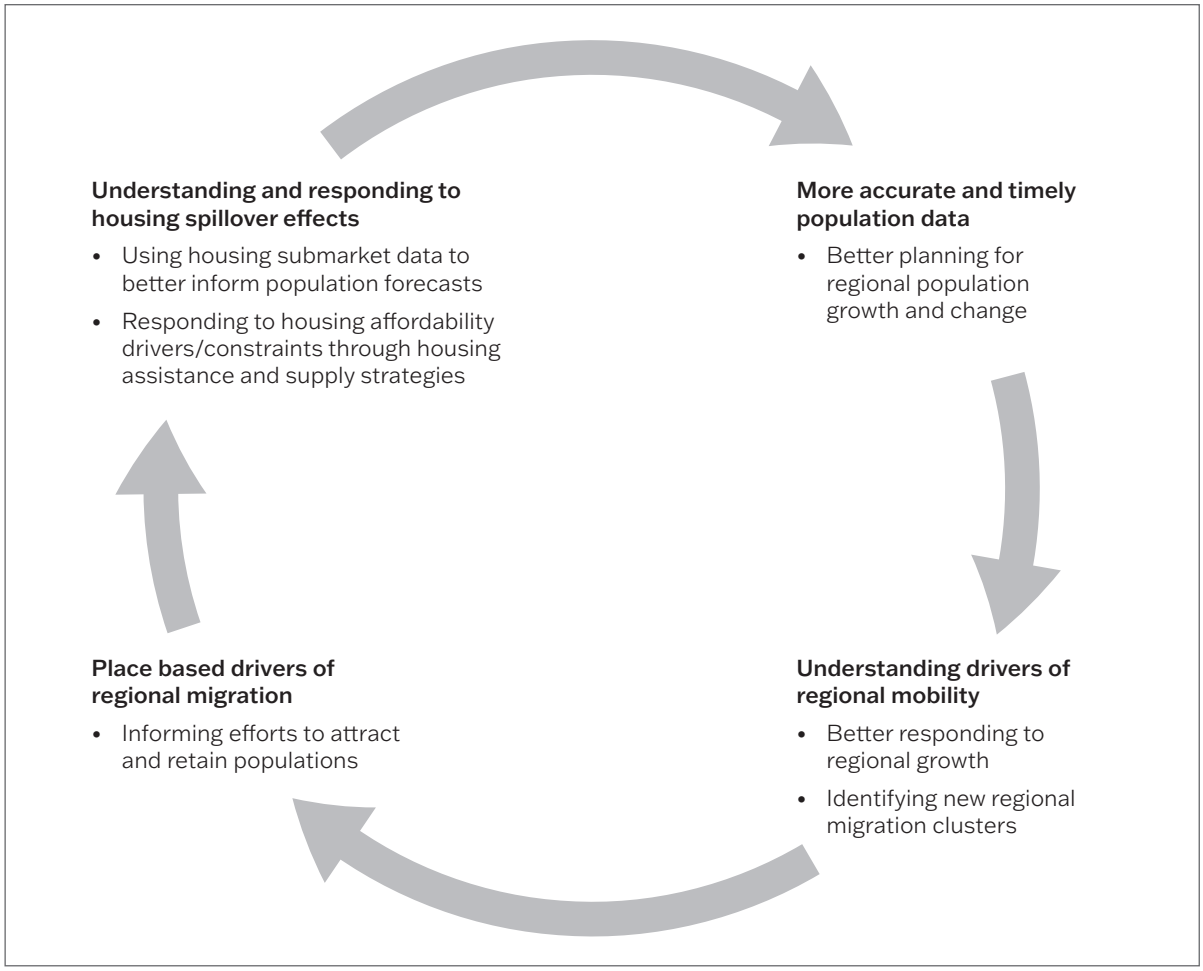
We did not control for people's willingness to move, but our data imply such market barriers to relocation will occur due to regional house price inflation (and successive spillover effects to other markets) (Yanotti, Kangogo et al. 2024), exacerbated by longstanding constraints in regional rental markets (reflecting homogenous housing stock and higher rates of home ownership). Moreover, people on lower incomes may be pushed out of certain sub-markets due to affordability pressures in these house price appreciating sub-markets.

The metropolitan out-migration during the COVID-19 period contributed to regional areas driving the biggest house price spillover effects over 2020–21 and a reversal of the usual direction of spillovers in Victoria (Yanotti, Kangogo et al. 2024). This suggests that ensuring that necessities, such as housing and early education, are available and affordable for essential and key workers could increase their migration to regional cities. Ensuring that key workers can access these necessities would be especially important during shocks such as pandemics that increase motivations for migration.

5.2 Priorities for research and policy development

This Inquiry has drawn attention to opportunities to better inform the range of regional planning and investment activities undertaken by all levels of government in Australia (Figure 7). By monitoring and analysing dynamic intersections between population mobility and housing market spillovers, federal, state/territory and local authorities will share more accurate and timely population data, enabling more targeted responses to regional growth and change.

Figure 7: Priorities for research and policy development



Source: the authors.

5.2.1 Providing more accurate and timely population data by improving and diversifying data sources and approaches to small area population projections

Small area projections should, in future, prioritise standardised approaches; coordinate access across all levels of government and other stakeholders; and, importantly, make assumptions and error margins known and transparent.

However, our findings do not point to a 'one size fits all' approach to population projections. Rather, to meet the needs of a diversity of users across a wide set of decision-making applications, the Inquiry findings highlighted the value of more responsive, detailed *bottom-up* generated estimates, alongside a parallel need for high quality, shared *top-down* projections. Different scales, error tolerances and foundational data are necessary to meet the diverse decision-making needs of local governments, national government agencies and developers.

Another implication of our results is that policy makers at all levels of government could make use of housing market data relating to sales price and price changes as indicators of population migration. This would inform more timely decisions relating to regional investment, internal migration incentives and policy. Such data could also contribute to future national plans for population and settlement.

While we note private sector innovation in population projections, the findings of this Inquiry highlight the pressing need for public sector leadership to drive and coordinate more modern approaches to forecasting and the use of novel datasets. In addition to investing in consistent, national systems for capturing and analysing localised house price data, this could, for example include enhancing population 'nowcasting' using new technologies such as 5G.

5.2.2 Understanding drivers of regional mobility to support choices in where people want to live

This Inquiry program revealed opportunities to better understand and support household choices to move to or from metropolitan areas in pursuit of employment opportunities or lifestyle aspirations. Recognising the emergence of regional migration clusters and the demographic characteristics of people likely to move into these areas can inform proactive planning strategies to ensure sufficient and appropriate housing and other facilities to support new residents and manage impacts on existing populations.

Investment to improve communications infrastructure in regional cities could encourage more migrants who can work from home to settle there. Maintaining population growth and retention requires resourcing in a number of key areas, and often with state government support, such as childcare and education, housing supply, healthcare services and local transport infrastructure, as well as supporting the jobs growth that continues to attract migrants.

Of the numerous policies and programs that exist to encourage regional migration, many focus on specific sectors of the workforce, with health and education sectors predominating. There is potential to expand incentive schemes to other industries associated with high-value sectors likely to attract university graduates and to support growth (e.g. research and incubator/technology start-ups, urban planning or construction).

5.2.3 Understanding place-based drivers of regional migration to sustain non-metropolitan population growth and retention

Place-based solutions to encourage and manage population growth in regional cities depend on effective coordination across federal, state and local governments, as well as between government agencies and key industry sectors. This was emphasised across the interview data (Buckle, Werner et al. 2024) as well as advice from our Inquiry Panel and is consistent with prior research (Gurran, Forsyth et al. 2021). In particular:

- Targeted investment in regional airports and transport infrastructure, higher education (university and TAFE campuses), and health and school facilities will best support non-metropolitan population growth and retention (Buckle, Werner et al. 2024).
- There is an opportunity to target regional infrastructure investment in emerging focal points for migration. For instance, tourist centres have emerged as attracting higher levels of population growth and so should be a priority for new infrastructure investment including in essential services such as schools and hospitals (Buckle, Werner et al. 2024).
- With air services also a positive factor for growth, state government subsidies and/or assistance for local governments to develop or upgrade existing airports is likely to support population growth and retention in emerging regional growth clusters (Buckle, Werner et al. 2024).
- The opportunity to support smaller centres as preferred retirement destinations would be supported by more targeted policies to attract and retain aged care workers, who are generally lower paid than the broader healthcare workforce and not currently a focus for incentive schemes (Han, Ng et al. 2025).

While broadly generalisable, these place-based strategies must reflect and respond to the particular economic, social and locational characteristics of each region.

5.2.4 Understanding and responding to regional housing market spillovers

Understanding the interaction between different housing sub-markets across LGAs within states and territories is very important to effectively implement policy at state and council levels—particularly around housing, infrastructure and zoning portfolios—to achieve coordination and avoid unintended outcomes (Yanotti, Kangogo et al. 2024).

Place-based approaches need to account for potential spillover effects into other (potentially neighbouring) regions and understand the interconnectivity between places. This points to the need for more effective coordination across councils and different government levels around regional housing market trends and planning for new and diverse housing supply (Yanotti, Kangogo et al. 2024).

Across our Inquiry research programs, a key finding is the need to ensure that new housing supply strategies in regional areas incorporate specific strategies for affordable housing. These may include:

- incentives or requirements for developers to include a set proportion of all new development as affordable for eligible households or social housing providers to rent or purchase
- strategies for ensuring that major new employment generating developments are accompanied by provisions for employee accommodation
- support for innovative or alternative forms of housing development or tenure that may be appropriate for regional settings, such as lower density multi-unit homes designed to reflect local character while diversifying the dwelling stock
- programs to support rehabilitation of underutilised buildings in regional towns as permanent or temporary housing.

Further, targeted policies that provide financial support for households experiencing housing stress in regional areas and other supports, including rental assistance and reform, could be considered to minimise social disruption and maintain community cohesion in regions with population influx and rapid house price appreciation. These are especially relevant in the context of unusually high movements of people to regions, as experienced throughout the pandemic, and may be relevant to other situations like mining booms and bust, for example.

Last, it may be important to restrict potential loss of long-term rental housing by regulating short-term holiday letting in regional areas.

5.3 Final remarks: informing Australia's strategic settlement planning and population policy settings

Overall, the Inquiry findings point to the need for an Australian roadmap to develop a nationally consistent program of quality local area population projections utilising local knowledge and recognising place-based dynamics. Supporting these projections would be rapid and regularly updated guidance to stakeholders that is informed by ongoing monitoring of small area migration and housing data. Further, the roadmap would incorporate a strategy for training the next generation of demographers, addressing the continuing brain drain in the sector.

Drawing together more nuanced data sources informed by new knowledge about demographic and economic drivers of mobility and how policy settings may intersect with these drivers to support particular migration patterns will, in turn, lead to improved small area population forecasting. Similarly, better data about the housing market spillovers generated by internal migration allows more proactive planning to reduce unexpected price inflation and rental supply shocks, ensuring that 'receiving' destinations are able to absorb and sustain new growth.

Taken together, the findings of the research align with previous AHURI research (Leishman, Gurran et. al 2021) in pointing towards the importance of larger regional cities as focal points for new migration clusters (Han, Ng et al. 2025). Larger regional cities are desirable to migrants from both capital cities and other regional areas due to their access to other cities and variety of local services, as both places to move to and to remain (Buckle, Werner et al. 2024). The importance of these larger regional cities was underscored by their role in driving housing market spillovers during the pandemic (Yanotti, Kangogo et al. 2024).

Consequently, if Australian regional policy seeks to bring about more balanced growth between primate capital cities and non-metropolitan areas, and to enable peoples' choices in moving to or remaining in regional areas, it is important to identify and reinforce emerging patterns of regional migration through targeted investment and support.

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