Australian Government
Infrastructure Australia

THE LIVEABILITY LEAGUE

TRANSPORT INFRASTRUCTURE TO ENABLE HOUSING SUPPLY

ASSESSMENT REPORT PREPARED BY THE LIVEABILITY LEAGUE FOR INFRASTRUCTURE AUSTRALIA

30TH OCTOBER 2025

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Acknowledgement of Country

We respectfully acknowledge the Gadigal people of the Eora Nation as the traditional custodians of the land on which we live and work. We honor their deep connection to this land, water, and environment, nurtured through generations of knowledge, resilience, and stewardship.

Foreword

As a team we would like to thank Alex Campbell, our Mentor, who has provided valuable guidance and encouragement throughout his involvement; his input is greatly appreciated.

We also extend our thanks to our colleagues and professional mentors who have nominated us to participate in the program. It has been highly beneficial and has exposed us to new ideas that we now put to use on a daily basis and has improved us as professionals and leaders.

We thank all the representatives from Consult Australia involved in organising the course and the speakers and the various Judges from Infrastructure Australia, whom we hope will find this report insightful.

Perhaps most of all we thank our friends and families for their enduring patience and support with us during the preparation of this report.

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Executive Summary

Australia faces an escalating housing and infrastructure challenge, defined by a widening gap between population growth and housing delivery capacity. Despite national commitments under the Housing Accord to deliver 1.2 million homes by 2029, forecasts indicate a shortfall of approximately 260,000 dwellings. This imbalance is compounded by structural constraints—including labour shortages, escalating construction costs, and fragmented planning systems—placing additional strain on affordability and liveability.

To address this, the Liveability League has developed a scalable Infrastructure Gap Assessment Framework, designed to quantify the relationship between housing supply and enabling transport infrastructure. The framework provides Infrastructure Australia with a transparent, data-driven approach to assess where infrastructure deficiencies constrain housing growth and identify priority investment areas.

The methodology integrates national and state datasets (ABS, NSW Planning, Forecast ID, AIHW, and Transport NSW Open Data), applying a three-stage analytical process:

1. Housing Supply Forecasting: evaluating demographic, affordability, and dwelling-completion trends.
2. Transport Demand and Capacity Analysis: benchmarking road and rail utilisation against Austroads and ATAP performance thresholds.
3. Gap Assessment: comparing projected housing-driven demand with existing and planned transport capacity to identify shortfalls.

A proof-of-concept application in the Illawarra–Shoalhaven region demonstrates the framework's practical value. Key findings include:

- West Lake Illawarra (2530) and Nowra–Bomaderry (2541) exhibit significant housing deficits and rising congestion risks, while Bombo (2533) remains near balance but faces affordability pressures.
- The Princes Motorway already operates near or above capacity and will exceed serviceable limits under projected growth.
- Affordability deterioration continues across the region, with house-to-income ratios forecast to exceed 20:1 by 2041.

These insights highlight the need for early, coordinated investment in enabling infrastructure to sustain regional liveability and unlock housing supply. The framework aligns with Infrastructure Australia's objectives by:

- Establishing a repeatable national methodology adaptable across jurisdictions.
- Enabling data-based prioritisation of transport upgrades relative to housing growth.

- Promoting evidence-led policy alignment between federal, state, and local planning systems.

Key Recommendations

- Develop a national housing-transport dashboard to unify datasets and improve cross-jurisdictional transparency.
- Accelerate targeted infrastructure investment in high-growth corridors, embedding scenario modelling for economic and demographic variability.
- Strengthen construction sector capacity and streamline planning systems to support timely, coordinated housing delivery.

The proposed framework offers Infrastructure Australia a practical, adaptable, and transparent tool to inform investment decisions, strengthen policy coherence, and enhance Australia's long-term liveability by aligning housing and transport planning at scale.

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A skilled communicator and natural leader, James is known for mentoring colleagues and helping teams meet the high standards of expert engineers. He excels at translating complex technical details into clear, tailored messages for clients and stakeholders, producing concise and effective documentation.

1. Introduction

1.1 Background

Australia is experiencing a housing supply and affordability crisis.

As demand is continually increasing from strong population growth and favorable economic conditions, the number of houses available is decreasing. With less stock on market available and building completion targets not being met, supply cannot keep up with demand.

A key factor that facilitates the housing development ambitions of the Australian Government, is the investment in enabling infrastructure such as transport and utilities and has been recognized as a government priority.

Infrastructure Australia is Australia's federal body responsible for providing the Australian Government with independent and expert advice on the nation's current and future needs and priorities for nationally significant infrastructure. Enabling infrastructure to support housing growth has been identified as a strategic focus area and requires an ability to assess and understand:

- Priority, high-growth locations for significant new housing supply.
- Where a lack of enabling infrastructure presents an impediment to the delivery of new housing supply and investment may be needed to unlock housing growth.
- Where there are gaps between current and planned infrastructure capacity, and the capacity needed to support future housing growth and population needs.

Understanding the high growth locations for housing supply and corresponding enabling infrastructure needs will enable forward planning to support the delivery of housing across Australia

A deep understanding of these growth areas, and the corresponding enabling infrastructure required to support these growth areas, will have a series of key advantages to Australia's future development.

Firstly, there will be economic efficiencies and cost savings associated with a proactive infrastructure plan, rather than being reactive and providing costly infrastructure retrofits to support existing housing stock. These clear infrastructure plans will also assist in attracting private sector investment into the areas, due to the reduced risk an uncertainly that comes with these clear infrastructure plans.

Secondly, a coordinated infrastructure plan helps to distribute population growth more evenly, reducing pressure on major cities and hubs. This proactive approach to transport infrastructure increases the liveability of regions as housing and population increase.

Thirdly, a deep understanding of the growth areas across the country will allow Infrastructure Australia to develop plans wholistically and allows for early engagement with the various state and local governments to promote a cohesive and equitable approach to infrastructure spending.

Finally, and understanding of the future growth trends will allow Infrastructure Australia to provide recommendations that are scalable, flexible, and designed with this future growth in mind.

1.2 Report Purpose

The purpose of this document is to outline a systematic framework that facilitates the identification of high growth locations for new housing supply, assessment of existing infrastructure capacity, and corresponding gaps in enabling infrastructure to support future housing supply needs.

1.3 Report Structure

This report has been structured as follows:

2. Australia's Housing Crisis	Provides an overview of the current status of Australia's housing market
3. Project Appreciation and Problem Definition	Summarises the understanding of the project scope and definition of the key issue for consideration in this report
4. Data Sources	Summarises the various data sources adopted in this study
5. Infrastructure Gap Assessment Framework	Outlines the framework proposed for assessment of transport infrastructure gaps
6. Proof-of-Concept - Shoalhaven Illawarra Region	Highlights the case study of the Shoalhaven Illawarra Region as a proof of concept for the framework
7. Implementation of Framework	Summarises how and why this framework can be implemented to other regions of Australia
8. Recommendations	Provides recommendations from this study
9. Conclusion	Summarises the overall content of this report

2. Australia's Housing Crisis

Australia's largest cities are growing and changing at an unprecedented rate. Australia has a difficult challenge to navigate, with substantial increases in population already underway and predicted continue over the next 30 years. This issue is coupled with an aging infrastructure asset base struggling to meet current and projected demands, a legacy of sprawling cities with limited planning, and a population that is accustomed to a standard of living gradually becoming more unobtainable. As a result of this, all levels of government are prioritising housing development to keep up with the rapidly increasing demand.

While increasing housing is critical, maintaining Australia's existing standards of livability is necessary to ensure Australian Cities continue to prosper. Appropriate sequencing of infrastructure and services upgrades combined with cohesive master-planning is required to facilitate increases in housing supply and following population while maintaining the best outcomes for new and existing communities.

Table 1 shows that over the past 7 years, Australia's population has increased, while properties listed for rent and sale have significantly declined. The 2025 State of the Housing System report by the National Housing Supply and Affordability Council (NHSAC) outlines several interconnected reasons about why Australia is experiencing this crisis, which have been detailed further herein.

Table 1: Australian property market snapshot, 2018 vs. 2025.

Year	2018	2025
Population	25M	28M (12%▲)
Properties listed for rent	80,000	37,000 (54%▼)
Properties listed for sale	319,000	239,000 (25%▼)

2.1 National Targets

Australia's national housing target is to deliver 1.2 million new dwellings over the 5-Year Housing Accord period from July 2024 to June 2029. Across this period, NHSAC forecasts that gross new housing supply will be 938,000 dwellings under baseline macroeconomic conditions and current policy settings. This implies a supply shortfall of 262,000 relative to the 1.2 million Housing Accord target. In a nutshell, targets are not being met and the gap between supply and demand is worsening.

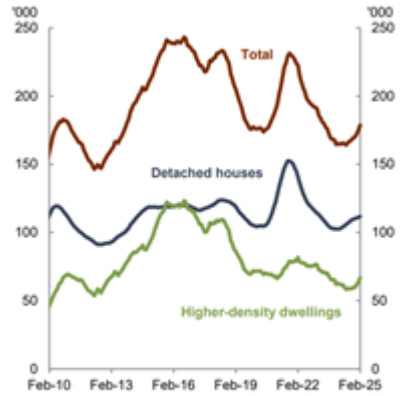
Table 5.2 Forecasts of new market supply, demand and net balance

Year	Gross new supply	Net new supply	New demand	Net balance (net new supply less new demand)
2023–24	177,000	155,000	241,000	-86,000
2024–25	179,000	158,000	205,000	-47,000
2025–26	183,000	161,000	179,000	-18,000
2026–27	186,000	164,000	171,000	-7,000
2027–28	192,000	169,000	173,000	-5,000
2028–29	197,000	173,000	176,000	-3,000
Total during the Housing Accord period	938,000	825,000	904,000	-79,000

Notes: All figures are rounded to the closest thousand. Totals and differences may not be consistent with component figures due to rounding.
Source: ABS Building Activity 2025; NHSAC 2025

Figure 1: Build Completion Targets (NHSAC 2025).

National building approval numbers are keeping up with the gross new supply targets, however these approvals are not converting to completions at a 1:1 ratio, resulting in the shortfall as seen in Figure 2.



Note: The annual rolling sum of dwelling approvals in the private and public sectors.
Source: ABS Building Approvals 2025

	2029 Target	Quarterly target[1]	September Quarter 2024 dwelling completions[2]	Variance to target	Variance to target (%)
National	1,200,000	60,000	44,884	-15,116	-25.2%
Australian Capital Territory	21,059	1,053	943	-110	-10.4%
Northern Territory	11,427	571	122	-449	-78.6%
New South Wales	376,439	18,822	11,220	-7,602	-40.4%
Queensland	245,740	12,287	8,177	-4,110	-33.4%
South Australia	83,811	4,191	3,104	-1,087	-25.9%
Tasmania	26,117	1,306	704	-602	-46.1%
Victoria	306,326	15,316	15,302	-14	-0.1%
Western Australia	129,086	6,454	5,924	-530	-8.2%

Figure 2: Building Approvals (ABS 2025) (left), and Building Activity (ABS 2025) (right).

The Building Activity quarterly targets and dwelling completions (for Q4 2024), show the trends more clearly:

- Victoria is the only state nearly meeting its quarterly target.
- Western Australia and ACT are slightly under target, marginally contributing to the national shortfall.
- NSW and Queensland are significantly under target, contributing heavily to the national shortfall.
- Northern Territory and Tasmania are the furthest behind, with over 45% shortfalls.

Overall, Australia is 25.2% below its national housing target for the September 2024 quarter and this will only exponentially increase unless demand for housing reduces or supply increases.

2.2 Population Growth

Australia is experiencing strong population growth (1.6% p.a net increase) due to net overseas migration and natural increase. With overseas migration outpacing natural increase at a 3:1 ratio, this demand would be expected to place significant pressure on the housing market. Looking solely at population growth from a historical standpoint, this growth is high but trending consistently. Provided infrastructure and housing historically is meeting demand, this metric in isolation does not raise concern.

After reaching the highest level in over 20 years in 2023, net overseas migration started to ease in 2024 (over the 12 months to the end of 2024, Australia's population grew by 1.7%). The normalisation of population growth has been primarily driven by a decline in overseas migration. The federal government forecasts that the annual immigration is expected to fall to around 262,000 in FY25/26, and stabilise within the 220,000 – 240,000 /year range over the coming decade, helping to moderate the growth in housing demand.

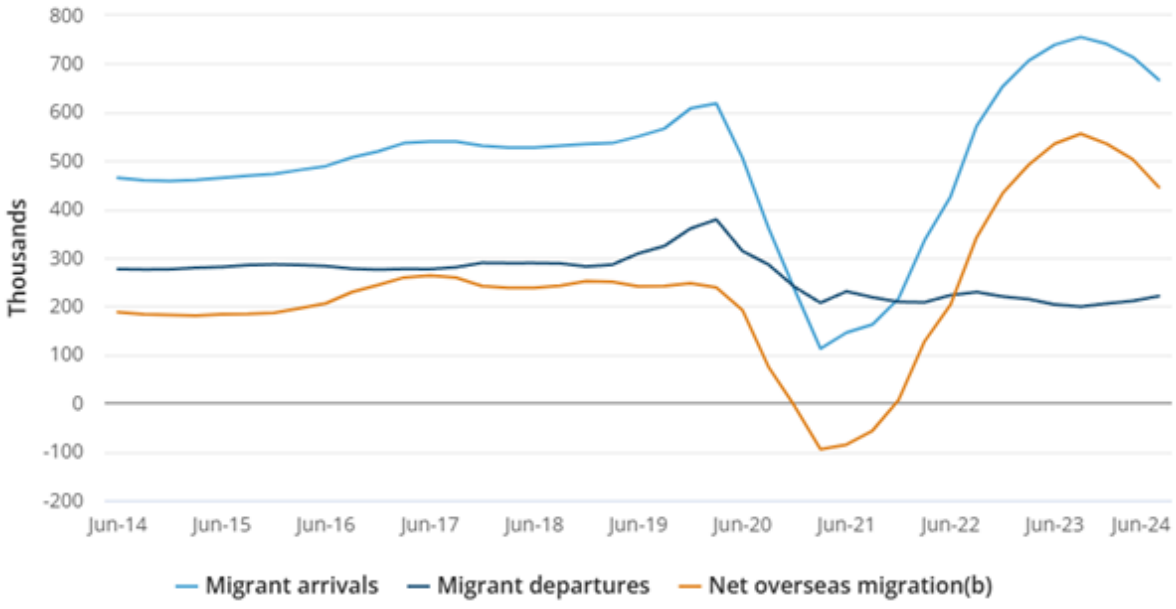


Figure 3: Net Overseas migration (ABS 2025).

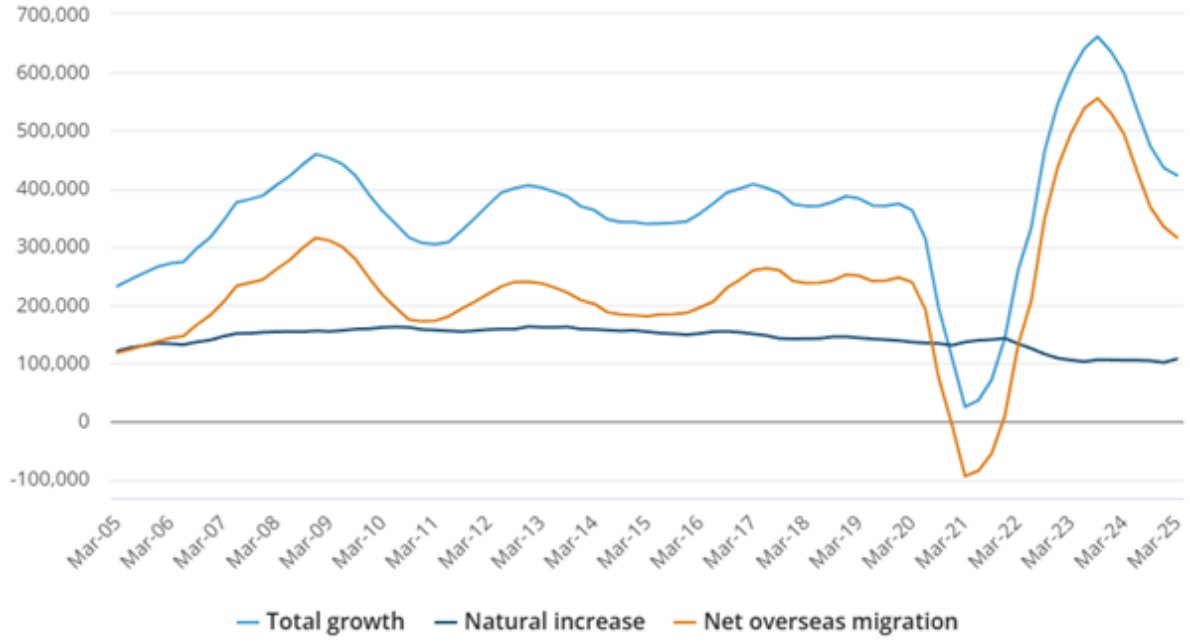


Figure 4: Total Population Growth (ABS 2025).

2.3 Insufficient Housing Supply

Historically, while there have been periods of balance, Australia's housing supply has generally not kept up with demand, confirming that population growth has occurred at unsustainable levels (Figure 4 above).

177,000 dwellings were completed in 2024, while underlying demand was ~223,000.
This shortfall adds to the already significant unmet demand

The Housing Accord target of 1.2 million new dwellings by 2029 is unliekyl to be met; forecast completions are 938,000, with net new supply at 825,000, still 79,000 short of expected demand.

2.4 Affordability Deterioration

Australia's housing affordability has worsened over time, with both homeownership and renting becoming increasingly out of reach for many.

The combination of rising property prices, high interest rates, and insufficient housing supply has created a challenging environment, particularly for first-home buyers and low-to-middle income renters. This is reflected when reviewing affordability data released by Corelogic (Figure 5), namely:

- 50% of median household income is needed to service a new mortgage in 2025.
- 33% of income is needed for rent on a new lease in 2025.
- The average time to save for a deposit rose to 10.6 years.

- Only 14% of homes for sale are affordable to a median-income household; the lowest on record.
- Dwelling prices rose 4.9%, and rents rose 4.8% in 2024.
- These increases outpaced income growth (only 4.3%), worsening affordability.

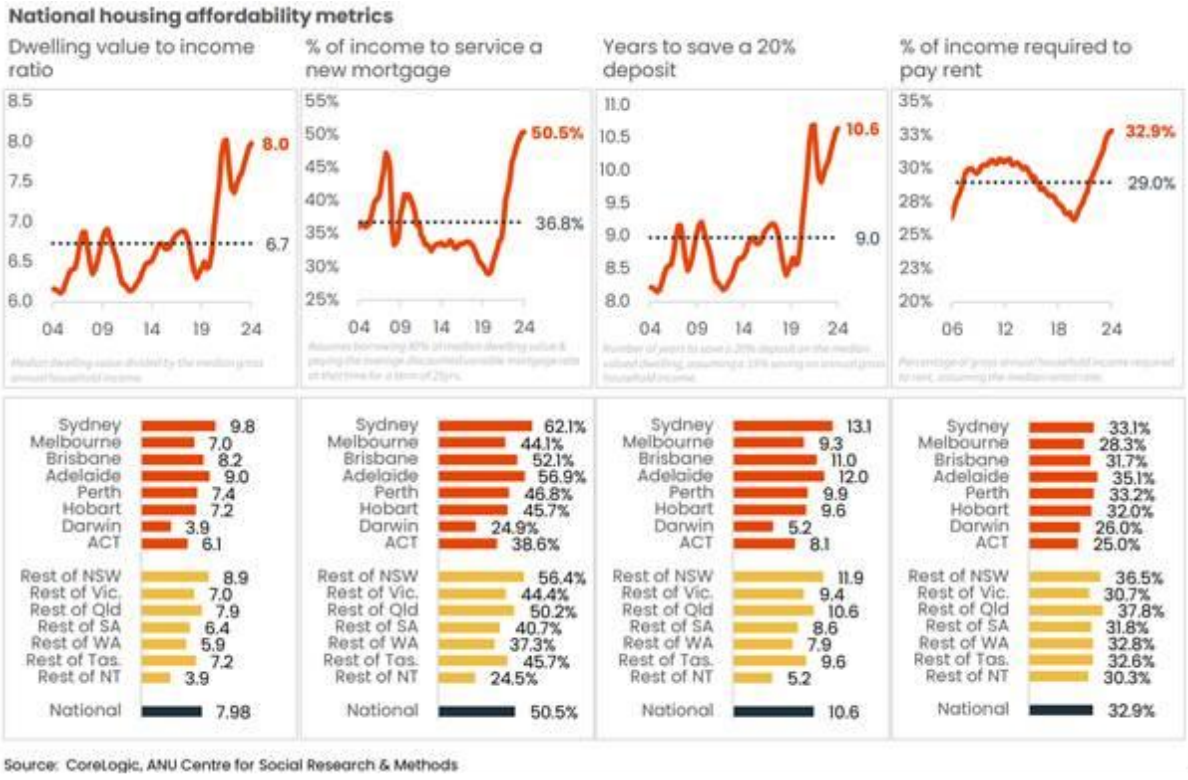


Figure 5: Affordability Metrics (Corelogic).

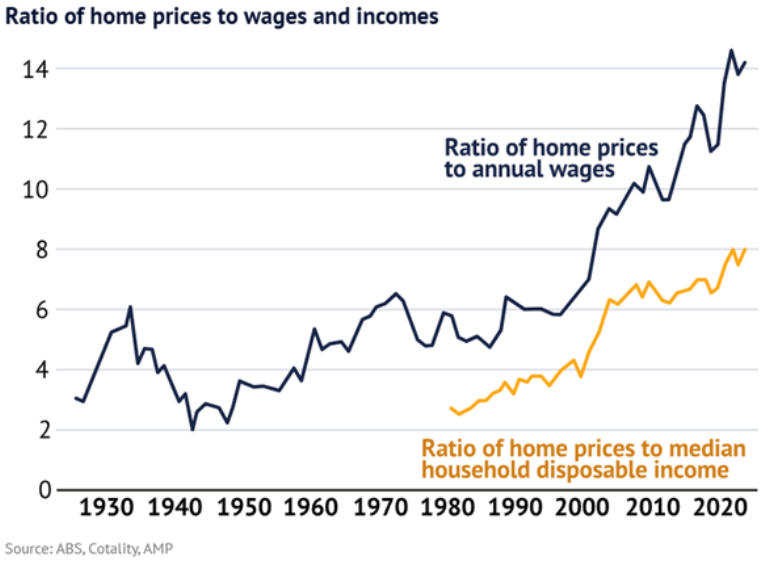


Figure 6: House Price to Income Ratio (Cotality).

2.5 Structural Constraints

Australia's housing supply is struggling to meet national targets due to deep-rooted structural constraints, including a chronic shortage of skilled labour, persistently high construction material costs, and low productivity across the building sector. These factors are compounding delays, inflating project costs, and limiting the capacity of the industry to scale up delivery in line with growing demand. Notwithstanding this, there are broader issues at play such as:

- Inadequate skilled workforce pipeline.
- Scarcity and fragmentation of developable land.
- Low productivity and innovation in construction.
- Restrictive planning and land-use systems.
- Fragmented housing policy and regulation.

Figure 7 shows the average building completion time for various property types across the nation.

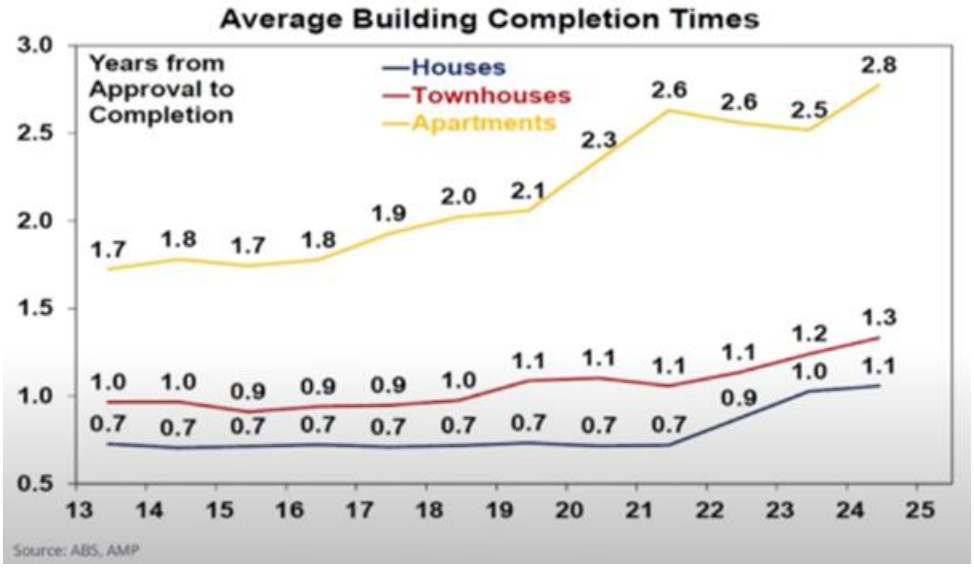
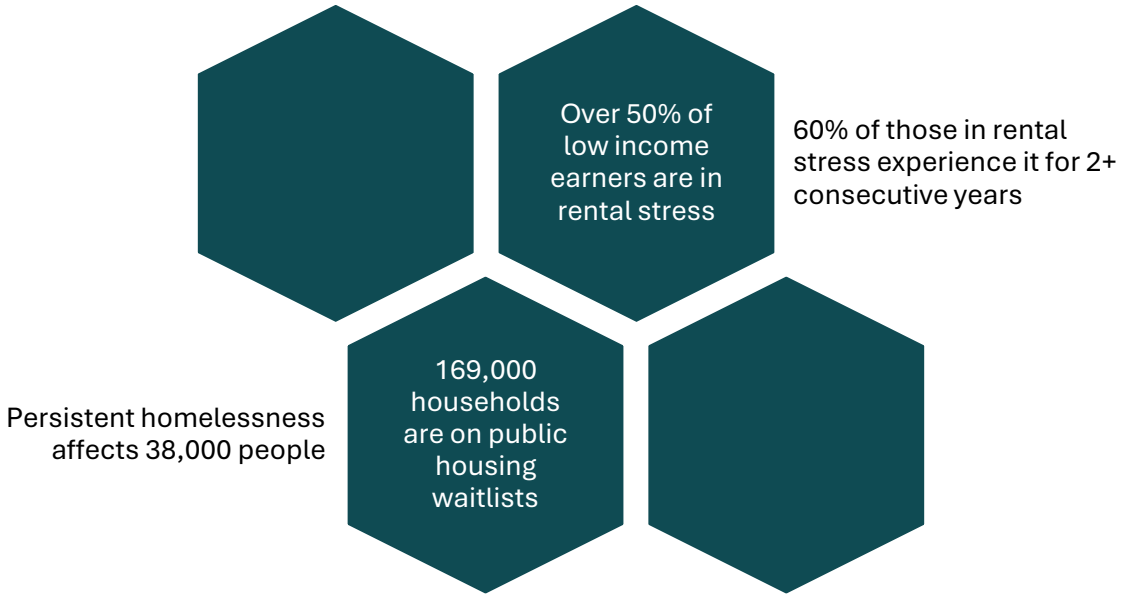


Figure 7: Average Building Completion Times (ABS 2025).

2.6 Rental Stress and Homelessness

Rental stress and homelessness in Australia are intensifying due to a growing mismatch between low household incomes and rising rental prices, compounded by long public housing waitlists that limit access to affordable accommodation.



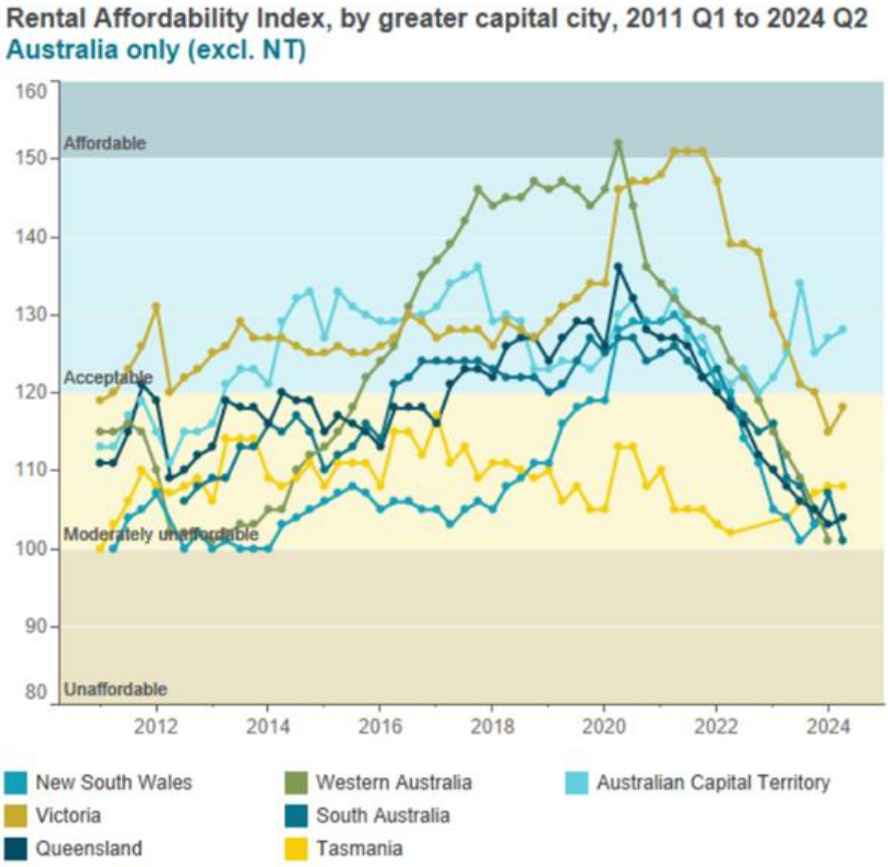


Figure 8: Rental Affordability Index (AIHW 2025).

Australia's household size remains at a historically low level (Figure 9). As rental affordability worsens, more households are reverting to group living or moving back into family homes, leading to an uptick in the average household size since 2023, from 2.51 to 2.54. However, the uptick was insufficient to make a material difference, and it is not expected that this figure will return to its pre-COVID level in the near future.

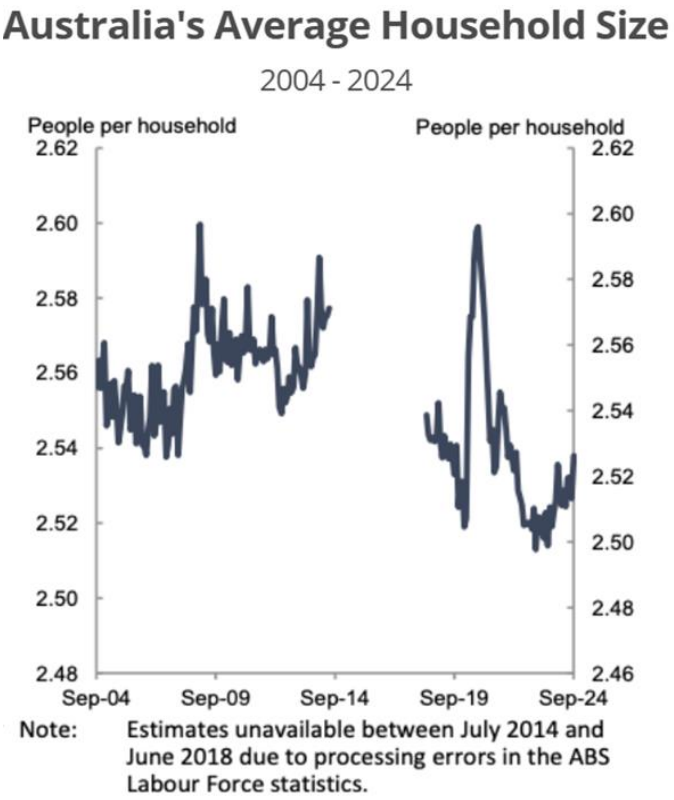


Figure 9: Average Household Size (ABS 2025).

3. Project Appreciation and Problem Definition

3.1 Infrastructure Australia's Identified Challenges and Recommendations

Infrastructure Australia has previously considered the impacts of rapid housing increases in Australia's cities and identified the following key challenges with sequencing infrastructure and housing development:

- Infrastructure delivery is struggling to keep pace with rapid population growth and change
- Australia's three-tiered governance structure can make it challenging to consistently deliver liveable places.
- Sector-led infrastructure planning can lead to uncoordinated outcomes for communities.
- Communities are increasingly disappointed by their experience of growth.
- Our infrastructure funding mechanisms have not kept pace with growth.
- Governments and industry lack a shared understanding of the capacity of different infrastructure networks.

A key problem for the misalignment between Housing Supply and Infrastructure demand stems from a broad array of different planning authorities, infrastructure authorities, and infrastructure asset owners. While planning authorities, government agencies, asset owners and project delivery teams are encouraged and required to coordinate, there is often a lack of integration of the strategic vision for a region with the actual delivery of projects.

The cascading funding mechanisms from Federal, to State and Local Government Areas contributes further to incohesive housing / infrastructure planning outcomes. Smaller local governments with limited resources may not be equipped to identify infrastructure needs facing a future community, or small scale of responsibility may not connect with the strategic vision of a broader region.

Both new housing developments (greenfield) and infill housing developments (brownfield) face similar challenges in meeting the infrastructure demands of a new community or a growing community. Greenfields sites need significant upfront, enabling investment to ensure the new suburbs have functional access to services prior to populating the region. Whereas the gradual increase in infill development can be difficult to assess existing capacity and future needs resulting in "NYMBYism" and further community opposition, and then a costly retroactive infrastructure delivery after the region has already declined in livability.

Following this, key recommendations were developed as best practice for sound infrastructure and housing sequencing:

- A national process for managing population growth
- Incentivizing collaboration between levels of government
- Focus on place based outcomes
- Reposition planning and engagement frameworks at strategic level
- Review funding mechanisms for local infrastructure development
- Enhance tools and data to understand the current and future capacity of infrastructure networks to make better use of existing assets.

3.2 Infrastructure Australia's Role in Developing Liveable Cities

Infrastructure Australia (IA) is an independent advisory body to the Federal Australian Government and at a broad level has the following functions:

- Support Australian Government investment objectives through providing a streamlined list of priorities for infrastructure investment
- Develop a national infrastructure planning and assessment framework to support national consistency and coordination in infrastructure assessment.
- Evaluate cost-benefit analyses / business cases for nationally significant infrastructure in accordance with national objectives.

Infrastructure Australia correspondingly has an *indirect* influence over the development of liveable cities. With a focus on advocacy, prioritization recommendations and national strategy – there are limited direct avenues for intervention in poor infrastructure / housing development cases and only guidance level or funding allocation adjustments available to encourage good practice in future development. IA does not fund or approve projects, but instead exercises influence as to which projects are likely to receive commonwealth funding.

Infrastructure Australia's primary avenues for influencing sound development practice are:

- IA can de-prioritise or recommend rejection of projects that encourage car-dependent sprawl or fail to demonstrate coordination with housing and population growth forecasts.
- Embed sustainability and integration in its evaluation framework to incentivize states to design projects consistent with these goals if they want a positive IA assessment
- Shape policy design by influencing how the Commonwealth structures its investment programs.
- Using publicly available data increase political pressure for jurisdictions to act on infrastructure deficits before they worsen.

These methodologies are in the mid to longer term, relying on policy adjustment and political motivation to follow the advice of Infrastructure Australia

3.3 Project Link and Problem Statement

To inform Infrastructure Australia in developing their advice to the Federal Government, IA will need to develop a robust insight into the challenges facing future housing development sites and any potential shortfall in enabling infrastructure.

The two key areas of focus for this assessment are:

- Understanding where the fast-growing or priority locations are for new housing supply, and quantifying the scale of expected growth in these locations, relative to others
- Understanding and quantifying any gaps between the current/planned enabling transport infrastructure capacity for high-growth areas and what will be needed to support projected future housing growth and population needs.

3.4 Assessment Guiding Principles

The transport infrastructure gap assessment component of this study was developed using several guiding principles identified by the Liveability League and confirmed with consultation with Infrastructure Australia. These principles were then mapped against the project requirements outlined in IA's brief to ensure the assessment meets the needs of IA. The outcomes of this is shown in Table 2.

Table 2: Infrastructure gap assessment guiding principles.

Theme	Guiding Principle	Outcome	Linked Project Requirement(s)
Scalability and Adaptability	Design methodologies that can be scaled or adapted to different geographic contexts.	Makes the approach reusable and applicable across regions.	Obj. 1–3 – Apply methods appropriate to chosen geographic scale.
Future-Focused Planning	Project housing and transport trends over time and integrate planned/committed projects.	Supports proactive, long-term infrastructure and housing planning.	Obj. 1 – Project housing growth Obj. 2 – Assess future transport adequacy Obj. 3 – Account for planned projects.
Data-Driven & Quantitative-Basis	Base all analysis on credible, up-to-date data and transparently document methodologies.	Ensures decisions are evidence-based, reproducible, and methodologically rigorous.	Obj. 1 – Review housing data Obj. 2 – Review transport data Obj. 1–2 – Methodology development.
Qualitative Reconciliation	Qualitative data and insights will be critically reconciled with quantitative analyses to validate trends, identify causation, and ensure robust interpretation	Ensures data trends and predictions are critically assessed and aligned with strategic national level objectives, supporting credible and actionable recommendations.	Obj. 1 - Identify and quantify areas of housing growth Obj. 2 - Develop an understanding of current and future adequacy and capacity of transport infrastructure Obj. 3 - Identify and quantify transport infrastructure gaps and priorities for support of housing growth
Communication & Transparency	Use visualisations, dashboards, and clearly report data quality and limitations.	Improves stakeholder understanding, engagement, and transparency	Obj. 1 – Produce visualisations of housing growth Obj. 3 – Visualise transport gaps Obj. 1–2 – Assess data quality and limitations.

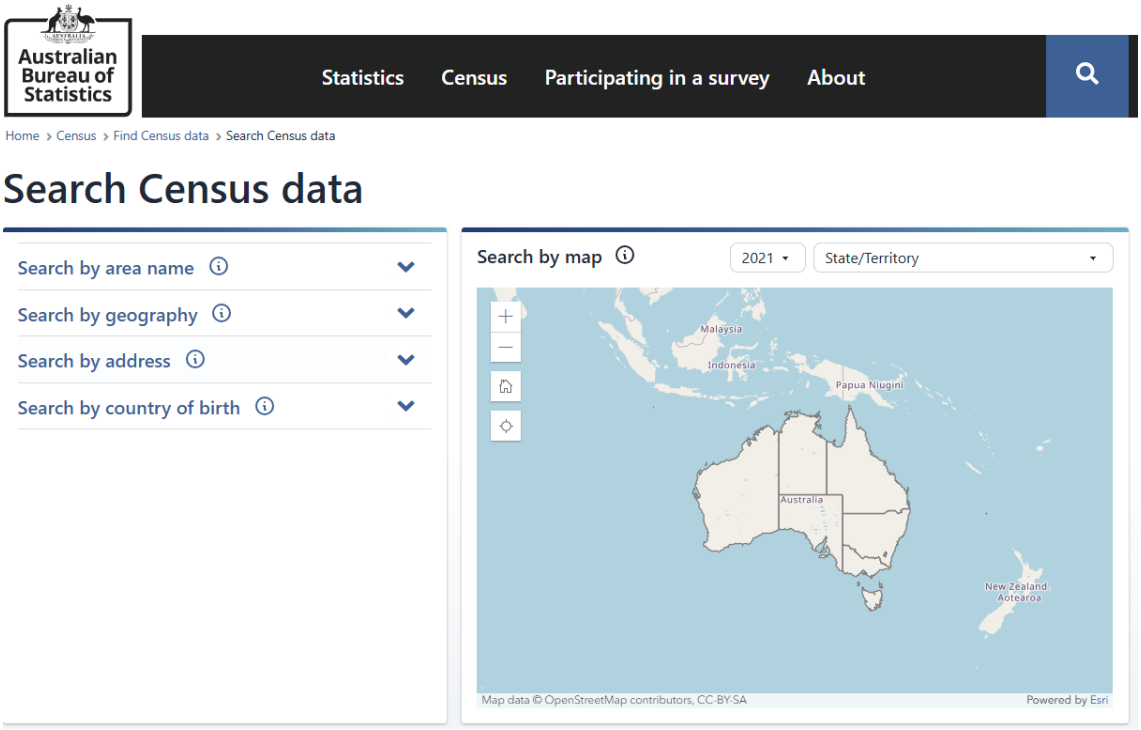
This approach is to focus efforts towards providing Infrastructure Australia with a methodology as well a sample assessment, that will allow them to repurpose this procedure in future transport infrastructure gap analyses.

4. Data Sources

4.1 Housing Data Sources

This Section lists out the data sources used in the assessment of housing growth and supply.

Australian Bureau of Statistics



Description

ABS Census data provides a snapshot of the Australian population on a specific night (Census Night), capturing a wide range of demographic, social, and housing information. It is one of the most comprehensive sources of statistical data in the country.

Data Value (Strengths)

- Comprehensive coverage (national, state and local)
- Consistency over time (every 5 years)
- Wide range of variables (housing tenure, dwelling types, occupancy status, etc)
- Public accessibility (freely available)
- Geospatial detail (SA1, SA2, LGA, etc)

Data Limitation (Weaknesses)

- Time lag (every 5 years)
- Snapshot nature (does not represent short-term fluctuations)
- Self-reported data (subject to in-accuracies)

- Excludes some populations (homelessness, non-private)

Uses

It can be used to support government planning, policy development, business decisions, academic research, and community services by providing detailed insights into Australia's population, housing, and social characteristics. It helps identify trends, allocate resources, and understand local and national needs across sectors.

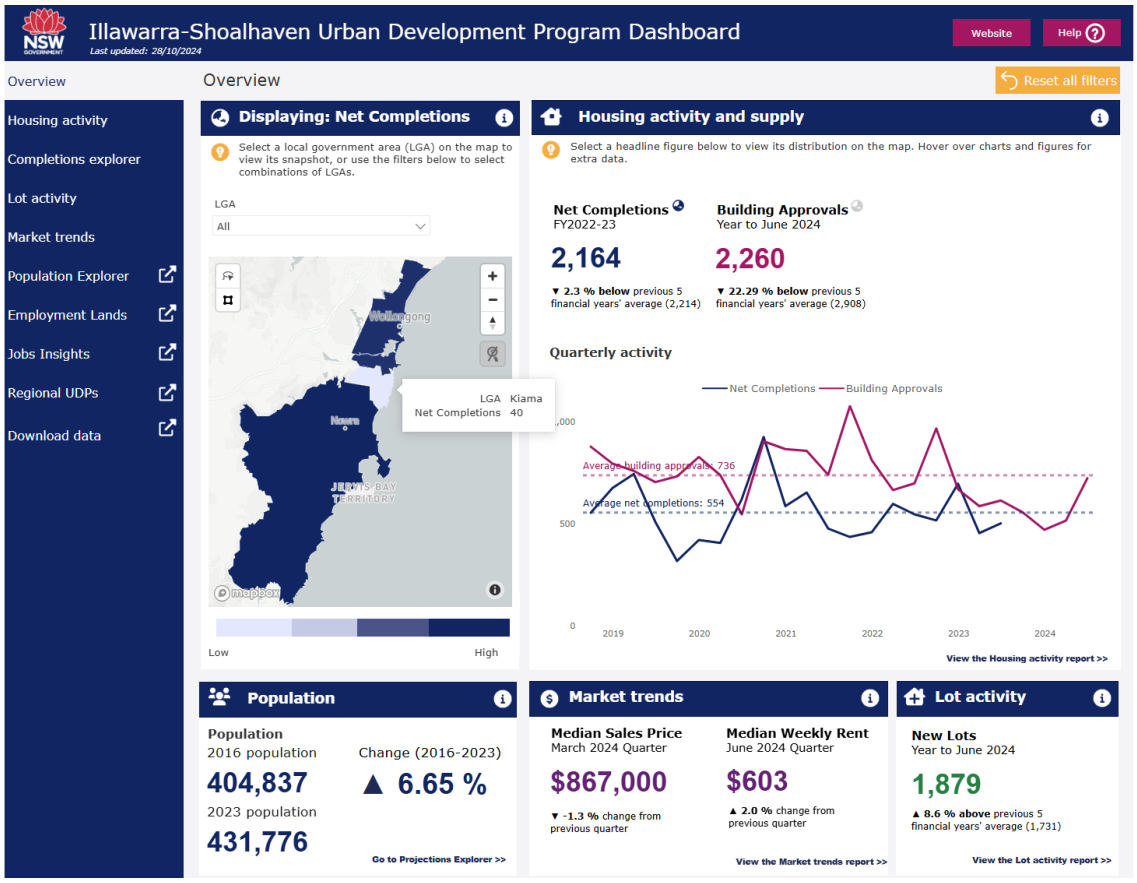
Applicability to Framework

Data can be used at a national, state or local level to understand household tenures, dwelling types and household composition. These are crucial datasets which allow forecasting of future housing demand and requirements.

URL

https://abs.gov.au/census/find-census-data/search-by-area

NSW Planning Urban Development Program Dashboard



Description

NSW Planning Data provides an overview of the historic and future (forecasted) population and housing requirements of a region.

Data Value (Strengths)

- Real time monitoring (housing completions, targets and progress)
- Regional insights (localised housing challenges)
- Performance benchmarking (quarterly and long-term targets)
- Transparency and accountability (publicly accessible)
- Trend Analysis (historic and forecast future performance)

Data Limitation (Weaknesses)

- Timelessness (may not be real-time)
- Scope and coverage (may not include micro factors; affordability, rental stress)
- Data quality (sourced from various jurisdictions which may use different definitions)
- User interpretation (open to misinterpretation)

Uses

It could enable tracking of dwelling completions against targets, supports regional planning and policy evaluation, and promotes transparency and accountability. By offering interactive data visualisations,

it could help governments, planners, and researchers make informed decisions, allocate resources effectively, and advocate for improved housing outcomes.

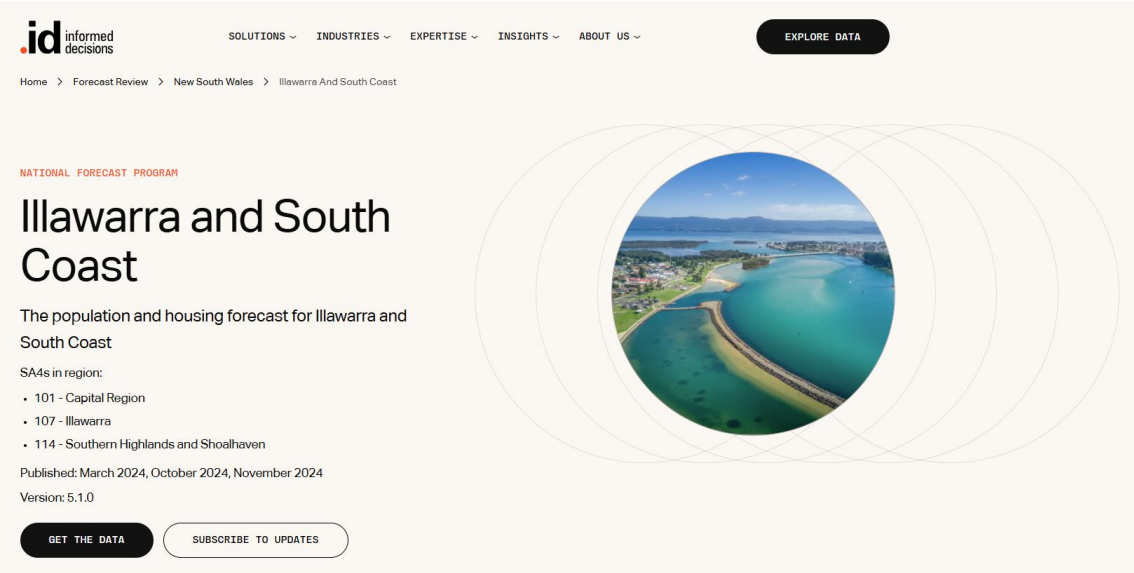
Applicability to Framework

Data can be used at a national, state or local level to forecast future housing demand and requirements.

URL

https://app.powerbi.com/view?r=eyJrIjoiZTk5NDYzMmUtMWI4ZC00ZGM2LTlhNTYtZDQwYjUyODczZTk3IiwidCI6Ijk2ZWY4ODIxLTJhMzktNDcxYy1iODlhLTY3YjA4MzNkZDNiOSJ9

ForecastiD



Description

ForecastID is a public platform developed by .id (Informed Decisions) that provides detailed population and housing forecasts for over 130 local councils across Australia. It is part of the National Forecasting Program, which combines national demographic trends with local development data to deliver evidence-based, locally relevant forecasts.

Data Value (Strengths)

- Evidence based planning
- Localised and granular data (uses data from 130 LGA's to enhance relevance and precision
- Consistency and comparability (uses standardised methodology across regions to allow for consistent comparisons and regional collaboration)
- Public accessibility (feely available)

Data Limitation (Weaknesses)

- Single forecast scenario (one forecast per area rather than multiple scenarios; high, medium or low growth)
- Assumption sensitivity (accuracy is based on assumptions about development, migration patterns and household formation)
- Economic factors not explicitly modeled (economic conditions are not modelled but rather implied through variables)
- Data currency (based on historic data and be lag reflecting developments or policy changes)

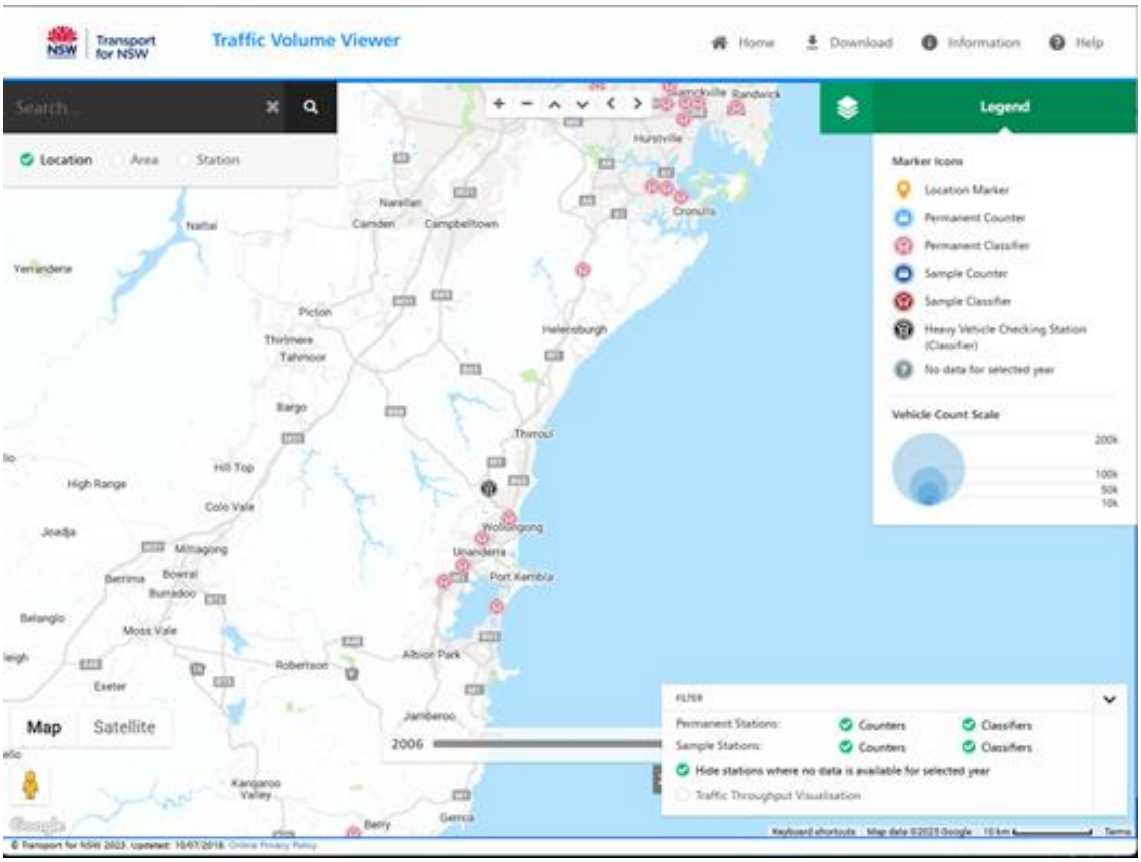
Uses

Used to support strategic planning and decision-making across a wide range of sectors. It provides detailed, small-area population and housing forecasts that help local governments, planners, developers, and service providers anticipate future growth and demographic changes. This enables more accurate infrastructure planning, targeted service delivery, informed policy development, and efficient resource allocation. The data also supports community engagement by making complex demographic trends accessible and transparent to the public.

Applicability to Framework
Data can be used at a national, state or local level to forecast future housing demand and requirements.
URL
https://abs.gov.au/census/find-census-data/search-by-area

4.2 Transport Data Sources

NSW Traffic Volume Viewer



Description:

Transport NSW Traffic Volume Viewer is a publicly accessible data source which provides traffic data for various stations and time frames across NSW

Data Value (Strengths):

Highly Valuable

Data Limitations (Weaknesses):

Traffic Stations are only in place for certain roads and years.

Not all traffic stations data provide information on heavy vehicle usage

Uses:

Assessment of Demand Side Capacities of road corridors

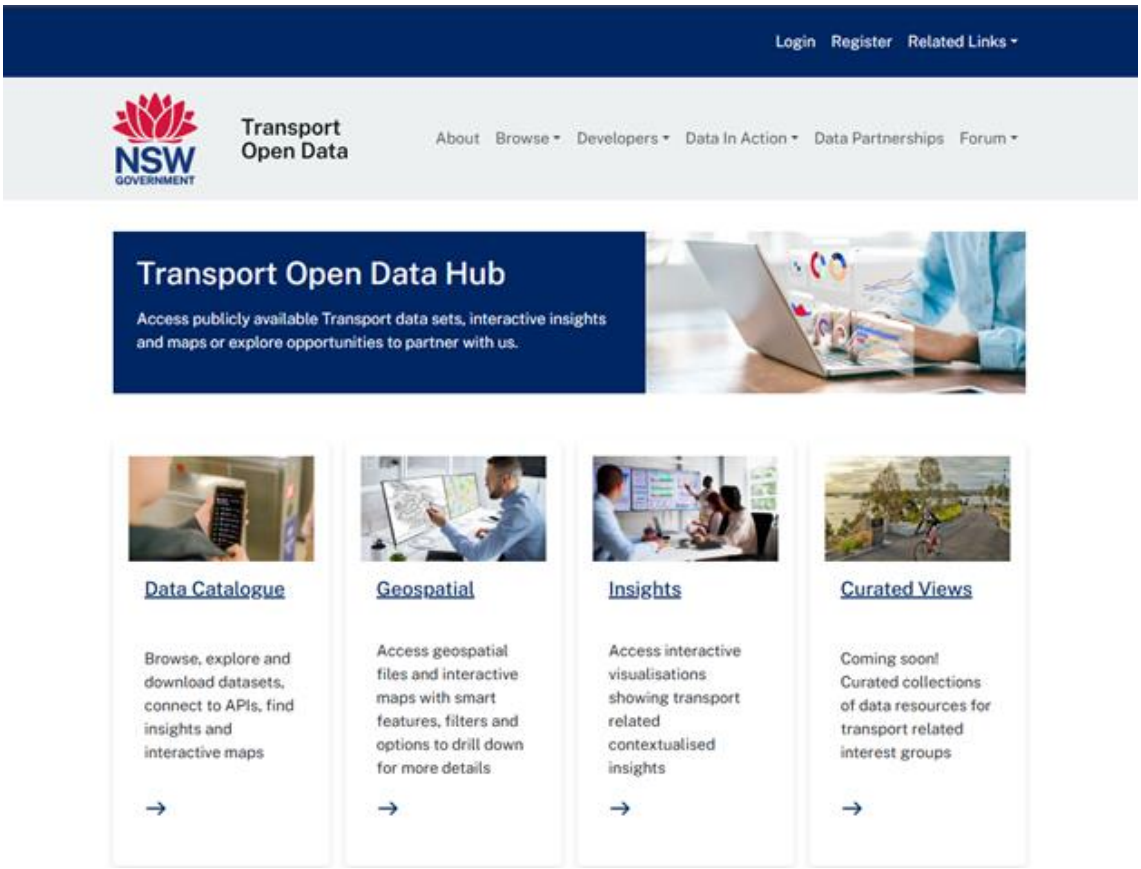
Applicability to Framework:

Part of the major roads assessment

URL:

https://maps.transport.nsw.gov.au/egeomaps/traffic-volumes/index.html#/?z=10&lat=-34.34544491099629&lon=150.97446931814116

Transport Open Data Hub



Description:

Transport Open Data Hub is a source of public transport information

Data Value:

Highly valuable

Includes Opal tap-on and tap-off data, as well as rail and road infrastructure usage data

Data Limitations:

Rail-related data was limited, with tap-on/tap-off data only available for a 4-week window in 2016, and a 2-week window in 2020 (which was heavily impacted by COVID-19 lockdowns)

Uses:

Used in the assessment of demand side public transport

Applicability to Framework:

Applicable to the transport assessment

URL:

https://opendata.transport.nsw.gov.au/

4.3 Data Gaps and Limitations

4.3.1 Incomplete Datasets

Publicly available data is not necessarily complete across the time periods under consideration, hence gaps exist across timeframes in the various datasets. Where possible, these gaps are mitigated through review of data trends and appropriate interpolation.

4.3.2 Data Applicability and Scalability

Much of the analysis has drawn upon NSW Government and Census data, which provides a robust basis for a proof of concept but may not translate seamlessly to a national framework. The scalability of this approach will depend on the consistency and accessibility of equivalent datasets across other jurisdictions.

4.3.3 Transport Data Limitations

Significant data gaps exist outside major metropolitan centres. For example, permanent traffic counters are sparse in regional and coastal corridors, and available heavy-rail datasets for the South Coast are limited.

4.3.4 Traffic Sampling Constraints

Several traffic-count files included only partial-year data (e.g., 8–20 days or a few weeks of records), which provide indicative mean daily volumes but not statistically robust AADT values without applying seasonal or day-of-week factors. Sampling periods were sometimes concentrated in specific months (e.g., winter), potentially introducing seasonal bias linked to school holidays, tourism, or weather patterns. In addition, weekday/weekend balance was not always ensured, which may slightly skew average demand estimates.

4.3.5 Data Completeness and Consistency

Heavy-vehicle classification fields were frequently missing or inconsistently coded across stations. These inconsistencies limit the precision of heavy-vehicle adjustment factors and the comparability of directional flows between sites.

5. Infrastructure Gap Assessment Framework

The Liveability League's Infrastructure Gap Assessment Framework is built on a systematic approach to rationalise a forecast for potential housing supply and transport infrastructure demand for a nominated target area under consideration. These forecasts are then used to conduct a comparative analysis to identify where enabling transport infrastructure may present limitations to required housing supply.

Figure 10 provides a schematic of the framework, with housing supply (Objective 1) and transport infrastructure demand (Objective 2) following a similar forecasting approach, followed by the comparative Infrastructure Gap Assessment (Objective 3).

This Section summarises the specific approach to this framework, while Section 6 presents a proof-of-concept application of this framework.

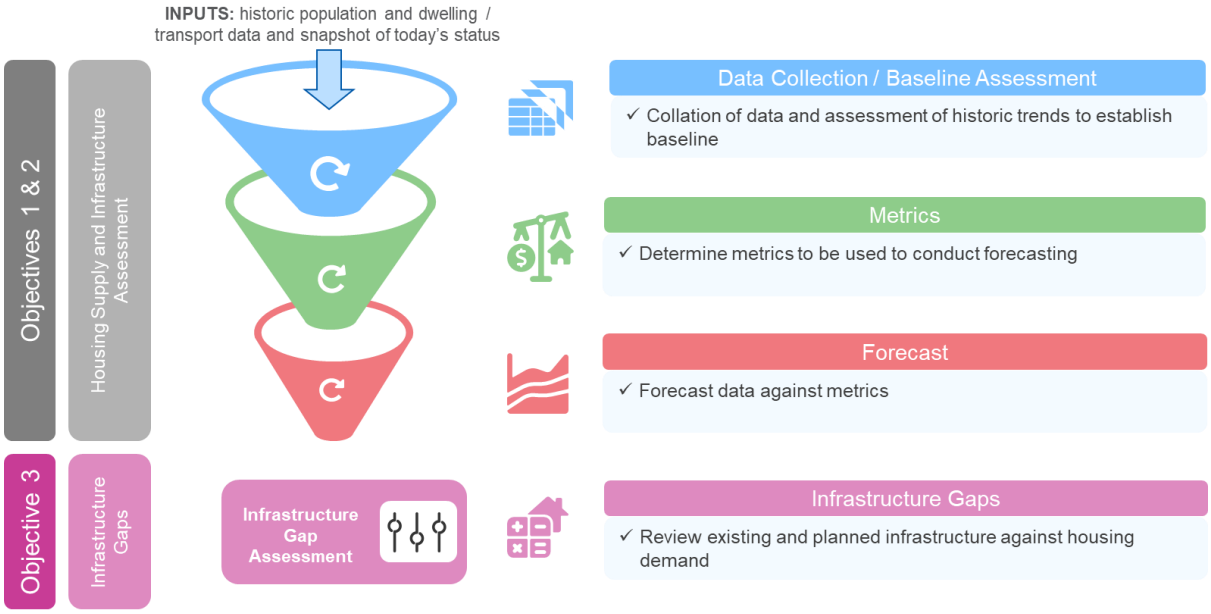


Figure 10: Infrastructure gap assessment framework.

5.1 Housing Growth and Demand – Objective 1

5.1.1 Data Collation / Analysis and Baseline Assessment

As noted in Section 4.1, a large volume of publicly available data exists which can be utilised to develop an understanding of the Australian housing market. The specific housing datasets are shown in Table 3 as outlined in Section 4.1.

Table 3: Data sets adopted for housing supply assessment.

Australian Bureau of Statistics (ABS)	• Population estimates and projections • Census data on household composition, tenure, and income • Housing finance and lending indicators • Dwelling approvals and completions (Building Approvals, Construction Activity) • **Use:** National-level trends, long-term historical analysis, and demographic context
NSW Planning Portal*	• Development applications and approvals • Rezoning and land use changes • Infrastructure contributions and planning proposals • **Use:** Real-time insights into the housing pipeline, planning activity, and land availability in NSW.
ForecastID	• Small-area population and housing forecasts • Dwelling construction projections • Household and demographic trends • **Use:** Localised forecasting to assess future housing needs and align planning with expected growth.
NSW Housing Snapshot*	• Housing density and demand based off population growth. • Existing stock • Pipeline approvals and completions • **Use:** Regional data to assess housing demand and supply using tenure mix and demographic drivers.
AIHW	• Social and affordable housing data • National and regional affordability metrics • Population changes by LGA • **Use:** National reporting on population, housing and dwelling tenures.
RealEstate.com.au **SQM Research** **CoreLogic**	• Tracking housing market performance and trends • **Use:** Historical and current housing performance by postcode/ LGA.

**Data applicable to NSW Only.*

Using these datasets and the Liveability League standardised baseline assessment framework, a comprehensive snapshot of the historic and current housing market in the target areas can be evaluated. This baseline assessment seeks to address the following key questions:

- Is housing supply meeting population growth and demand?
- How are housing prices and rents changing over time?
- What are the spatial patterns of housing development and affordability?

5.1.1.1 Data Integration and Cleaning

The first step in this process is the preparation and cleaning of extracted data in a consistent format for the analytical framework.

- Standardise data formats and timeframes across sources.

- Geocode data for spatial analysis (e.g., aligning ABS SA2 regions with local government areas).
- Address missing or inconsistent data through imputation or cross-referencing.

Note: *It is important to define upfront the specific area in consideration and what data sources / quality of data are relevant. For statewide assessments, macro data at the LGA level would be appropriate, while for sub-city assessments, SA2 or postcode level data would be required.*

5.1.1.2 Analytical Framework

Following the data integration and cleaning, the 3-step analytical framework outlined in Figure 11 is used to evaluate a quantified baseline assessment of the historic and current housing market in the target areas.

Figure 11: Housing supply baseline assessment framework.

5.1.2 Metric Establishment

Following the establishment of the historic and current baseline profile, a comparison of key metrics can be used to determine emerging trends against historic data and form a view on housing growth projections. The specific metrics established are noted in Table 4.

Table 4: Housing metrics.

Population and Dwelling Tenures	Affordability	Housing Supply
Population Median Age Dwelling Type Distribution Average Persons per Household	Median Household Income Median House Price House Price to Household Income Ratio Gross Rental Yield	Inventory Building Approvals Building Completions Vacancy Rate Occupied and Unoccupied Dwellings

5.1.3 Forecasting and Validation

Forecasting in the housing sector is a complex task influenced by numerous sensitive and dynamic variables. Changes in government policy, fluctuations in interest rates, rising construction costs, and shifts in employment levels can all significantly alter market conditions. These variables introduce uncertainty and can disrupt even well-founded projections, highlighting the need for flexible models and regular updates to forecasting assumptions.

Figure 12 provides a schematic of a number of variable factors that influence forecasting in the housing sector, provided by NHSC. This schematic has been overlain with the Liveability League's 3-step analytical framework used for the baseline assessment fore the purpose of forecasting housing supply.

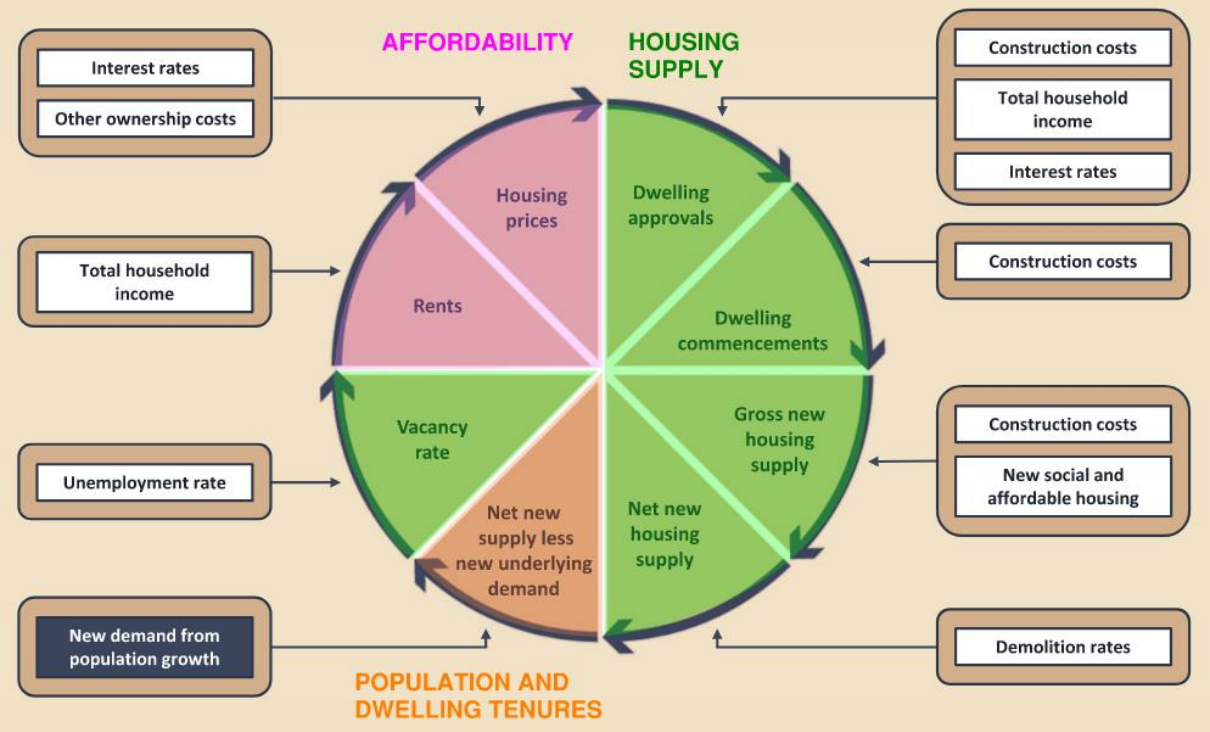


Figure 12: Housing supply and demand.

The metric determination outlined in Section 5.1.2 can be used to validate historical trends and extrapolate forward to forecast future conditions. By sourcing forecast data on population growth, household incomes, and dwelling supply from the data sources noted above, a quantified estimate of future housing requirements can be determined.

These metrics also serve as benchmarks to assess whether projected supply aligns with anticipated demand. Comparing these findings against regional strategic plans and known forecasts maintains consistency with broader planning objectives, while also enabling validation of emerging trends against historical patterns. This approach supports evidence-based decision-making and helps ensure housing strategies remain responsive to evolving demographic and economic conditions.

5.2 Transport Infrastructure Demand and Capacity – Objective 2

5.2.1 Road Networks

5.2.1.1 Data Collation and Analysis

The assessment will draw on multiple open-source and government datasets to establish a comprehensive understanding of major road performance within the study area. Key datasets will be obtained from the Transport for NSW Open Data Hub, Traffic Volume Viewer, and supporting sources such as Digital Atlas Australia, Infrastructure Australia's Infrastructure Priority List, and relevant Austroads guidelines.

Permanent and temporary traffic counters will be used to collect Average Annual Daily Traffic (AADT), peak-hour volumes, directional splits, and heavy-vehicle proportions for each corridor. Additional information on lane configuration, posted speed limits, and division type (divided / undivided) will be used to define supply-side parameters that influence road capacity.

5.2.1.2 Metric Establishment

A set of analytical metrics will be applied across all selected road corridors to evaluate the adequacy and performance of each major corridor. These metrics are designed to describe operating conditions and capacity characteristics.

Table 5: Major Road metrics.

Category	Metric
Road Configuration	Number of lanes Divided/undivided status Speed limit
Supply Metrics	Base lane capacity (pc/hr/ln) Directional capacity (veh/h) Design AADT (veh/day)
Demand Metrics	AADT, peak-hour flow Heavy-vehicle %
Performance Metrics	Volume-to-Capacity (V/C) Level of Service (LOS)
Growth Metrics	Projected AADT (forecast year)

These metrics will enable comparison between the various corridors and provide an evidence base to identify future issues under future growth conditions.

5.2.1.3 Baseline Assessment

Baseline network conditions will be established to evaluate the existing operational performance of each major corridor. Observed AADT and peak-hour traffic volumes will be benchmarked against theoretical design capacities derived from Austroads Guide to Traffic Management Part 3 (AGTM03) and Guide to Road Design Part 3.

The analysis will use the Volume-to-Capacity (V/C) ratio as the primary performance indicator, defined as:

V/C = Observed AADT ÷ Design AADT per direction

V/C results will be interpreted using Austroads Level of Service (LOS) thresholds:

- V/C < 0.8 – Stable flow (LOS A–C)
- 0.8 – 1.0 – Approaching capacity (LOS D–E)
- 1.0 – Over capacity (LOS F)

This baseline assessment will identify the current operational adequacy of each corridor, highlighting any existing capacity constraints or locations approaching their design limits.

5.2.1.4 Forecasting

Forecasting will be undertaken to estimate future road-network performance within the study timeframe, typically extending to 2041 to align with regional strategic-planning documents. Future traffic-growth projections will be derived using annual population growth rates from the housing and population assessments.

Forecasted AADT values will then be compared to design capacities to calculate future V/C ratios, allowing identification of potential Level of Service (LOS) reductions over time.

5.2.2 Rail Networks

5.2.2.1 Data Collation

The assessment of the rail infrastructure draws on multiple publicly available data sets to obtained from the Transport for NSW Open Data Hub. This data includes tap-on, tap-off Opal Card data to establish network usage. This data was then mapped to existing rail timetable data to establish the current rail network usage as a function of capacity.

This usage data was then correlated against historical train usage, of both the entire Sydney Trains network and broken down per-line. This was to clearly benchmark the existing line usage models against historical data to establish a baseline case.

This benchmark data was then projected forward to predict the rail usage as a function of time into the future and assess the suitability of the current rail infrastructure to support the demands of the growing population into the future.

We note that while this methodology focussed on NSW and data from the NSW rail network, this methodology is applicable to all states and is scalable across the country.

5.2.2.2 Metric Establishment

There are a number of metrics relating to the adequacy of a rail network. These are summarised below.

Train Capacity

This metric captures the total seating capacity available on trains operating during the AM peak period (typically 8–9 AM). It is calculated by multiplying the number of trains by the seating capacity of each train model. This provides a baseline for how many commuters the rail line can accommodate during peak demand.

Capacity Utilisation

By comparing the number of commuters boarding at each station to the available seating capacity, this metric estimates how full trains are during peak periods. It is expressed as a percentage and used to assess whether the network is underused, approaching capacity, or overloaded.

Growth-Adjusted Demand Forecast

This metric projects future commuter volumes based on housing and population growth forecasts. It scales current usage data by expected growth rates in each region or LGA, allowing Infrastructure Australia to anticipate future pressure on the rail network and identify where upgrades may be needed.

Reliability and Performance Metrics

These include the percentage of trains arriving within a defined time window of their scheduled arrival, the frequency of cancelled services due to operational issues, maintenance, or external disruptions, and average time commuters wait for a train, especially during peak periods. These metrics help evaluate whether the network is dependable and meets commuter expectations, but don't relate to the demand on the network as the population grows.

Asset Condition Metrics

These metrics include the Track Condition Index, which assesses wear, alignment and structural integrity, rolling stock age, and station infrastructure quality. Asset condition metrics are essential for long-term planning and prioritising upgrades or replacements, but aren't relevant metrics for assessing the impact of a growing population on the adequacy of the infrastructure.

Safety Metrics

Safety metrics include the number of safety-related events, adherence with Australian standards and regulations, and emergency response times. While important, these metrics also aren't relevant for assessing the impact of a growing population on the adequacy of the infrastructure.

Based on the above, the metrics that have been assessed to be relevant to determining the adequacy of Australia's rail network as housing stock increases and the population

grows are train capacity, capacity utilisation, and growth-adjusted demand forecasts. An assessment of these metrics is presented in the following sections

5.2.2.3 Baseline Assessment

Baseline rail network capacity will be established to evaluate the existing residual capacity of the network (if any). This will be done through an assessment of the AM peak commuter volumes compared to the current capacity of the network. This current capacity is based on current timetable data and train seated capacities. The AM peak has been selected as this is historically more intense in terms of commuter volumes than the corresponding PM peak. This peak is defined as including all trains that arrive at a hub or CBD (Central Station in this instance) between 8 am and 9 am.

We note that an assessment of the capability of the network as a whole to support timetable changes is beyond the scope of this report. However, it is noted that there is, at best, a maximum of 10% residual capacity in the network to run additional train services through Sydney CBD (See Brooker 2010).

5.2.2.4 Forecasting

Forecasting will be undertaken to estimate the future rail-network performance within the study timeframe (2025-2041). Future commuter numbers will be estimated using annual population and housing growth rates.

The forecast commuter numbers are then compared against the capacity of the rail network to calculate the capacity of the rail network (commuters as a percentage of train capacity) as a function of time. This allows for the identification of areas that will become overloaded with time and will require infrastructure upgrades and expenditure to improve the level of service to keep pace with Australia's growing population.

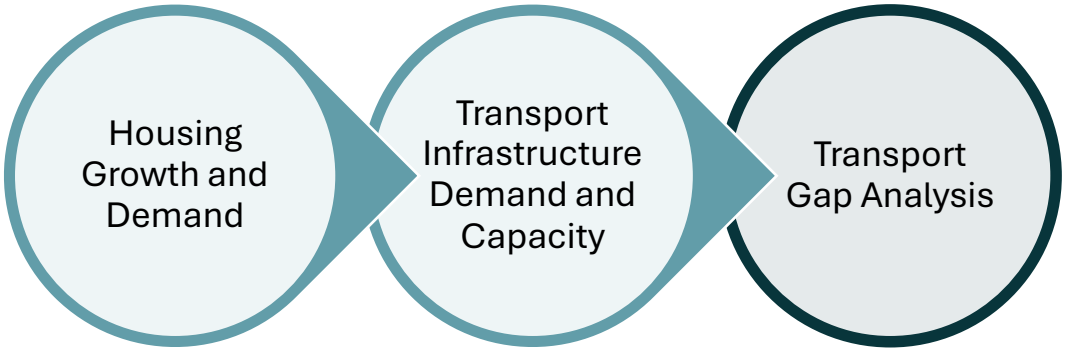
5.3 Transport Infrastructure Supply Gaps – Objective 3

The focus of Objective 3 is to bring together the findings from the housing growth and demand assessment in Objective 1 and the transport demand assessment in Objective 2 to identify potential transport gaps inhibiting the growth of housing.

From the housing growth and demand assessment, the projected housing shortfall will be determined. This projected shortfall is calculated as the difference in the number of required dwellings (based on population demand) and established dwellings, as a percentage of the required dwellings, and is used to demonstrate the stress on housing supply in a given region.

From the transport infrastructure demand and capacity assessment, the capacities of key transport (road and rail) corridors will be determined, with expected demand on the system assessed to determine utilisations of the network.

The gap assessment will involve a comparison of the housing shortfall, and corresponding housing demand, against the transport infrastructure utilisations at a projected time to determine where transport infrastructure could be limiting housing supply.



- Review and determine housing shortfall for specific areas in consideration to projected timeframe

- Review and determine transport corridor (road and rail) demand, capacity and corresponding utilisations
- Review planned and proposed infrastructure projects for the region

- Comparison of projected housing shortfall (expected demand) against adjacent transport infrastructure corridors at or exceeding capacity

6. Proof of Concept – Shoalhaven-Illawarra Region

6.1 Overview and Geographic Region

The intent of the proof of concept is to demonstrate a worked example of the framework outlined in Section 5 to a real scenario. Consideration for geographical regions included:

- Sub-city (e.g. Western Sydney, north/west Melbourne, northern Adelaide)
- Fast-growing city (e.g. Sydney, Melbourne, Brisbane, Perth)
- Fast-growing region (e.g. South-East Queensland)
- State or Territory

The fast-growing region geography was selected for its balance between state-level (broad scale) and city-level (well established due to population concentration). Specifically, the Shoalhaven / Illawarra region was adopted due to local familiarity for the authors, and the volume data made publicly available by the NSW government.

Prior to commencing the proof of concept, an initial review of published data and assessment of major transport links was conducted as shown in Figure 13. Main reference documents included:

- Illawarra Shoalhaven Regional Plan 2041
- Illawarra Shoalhaven Regional Transport Plan 2056
- Transport for NSW – Future Transport Strategy
- Urban Development Institute of Australia – Illawarra Shoalhaven Building Blocks 2025 Update

The review from this initial assessment has been used to validate findings from the application of the framework against other studies already carried out.

Due to the extent of data available, the projected assessment was carried out for a 16-year time period up to 2041.

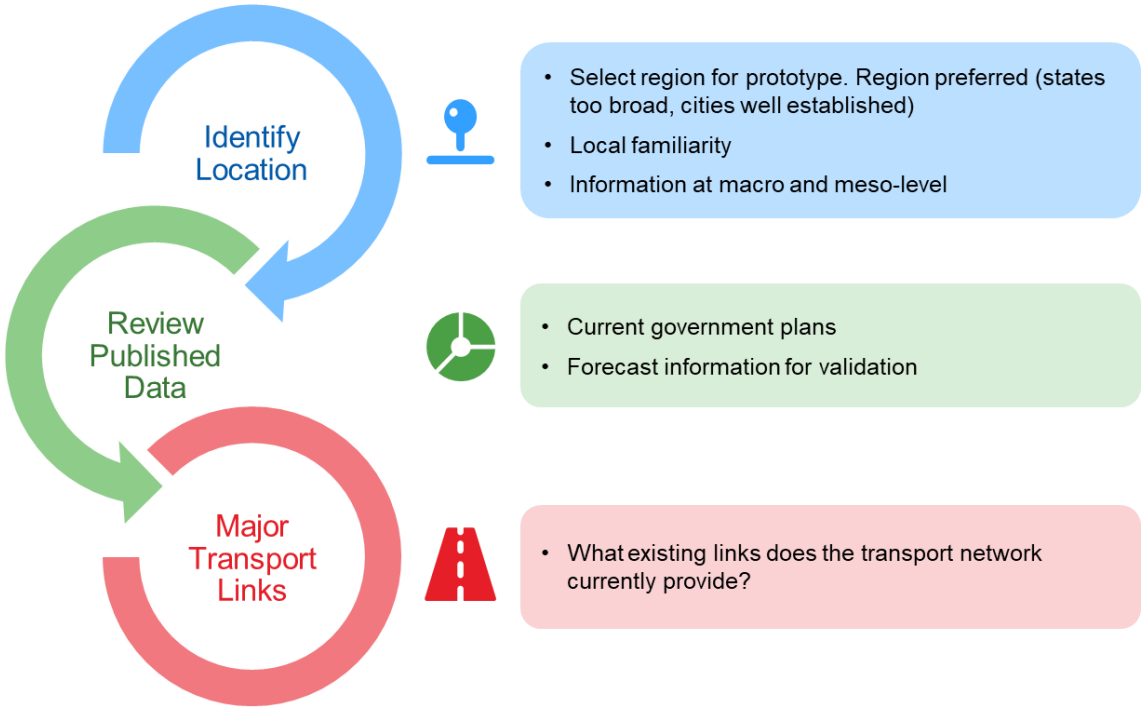


Figure 13: Initial review process for identified geography.

Initial review of the published data for the Illawarra Shoalhaven Region identified 3 specific growth areas, as outlined in Table 6, where housing supply is expected to be concentrated within the region over the next 15 years to 2041.

Table 6: Illawarra Shoalhaven growth areas.

Growth Area	West Lake Illawarra	Bombo	Nowra-Bomaderry
Postcode	2530	2533	2541
Suburbs	Dapto Avondale Brownsville Cleveland Dombarton Haywards Bay Horsley Huntley	Bombo Kiama Kiama Downs Kiama Heights Minnamurra Saddleback Mountain Jamberoo Jerrara,	Nowra North Nowra Bomaderry
Forecast Dwellings to 2041	17,768	8,276	20,188
Growth Type	Growth	Emerging Growth	Growth

Figure 14 shows these areas in the context of existing major road and rail transport connections.

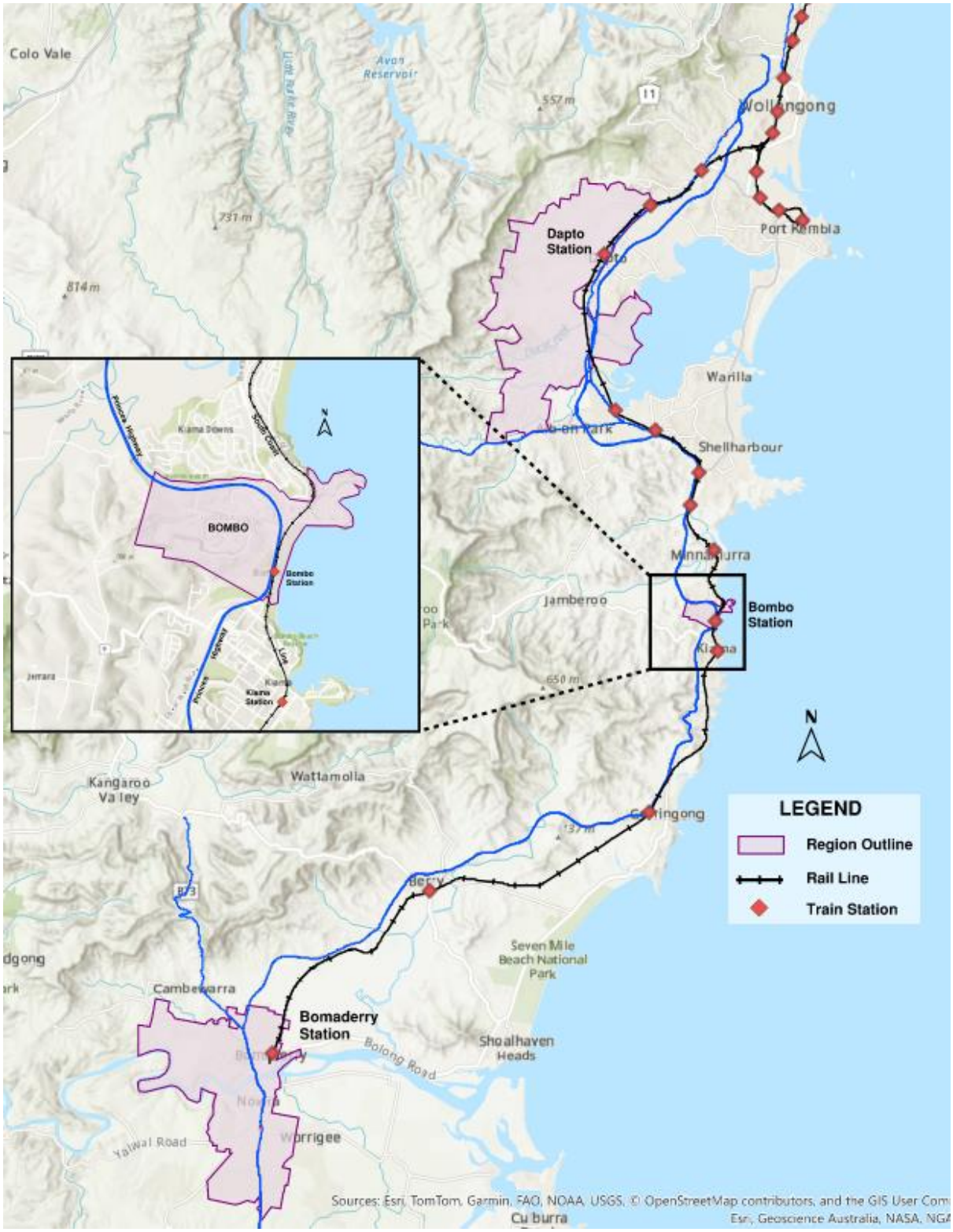


Figure 14: Shoalhaven-Illawarra growth areas.

The proof-of-concept assessment using the framework has been concentrated on the specific growth areas noted above, and is summarised in the subsequent sections.

6.2 Housing Supply Assessment

6.2.1 Data Collation / Analysis and Baseline Assessment

Given the small nature of these specific growth areas within the wider region, data was sourced at the postcode level for the postcodes listed in Table 6. The level of data available from various sources was inconsistent between postcode, SA2 and LGA level, hence where postcode data was missing, SA2 level data was used to supplement findings. Table 7 summarises the key data sourced for the proof-of-concept.

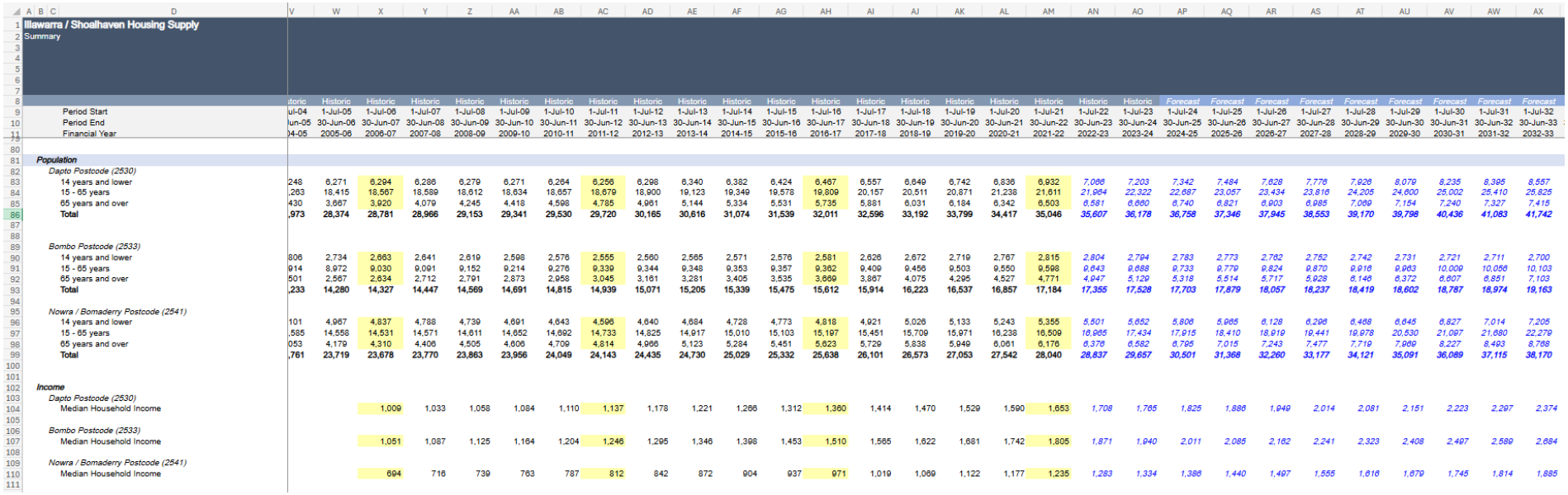
Table 7: Housing data sets adopted for assessment.

Population and Dwelling Tenures	Affordability	Housing Supply
ABS (Census)		
– Historic population numbers – Historic population demographics – Historic house occupancy (occupied vs. unoccupied homes) – Historic dwelling types and distribution (houses vs. units)	– Historic household incomes	N/A
NSW Planning Portal		
– Forecast SA2 population projections[1]	– Historic median rent price – Historic median sale price – Historic LGA median rent[2]	– Historic SA approvals[1] – Historic LGA approvals[2] – Historic SA2 net completions[1]
RealEstate.com / SQM Research / CoreLogic		
N/A	– Historic annual growth (Sales) – Historic annual growth (Rents)	N/A

[1] Data at SA2 level used to supplement / close gaps in lack of data at postcode level.

[2] Data at LGA level used for comparison purposes.

The various datasets listed in Table 7 were collated in a consistent format in a master model to across the assessment timeline, differentiating between historic data, and projections as seen in Figure 15.



		V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX
1	**Illawarra / Shoalhaven Housing Supply**																													
2	Summary																													
8		toric	Historic	Historic	Historic	Historic	Historic	Historic	Historic	Historic	Historic	Historic	Historic	Historic	Historic	Historic	Historic	Historic	Historic	Historic	Historic	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
9	Period Start	ul-04	1-Jul-05	1-Jul-06	1-Jul-07	1-Jul-08	1-Jul-09	1-Jul-10	1-Jul-11	1-Jul-12	1-Jul-13	1-Jul-14	1-Jul-15	1-Jul-16	1-Jul-17	1-Jul-18	1-Jul-19	1-Jul-20	1-Jul-21	1-Jul-22	1-Jul-23	1-Jul-24	1-Jul-25	1-Jul-26	1-Jul-27	1-Jul-28	1-Jul-29	1-Jul-30	1-Jul-31	1-Jul-32
10	Period End	un-05	30-Jun-06	30-Jun-07	30-Jun-08	30-Jun-09	30-Jun-10	30-Jun-11	30-Jun-12	30-Jun-13	30-Jun-14	30-Jun-15	30-Jun-16	30-Jun-17	30-Jun-18	30-Jun-19	30-Jun-20	30-Jun-21	30-Jun-22	30-Jun-23	30-Jun-24	30-Jun-25	30-Jun-26	30-Jun-27	30-Jun-28	30-Jun-29	30-Jun-30	30-Jun-31	30-Jun-32	30-Jun-33
11	Financial Year	04-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33
80																														
81	***Population***																													
82	*Dapto Postcode (2530)*																													
83	14 years and lower	248	6,271	6,294	6,286	6,279	6,271	6,264	6,256	6,298	6,340	6,382	6,424	6,467	6,557	6,649	6,742	6,836	6,932	*7,066*	*7,203*	*7,342*	*7,484*	*7,628*	*7,776*	*7,926*	*8,079*	*8,235*	*8,395*	*8,557*
84	15 - 65 years	,263	18,415	18,567	18,589	18,612	18,634	18,657	18,679	18,900	19,123	19,349	19,578	19,809	20,157	20,511	20,871	21,238	21,611	*21,964*	*22,322*	*22,687*	*23,057*	*23,434*	*23,816*	*24,205*	*24,600*	*25,002*	*25,410*	*25,825*
85	65 years and over	430	3,667	3,920	4,079	4,245	4,418	4,598	4,785	4,961	5,144	5,334	5,531	5,735	5,881	6,031	6,184	6,342	6,503	*6,581*	*6,660*	*6,740*	*6,821*	*6,903*	*6,985*	*7,069*	*7,154*	*7,240*	*7,327*	*7,415*
86	**Total**	**,973**	**28,374**	**28,781**	**28,966**	**29,153**	**29,341**	**29,530**	**29,720**	**30,165**	**30,616**	**31,074**	**31,539**	**32,011**	**32,596**	**33,192**	**33,799**	**34,417**	**35,046**	***35,607***	***36,178***	***36,758***	***37,346***	***37,945***	***38,553***	***39,170***	***39,798***	***40,436***	***41,083***	***41,742***
87																														
88																														
89	*Bombo Postcode (2533)*																													
90	14 years and lower	806	2,734	2,663	2,641	2,619	2,598	2,576	2,555	2,560	2,565	2,571	2,576	2,581	2,626	2,672	2,719	2,767	2,815	*2,804*	*2,794*	*2,783*	*2,773*	*2,762*	*2,752*	*2,742*	*2,731*	*2,721*	*2,711*	*2,700*
91	15 - 65 years	914	8,972	9,030	9,091	9,152	9,214	9,276	9,339	9,344	9,348	9,353	9,357	9,362	9,409	9,456	9,503	9,550	9,598	*9,643*	*9,688*	*9,733*	*9,779*	*9,824*	*9,870*	*9,916*	*9,963*	*10,009*	*10,056*	*10,103*
92	65 years and over	501	2,567	2,634	2,712	2,791	2,873	2,958	3,045	3,161	3,281	3,405	3,535	3,669	3,867	4,075	4,295	4,527	4,771	*4,947*	*5,129*	*5,318*	*5,514*	*5,717*	*5,928*	*6,146*	*6,372*	*6,607*	*6,851*	*7,103*
93	**Total**	**,233**	**14,280**	**14,327**	**14,447**	**14,569**	**14,691**	**14,815**	**14,939**	**15,071**	**15,205**	**15,339**	**15,475**	**15,612**	**15,914**	**16,223**	**16,537**	**16,857**	**17,184**	***17,355***	***17,528***	***17,703***	***17,879***	***18,057***	***18,237***	***18,419***	***18,602***	***18,787***	***18,974***	***19,163***
94																														
95	*Nowra / Bomaderry Postcode (2541)*																													
96	14 years and lower	101	4,967	4,837	4,788	4,739	4,691	4,643	4,596	4,640	4,684	4,728	4,773	4,818	4,921	5,026	5,133	5,243	5,355	*5,501*	*5,652*	*5,806*	*5,965*	*6,128*	*6,296*	*6,468*	*6,645*	*6,827*	*7,014*	*7,205*
97	15 - 65 years	,585	14,558	14,531	14,571	14,611	14,652	14,692	14,733	14,825	14,917	15,010	15,103	15,197	15,451	15,709	15,971	16,238	16,509	*16,965*	*17,434*	*17,915*	*18,410*	*18,919*	*19,441*	*19,978*	*20,530*	*21,097*	*21,680*	*22,279*
98	65 years and over	053	4,179	4,310	4,406	4,505	4,606	4,709	4,814	4,966	5,123	5,284	5,451	5,623	5,729	5,838	5,949	6,061	6,176	*6,376*	*6,582*	*6,795*	*7,015*	*7,243*	*7,477*	*7,719*	*7,969*	*8,227*	*8,493*	*8,768*
99	**Total**	**,761**	**23,719**	**23,678**	**23,770**	**23,863**	**23,956**	**24,049**	**24,143**	**24,435**	**24,730**	**25,029**	**25,332**	**25,638**	**26,101**	**26,573**	**27,053**	**27,542**	**28,040**	***28,837***	***29,657***	***30,501***	***31,368***	***32,260***	***33,177***	***34,121***	***35,091***	***36,089***	***37,115***	***38,170***
100																														
101																														
102	***Income***																													
103	*Dapto Postcode (2530)*																													
104	Median Household Income			1,009	1,033	1,058	1,084	1,110	1,137	1,178	1,221	1,266	1,312	1,360	1,414	1,470	1,529	1,590	1,653	*1,708*	*1,765*	*1,825*	*1,886*	*1,949*	*2,014*	*2,081*	*2,151*	*2,223*	*2,297*	*2,374*
105																														
106	*Bombo Postcode (2533)*																													
107	Median Household Income			1,051	1,087	1,125	1,164	1,204	1,246	1,295	1,346	1,398	1,453	1,510	1,565	1,622	1,681	1,742	1,805	*1,871*	*1,940*	*2,011*	*2,085*	*2,162*	*2,241*	*2,323*	*2,408*	*2,497*	*2,589*	*2,684*
108																														
109	*Nowra / Bomaderry Postcode (2541)*																													
110	Median Household Income			694	716	739	763	787	812	842	872	904	937	971	1,019	1,069	1,122	1,177	1,235	*1,283*	*1,334*	*1,386*	*1,440*	*1,497*	*1,555*	*1,616*	*1,679*	*1,745*	*1,814*	*1,885*
111																														

Figure 15: Example of data collation for housing assessment.

6.2.1.1 Population and Dwellings Tenures

Population Growth and Demographics

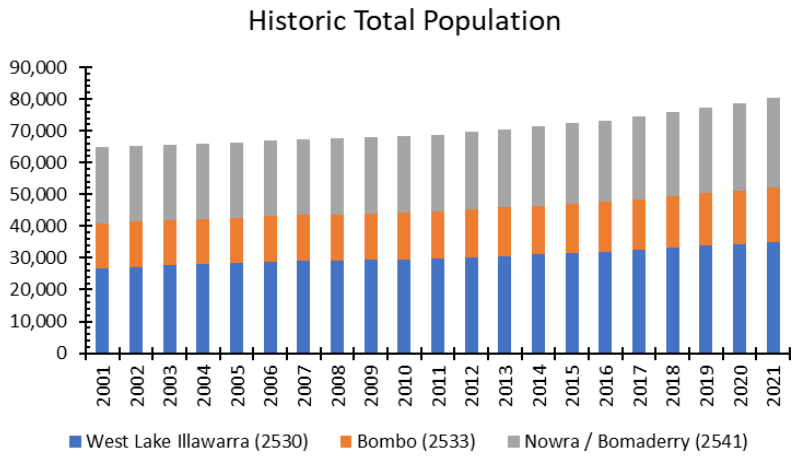
Over the past decade, the Illawarra Shoalhaven region has experienced steady population growth, driven by migration and natural increase. Overall, the region's average annual growth rate of 1.5% exceeds the NSW average of 1.1%, reflecting its increasing appeal for residents.

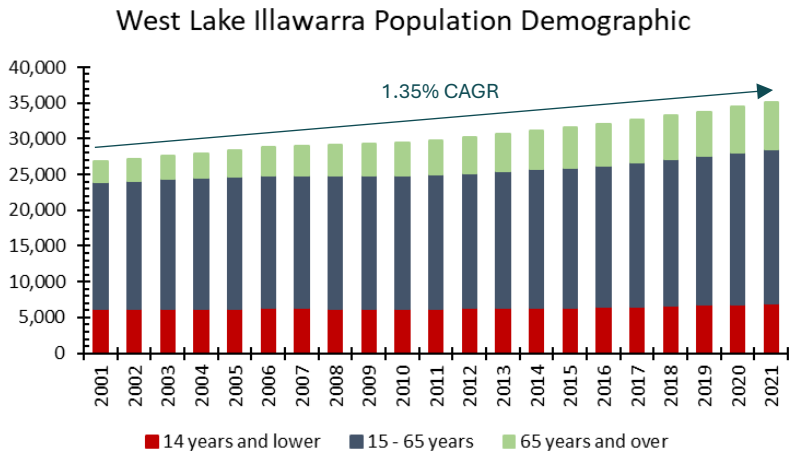
- Shoalhaven LGA grew by approximately 12% from 2016 to 2025, averaging 1.3% annually.
- Wollongong LGA maintained a growth rate of around 0.9% per year from 2014 to 2024, with projections suggesting an increase to 1.5% annually.
- Shellharbour LGA is expected to grow by 34% between 2024 and 2041.
- Kiama LGA anticipates a more modest 8% rise.

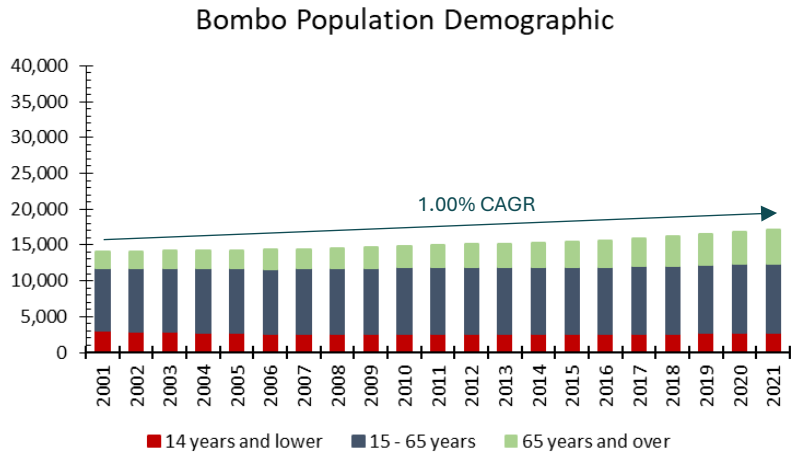
Population demographics across the region have seen notable shifts over the past 10 years. With steady population grown, the median age has risen to 43, indicating an ageing demographic trend. The proportion of Aboriginal and Torres Strait Islander people has also increased, now representing around 4% of the population. Cultural diversity has expanded, with 18% of residents born overseas and 11% speaking a language other than English at home. Youth and early childhood development remain key focus areas, with vulnerabilities identified in communication, emotional maturity, and social competence. The region also faces challenges in housing affordability and access to social housing, alongside a growing need for disability support and aged care services.

These trends reflect broader shifts in migration, ageing, and socio-economic diversity across the region.

Figure 16 shows the key metrics of population growth and aging demographics across the target areas over the past 2 decades. The data has been obtained from 4-yearly ABS Census data and interpolated to evaluate an annual historic distribution. It is clear that each area has seen population growth historically which is expected to continue into the future, along with significant growth in the 65+ age group, reflecting broader aging trends.







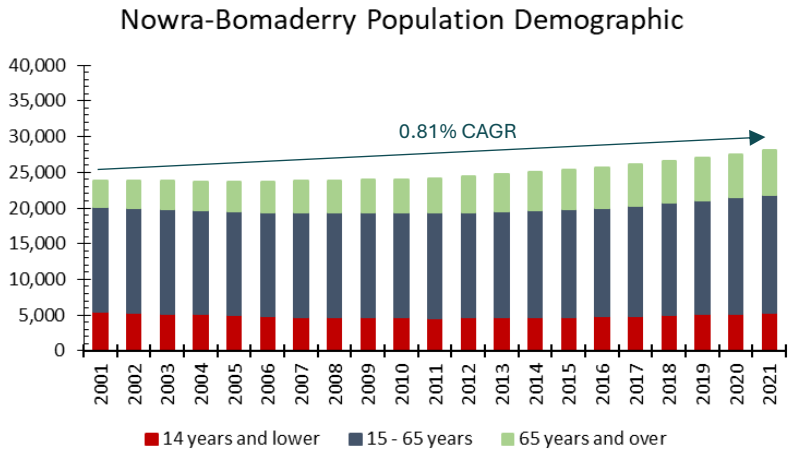


Figure 16: Population and demographic data.

Dwelling Types and Density

Over the past decade, dwelling type trends in the Illawarra Shoalhaven region have reflected a shift toward greater housing diversity in response to population growth, ageing demographics, and affordability pressures. Detached houses remain the dominant dwelling type across most LGAs, particularly in Shellharbour, Kiama, and Shoalhaven, where 3 and 4-bedroom homes are most common.

Wollongong stands out with a higher concentration of multi-unit developments, especially 2-bedroom apartments, driven by urban infill and demand for smaller, more affordable housing, likely due to proximity to Sydney for employment.

The region has also seen increased demand for studio, one- and two-bedroom homes, reflecting the rise in lone-person and couple-only households, as well as an ageing population. Planning reforms and infrastructure investment are now focused on enabling more diverse and affordable housing types to meet future demand.

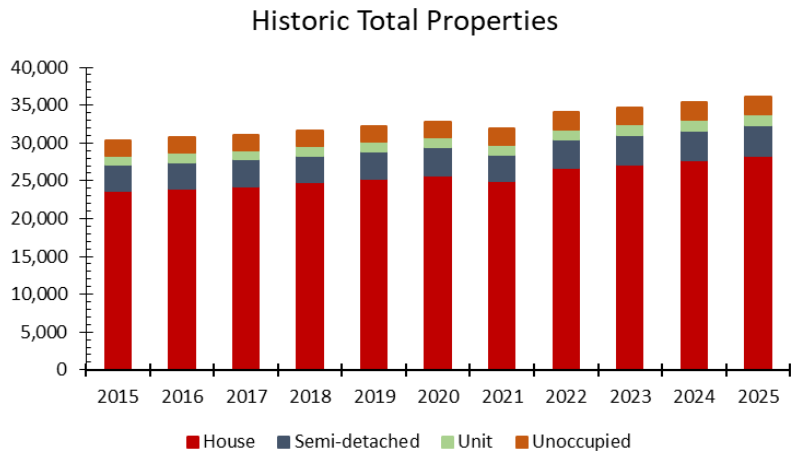
Review of the ABS Census data between 2016 to 2021 enabled comparison of populations against dwelling numbers to reveal the average number of people per dwelling remaining largely stable across the growth areas. This consistency suggests that household composition has not significantly shifted over the five-year period, despite broader changes in housing demand and development.

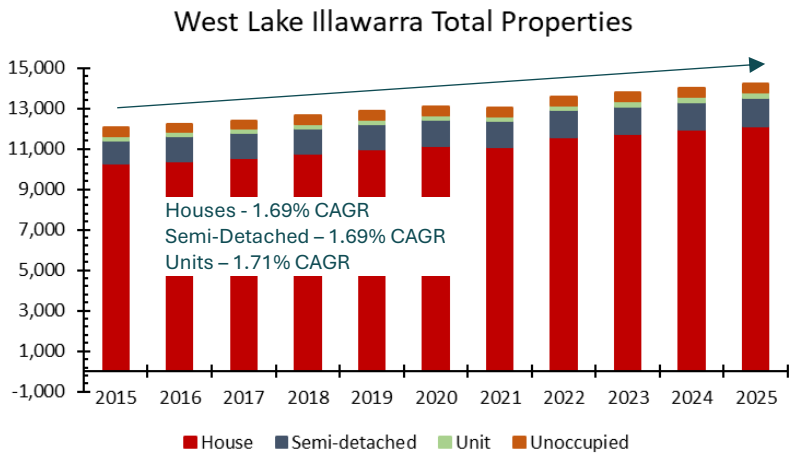
Table 8: Historical persons per dwelling.

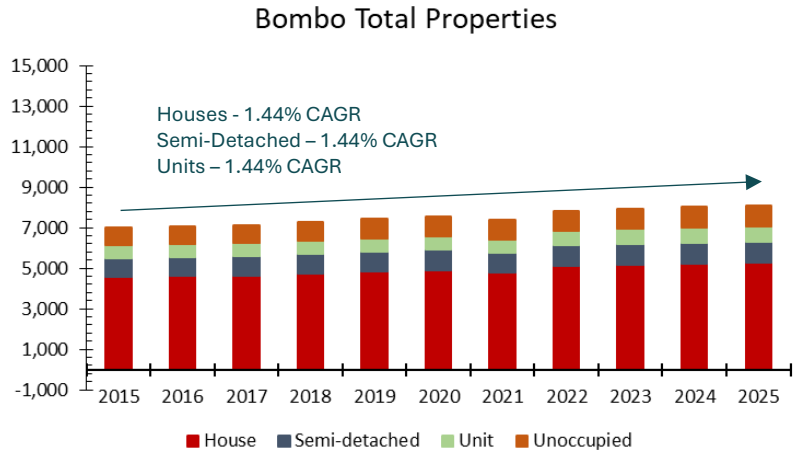
West Lake Illawarra	Bombo	Nowra-Bomaderry
2.7 persons per dwelling	2.5 persons per dwelling	2.35 persons per dwelling

Figure 17 shows the distribution of houses, semi-detached homes, units and unoccupied homes across the growth areas throughout the past decade. All regions show growth in dwelling numbers, with unit dwellings increasing more rapidly than houses and semi-detached homes across all areas, indicating a gradual shift toward medium and high-density housing.

Unoccupied dwellings are rising slightly, which may reflect broader market dynamics such as investment, seasonal use, or housing turnover.







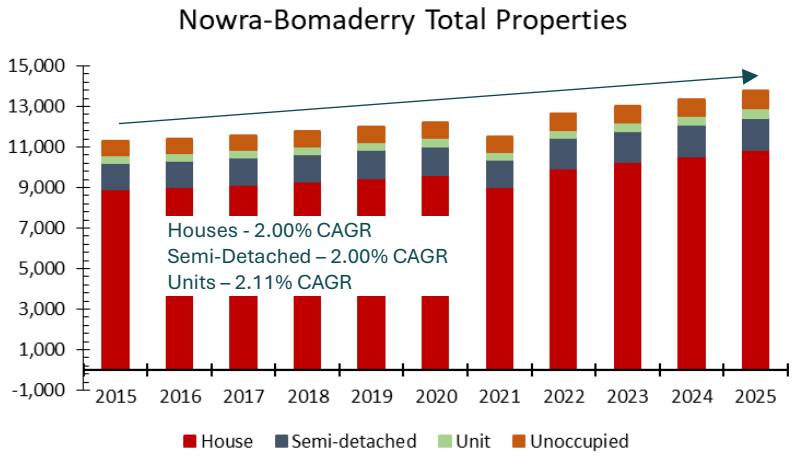


Figure 17: Property numbers.

6.2.1.2 Affordability

Median Household Income

Over the past 10 years, median household income in the Illawarra Shoalhaven region has shown modest growth but remains below the New South Wales average. By 2025, the average annual household income in the region was estimated at $86,757, still significantly lower than the NSW average of $118,496. These figures reflect ongoing economic challenges in the region, including higher rates of housing stress and lower employment participation in some areas.

Figure 18 shows the median household income over the past 15 years up to 2021, obtained from 4-yearly ABS Census data and interpolated to evaluate an annual historic distribution. It is clear that each area has seen population growth historically which is expected to continue into the future, along with significant growth in the 65+ age group, reflecting broader aging trends.

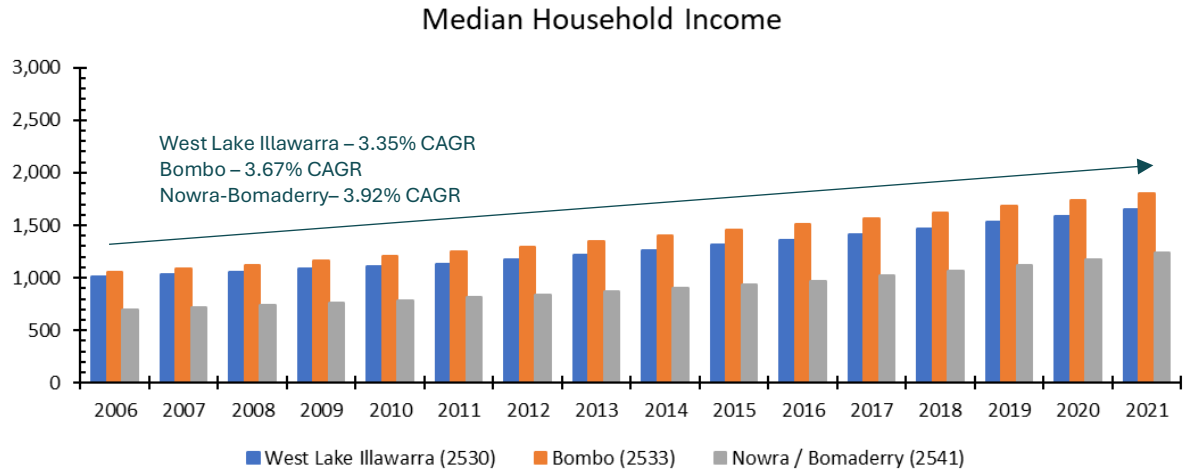


Figure 18: Median household income across growth areas.

House to Income Ratio

Over the last 10 years, the house price to income ratio in the Illawarra Shoalhaven region has increased significantly, reflecting growing housing affordability challenges.

Median house prices across the growth areas rose by 50% – 60% between 2015 and 2021 while household incomes rose at a slower pace of 25% – 30% over the same period. This widening gap has led to a deterioration in housing affordability, especially for first-home buyers and low-income households. The region remains attractive to Sydney commuters due to relatively lower prices, but the rising house-to-income ratio underscores the need for more affordable housing options and planning reforms.

Figure 19 shows the house and unit to income ratios over this time period, demonstrating these values sitting in the severely unaffordable range.

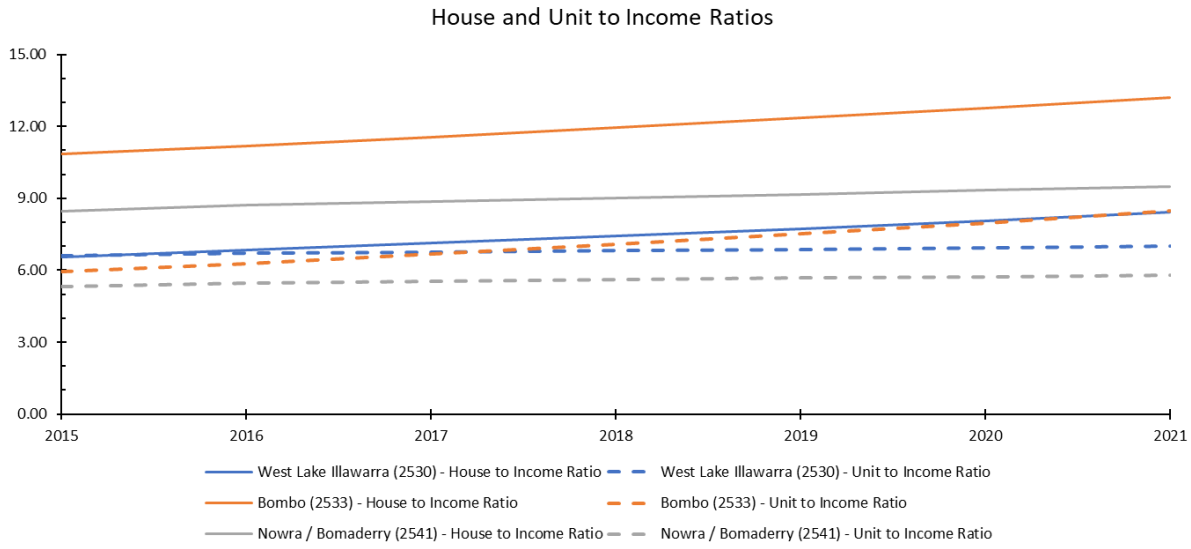


Figure 19: House and unit to income ratios.

House and Rental Prices

As noted in the section above, house prices have increased significantly across the growth areas to a median value of $1M by 2024. Rental costs followed a similar upward trend, particularly between 2020 and 2022, with significant hikes across all dwelling types. These trends have contributed to declining housing affordability and increased rental stress, especially among low-income households.

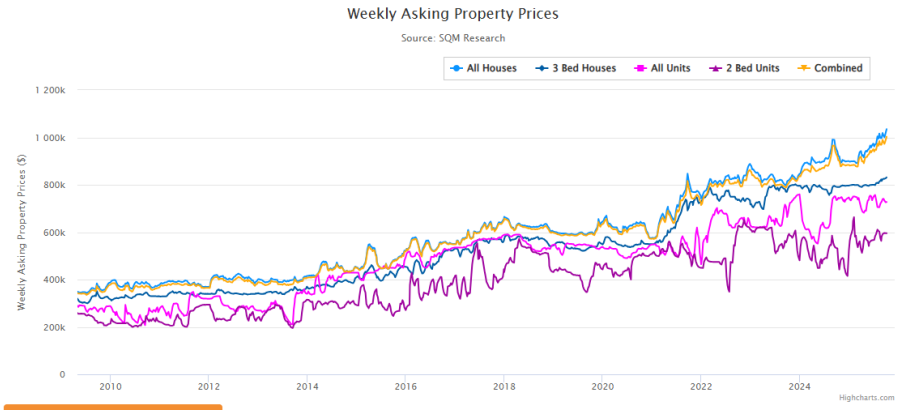
Looking at the growth areas, over the past 10 years, both housing prices and rental rates have shown strong long-term growth, though recent trends suggest some market softening. House prices have increased significantly, with all houses and 3-bedroom houses showing substantial gains over the decade. However, short-term data indicates a slight decline or plateau in prices over the past year. Units, particularly 2-bedroom ones, have also appreciated over the long term but at a slower rate than houses.

Rental prices have followed a similar trajectory, with steady growth over the decade across all property types. 3-bedroom houses and 2-bedroom units have seen notable increases in weekly rents, reflecting strong demand. Despite some short-term fluctuations, the overall trend points to rising rental costs, contributing to affordability pressures in the area.

Figure 20, Figure 21 and Figure 22 show the weekly asking prices for sales and weekly rental prices over the past 15 years across each growth area, demonstrating the long term upward trends.

WEEKLY ASKING PROPERTY PRICES

POSTCODE 2530



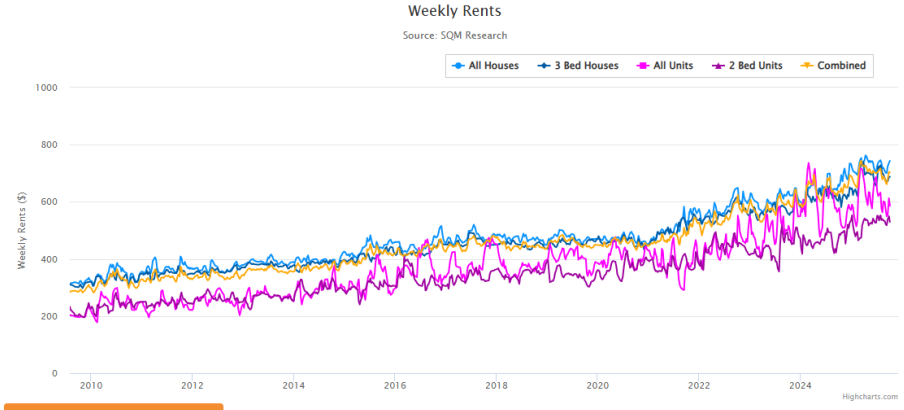
Buy the data behind this chart

SQM Research Weekly Asking Prices Index

Week ending 14 Oct 2025		($)	Change on prev week($)	Rolling month % change	Rolling quarter % change	12 month % change	3 year %(pa) change	7 year %(pa) change	10 year %(pa) change
Postcode 2530	All Houses	1,034,822	15,178 ▲	1.6% ▲	7.6% ▲	10.0% ▲	7.5% ▲	7.4% ▲	8.0% ▲
	3 br Houses	831,294	3,706 ▲	1.0% ▲	3.9% ▲	5.1% ▲	4.0% ▲	5.4% ▲	7.1% ▲
	All Units	726,983	0.517 ▲	-1.7% ▼	-3.5% ▼	-1.5% ▼	4.0% ▲	4.7% ▲	4.9% ▲
	2 br Units	595,362	-0.362 ▼	0.8% ▲	5.0% ▲	12.0% ▲	-1.7% ▼	2.3% ▲	8.8% ▲
	Combined	1,003,069	13,665 ▲	1.3% ▲	6.7% ▲	9.0% ▲	7.2% ▲	7.2% ▲	7.7% ▲

WEEKLY RENTS

POSTCODE 2530



Buy the data behind this chart

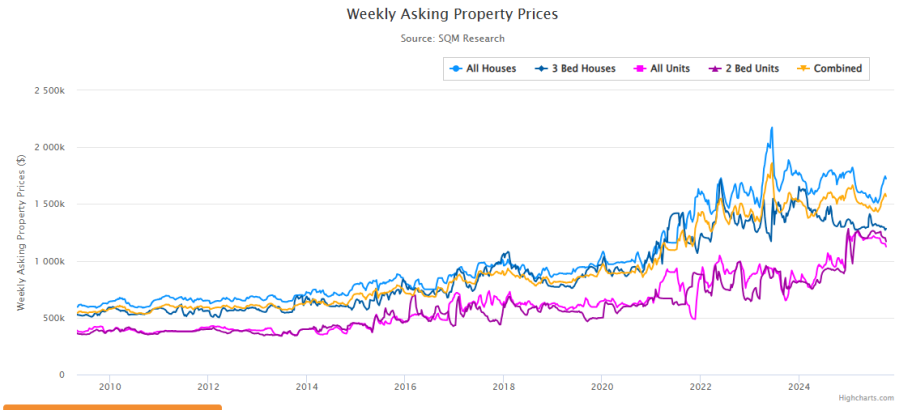
SQM Research Weekly Rents Index

Week ending 12 Oct 2025		($)	Change on prev week($)	Rolling month % change	Rolling quarter % change	12 month % change	3 year %(pa) change	7 year %(pa) change	10 year %(pa) change
Postcode 2530	All Houses	743.23	6.77 ▲	5.9% ▲	2.4% ▲	13.4% ▲	4.6% ▲	6.9% ▲	5.4% ▲
	3 br Houses	687.99	2.01 ▲	2.2% ▲	1.5% ▲	9.8% ▲	3.8% ▲	6.3% ▲	5.0% ▲
	All Units	586.20	-26.20 ▼	3.0% ▲	-8.1% ▼	1.3% ▲	2.0% ▲	6.9% ▲	5.1% ▲
	2 br Units	529.76	-19.76 ▼	1.6% ▲	-3.9% ▼	8.7% ▲	6.1% ▲	5.3% ▲	5.8% ▲
	Combined	702.91	-1.70 ▼	5.3% ▲	0.0% ▼	10.6% ▲	4.0% ▲	6.9% ▲	5.3% ▲

Figure 20: West Lake Illawarra weekly sale asking price and rents (SQM Research).

WEEKLY ASKING PROPERTY PRICES

POSTCODE 2533



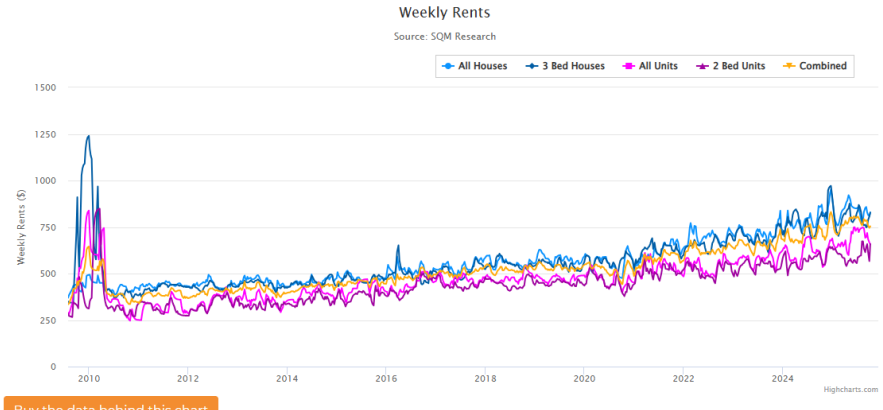
Buy the data behind this chart

SQM Research Weekly Asking Prices Index

Week ending 14 Oct 2025		($)	Change on prev week($)	Rolling month % change	Rolling quarter % change	12 month % change	3 year %(pa) change	7 year %(pa) change	10 year %(pa) change
Postcode 2533	All Houses	1,722,619	-22,619 ▼	3.7% ▲	13.9% ▲	3.0% ▲	3.5% ▲	10.0% ▲	7.5% ▲
	3 br Houses	1,283,465	11,535 ▲	-1.3% ▼	-2.4% ▼	-1.5% ▼	-1.3% ▼	6.4% ▲	6.0% ▲
	All Units	1,125,393	-25,393 ▼	-2.7% ▼	-7.7% ▼	12.4% ▲	4.4% ▲	9.0% ▲	8.2% ▲
	2 br Units	1,170,894	-30,894 ▼	-3.6% ▼	-7.3% ▼	25.9% ▲	5.9% ▲	10.7% ▲	8.0% ▲
	Combined	1,568,200	-23,336 ▼	2.4% ▲	9.1% ▲	4.5% ▲	3.6% ▲	9.8% ▲	7.6% ▲

WEEKLY RENTS

POSTCODE 2533



Buy the data behind this chart

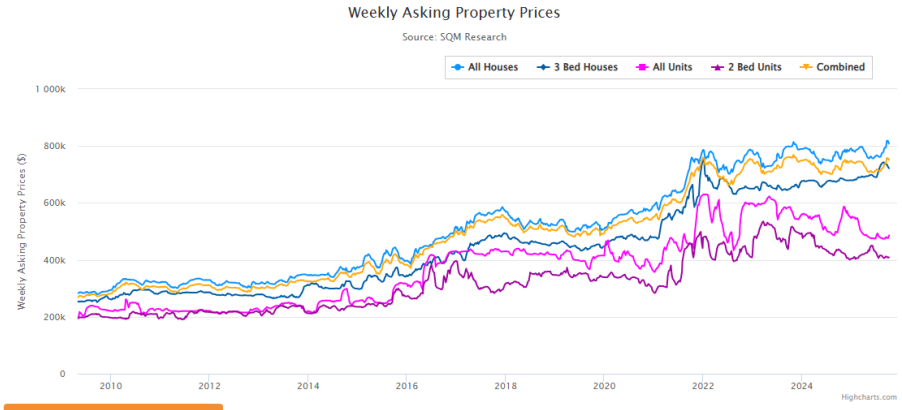
SQM Research Weekly Rents Index

Week ending 12 Oct 2025		($)	Change on prev week($)	Rolling month % change	Rolling quarter % change	12 month % change	3 year %(pa) change	7 year %(pa) change	10 year %(pa) change
Postcode 2533	All Houses	828.63	21.37 ▲	-3.4% ▼	-3.1% ▼	-3.7% ▼	7.5% ▲	6.4% ▲	5.4% ▲
	3 br Houses	828.23	21.77 ▲	10.8% ▲	-1.2% ▼	2.0% ▲	8.2% ▲	6.7% ▲	5.4% ▲
	All Units	658.50	-8.50 ▼	-5.4% ▼	-11.6% ▼	12.3% ▲	7.0% ▲	3.7% ▲	3.7% ▲
	2 br Units	658.55	91.45 ▲	2.3% ▲	12.0% ▲	11.8% ▲	7.4% ▲	6.2% ▲	5.3% ▲
	Combined	753.76	8.22 ▲	-4.2% ▼	-6.6% ▼	1.9% ▲	7.3% ▲	5.3% ▲	4.7% ▲

Figure 21: Bombo weekly sale asking price and rents (SQM Research).

WEEKLY ASKING PROPERTY PRICES

POSTCODE 2541



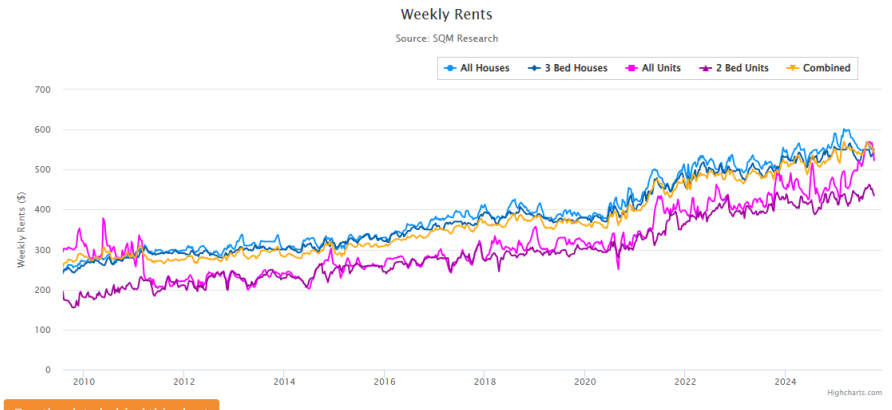
Buy the data behind this chart

SQM Research Weekly Asking Prices Index

Week ending 14 Oct 2025		($)	Change on prev week($)	Rolling month % change	Rolling quarter % change	12 month % change	3 year %(pa) change	7 year %(pa) change	10 year %(pa) change
Postcode 2541	All Houses	807,928	-8,928 ▼	1.7% ▲	5.3% ▲	6.7% ▲	2.9% ▲	6.4% ▲	6.2% ▲
	3 br Houses	721,624	-4,624 ▼	-2.1% ▼	4.5% ▲	5.5% ▲	3.6% ▲	6.8% ▲	6.9% ▲
	All Units	485,600	9,400 ▲	2.3% ▲	-0.3% ▼	-8.2% ▼	-4.3% ▼	2.1% ▲	4.6% ▲
	2 br Units	408,946	1,054 ▲	0.2% ▲	-3.0% ▼	-5.7% ▼	-1.6% ▼	2.1% ▲	3.5% ▲
	Combined	750,592	-5,668 ▼	1.8% ▲	4.6% ▲	4.7% ▲	1.9% ▲	5.8% ▲	6.0% ▲

WEEKLY RENTS

POSTCODE 2541



Buy the data behind this chart

SQM Research Weekly Rents Index

Week ending 12 Oct 2025		($)	Change on prev week($)	Rolling month % change	Rolling quarter % change	12 month % change	3 year %(pa) change	7 year %(pa) change	10 year %(pa) change
Postcode 2541	All Houses	550.30	-0.30 ▼	-0.8% ▼	0.2% ▲	-0.3% ▼	3.3% ▲	4.2% ▲	5.3% ▲
	3 br Houses	540.31	-0.31 ▼	0.1% ▲	1.0% ▲	-0.7% ▼	2.9% ▲	4.5% ▲	5.1% ▲
	All Units	523.08	-23.08 ▼	-8.1% ▼	3.0% ▲	16.6% ▲	7.1% ▲	8.2% ▲	7.0% ▲
	2 br Units	435.71	-5.71 ▼	-5.5% ▼	0.7% ▲	2.8% ▲	1.8% ▲	6.0% ▲	5.3% ▲
	Combined	542.06	-7.20 ▼	-3.1% ▼	1.0% ▲	4.0% ▲	4.3% ▲	5.2% ▲	5.8% ▲

Figure 22: Nowra-Bomaderry weekly sale asking price and rents (SQM Research).

6.2.1.3 Housing Supply

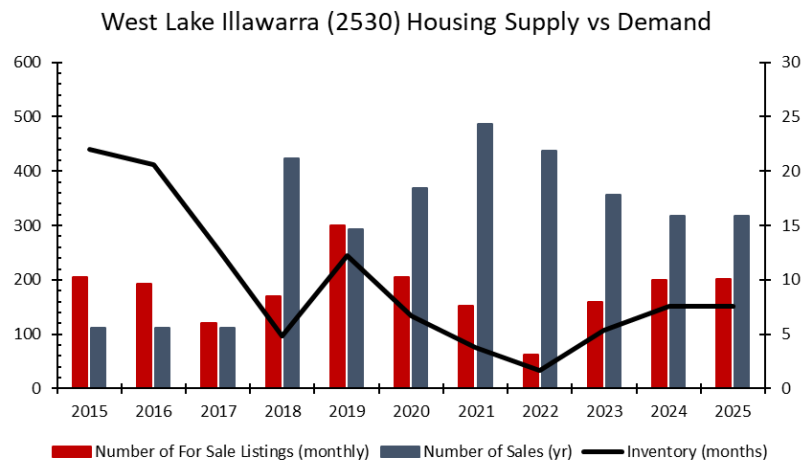
Housing Inventory

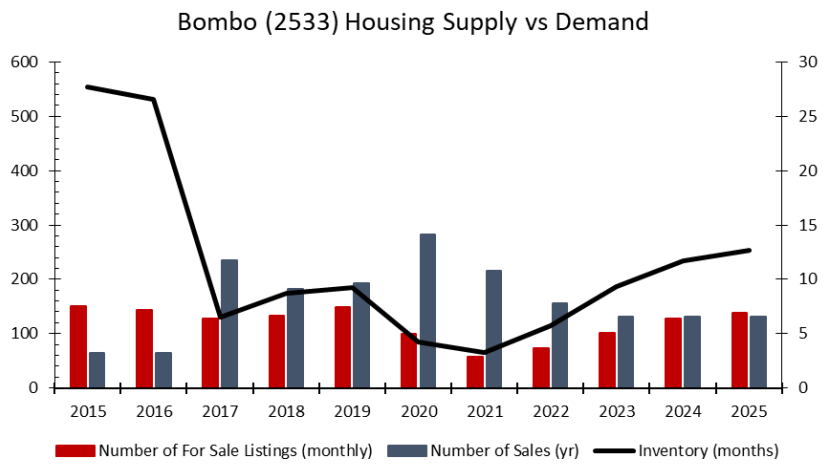
Housing inventory is defined as the number of months of housing stock that is available in a given area over a specific time. Throughout the past decade, housing supply trends in the growth areas have shown a consistent pattern of declining inventory and increasing sales activity demonstrating increasing interest in the region.

West Lake Illawarra (2530)	Bombo (2533)	Nowra-Bomaderry (2541)
Inventory dropped from ~20 months to approximately 5 months, while monthly listings fluctuated between 100 and 200. Annual sales rose steadily from 200 to over 300, indicating strong demand and reduced time on market.	Inventory fell sharply from over 25 months to ~10 months, with listings ranging from 50 to 150 monthly. Sales volumes increased gradually, suggesting improving turnover and reduced housing availability.	Inventory started near 30 months and declined to ~10 months, while listings varied between 50 and 200. Sales more than doubled over the period, pointing to growing buyer activity and a tightening supply.

Overall, these trends demonstrate a significant reduction in housing inventory across all three areas, driven by rising demand and limited new supply, contributing to increased competition and upward pressure on prices.

Notwithstanding this, 4 months of inventory is a well-accepted indicator of a balanced market and this is met in all growth area postcodes. Through this, it is inferred that inventory is at healthy levels and is well placed for absorption if the anticipated future population growth takes place.





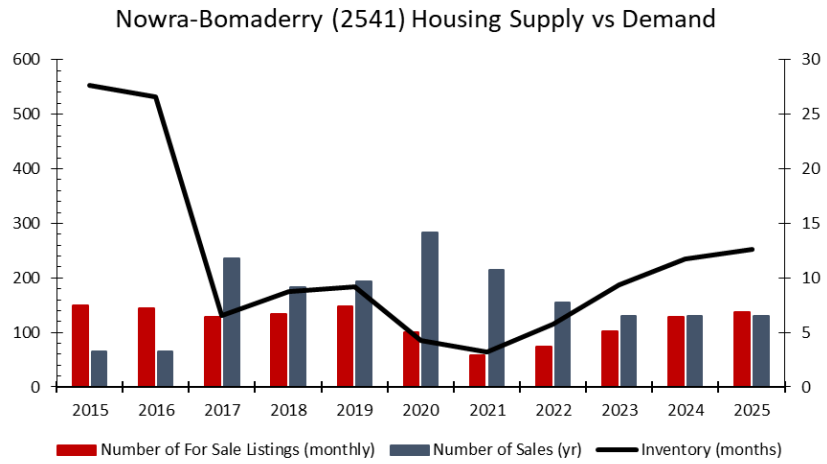


Figure 23: Housing supply vs demand.

Build Approvals and Completions

From 2015 to 2024, housing approvals in the Illawarra-Shoalhaven region have shown fluctuating trends, with notable shifts in dwelling types. Approvals for apartments in buildings with 4–8 storeys peaked in 2015–16 with 649 approvals, indicating a strong push for medium-density housing. In 2016–17, there was a diversification in approvals: 235 apartments in 9+ storey buildings and 1,713 houses, suggesting a mix of high-rise and detached housing development. The following years saw a decline in approvals for high-rise apartments, with 240 approvals for 4+ storey buildings in 2017–18, and limited data available for 2018–19 onward. Approvals for alterations and additions remained relatively stable, ranging from 12 to 15 per year, while low-rise apartments (1–2 storeys) saw modest activity. Overall, the data reflects a period of intense development in mid- to high-rise apartments around 2015–17, followed by a tapering off and a shift back toward detached housing. Specific trends noted for the growth areas include:

- West Lake Illawarra (2530) experienced moderate growth early on, peaking at 148 approvals in 2021–22, but then declined sharply to 59 approvals by 2023–24, indicating a slowdown in new housing supply.
- Bombo (2533) began with a high of 283 approvals in 2016–17, followed by a consistent downward trend, reaching a low of 69 approvals in both 2019–20 and 2023–24, suggesting reduced development activity over time.
- Nowra – Bomaderry (2541) maintained relatively stable approval numbers, with minor fluctuations. It started at 248 approvals, dipped mid-period, and recovered to 233 approvals in the final year, showing resilience and sustained housing demand.

Over the 10 year period between 2013 and 2023, housing development completions across the growth areas have shown distinct patterns:

- West Lake Illawarra (2530) experienced fluctuating activity, peaking at 189 completions in 2016–17, followed by a gradual decline to 11 completions in 2022–23.
- Bombo (2533) saw a strong surge in completions from 2016 onward, with a peak of 201 completions in 2019–20, maintaining relatively high levels through to 2022–23.
- Nowra – Bomaderry (2541) showed consistent growth, with completions increasing steadily from the mid-2010s and remaining strong through the end of the period. Overall, 2533 led in total completions, followed by 2530 and 2541, reflecting Kiama's sustained development momentum.

6.2.2 Metric Assessment

The baseline assessment conducted in Section 6.2.1 can be used to summarise key metrics as listed in Table 9. These metrics are used to establish the future forecast for housing supply requirements as outlined in Section 6.2.3.

Table 9: Housing metric comparison (2015 vs 2025).

Growth Area	Population	Avg. Persons per Dwelling	Median House Price	Median Income (annual)	House to Income Ratio	Total Dwellings	Gross Rental Yield	Vacancy Rate	Months of Stock	Capital Growth (10yr p.a)	Rental Growth (10yr p.a)	Planning Approvals (p.a)	Build Completions (p.a)
2015													
West Lake Illawarra	31,539	2.7	$445,630	$68,224	6.5	12,054	5.17%	0.30%	15.3	8.40%	4.80%	126	189
Bombo	15,475	2.5	$820,310	$75,556	10.9	7,028	2.85%	0.50%	19.2	6.90%	6.60%	283	94
Nowra-Bomaderry	25,332	2.3	$412,868	$48,724	8.5	11,279	4.29%	1.00%	21.0	7.50%	5.10%	248	252
2025													
West Lake Illawarra	37,346	2.7	$822,839	$98,072	8.4	14,248	4.40%	0.30%	7.6	8.40%	4.80%	59	29
Bombo	17,879	2.5	$1,299,261	$108,420	12.0	8,095	4.30%	1.90%	12.6	6.90%	6.60%	69	116
Nowra-Bomaderry	31,368	2.4	$742,933	$74,880	9.9	13,755	4.00%	1.50%	7.7	7.50%	5.10%	233	72

6.2.3 Future Housing Forecast

6.2.3.1 Population and Dwellings Tenures

Population Growth and Demographics

Population growth has been forecasted for the specific areas using NSW Planning data as it provides an accurate and forward-looking approach rather than relying solely on historical ABS trends. NSW Planning projections incorporate planned housing developments, infrastructure investment, and strategic growth targets, ensuring alignment with government priorities. This dataset also accounts for anticipated migration patterns and economic drivers, offering granular, location-specific forecasts tied to development pipelines. In contrast, ABS historical data reflects past conditions and cannot capture future policy changes or planned growth, making NSW Planning data the preferred source for long-term projections.

Table 10: Forecasted population growth rates.

Growth Area	West Lake Illawarra	Bombo	Nowra-Bomaderry
NSW Planning	1.60%	-	2.84%
ABS Census	1.35%	1.00%	0.81%
Variance	**+0.25%**	**N/A**	**+2.03%**

Figure 24 shows the anticipated population growth across the growth areas:

- West Lake Illawarra (2530) predicts the steepest growth, increasing from ~36,000 to ~47,000. This accommodates a 1.60% growth rate.
- Bombo (2533) remains relatively stable, growing modestly from ~17,500 to ~20,500. This accommodates a 1% growth rate which is based on historic ABS data in lieu of NSW Planning forecast data.
- Nowra-Bomaderry (2541) has the largest overall increase, reaching nearly 49,000 (from ~30,000) by 2042. This accommodates a 2.84% growth rate.

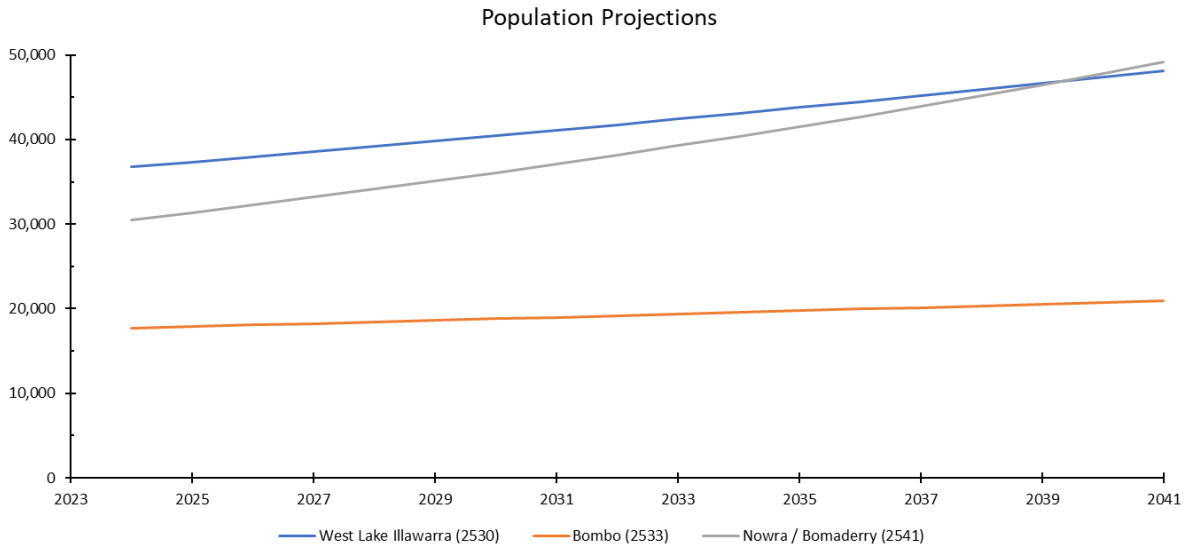


Figure 24: Forecasted population growth.

Notably the Nowra-Bomaderry growth area is forecasted to experience the highest population growth compared to West Lake Illawarra and Bombo due to its greater land availability for new housing developments, strategic designation as a regional growth hub, and significant infrastructure investment improving connectivity and services.

When comparing these projections against the Illawarra Shoalhaven Regional Plan, the forecasted population change of 37,970 significantly exceeds the Shoalhaven and Kiama area estimate of 21,127. This is interesting as it identifies that the Regional Plan may have used more conservative data (such as the ABS Census) in the estimates.

The 15–65 age group remains the largest segment throughout the forecast period, but its growth rate is slower compared to other cohorts. The 65 years and over group shows the most significant proportional increase, highlighting an ageing population trend. Meanwhile, the 14 years and under group grows moderately in West Lake Illawarra and Nowra-Bomaderry but remains stable or slightly declines in Bombo.

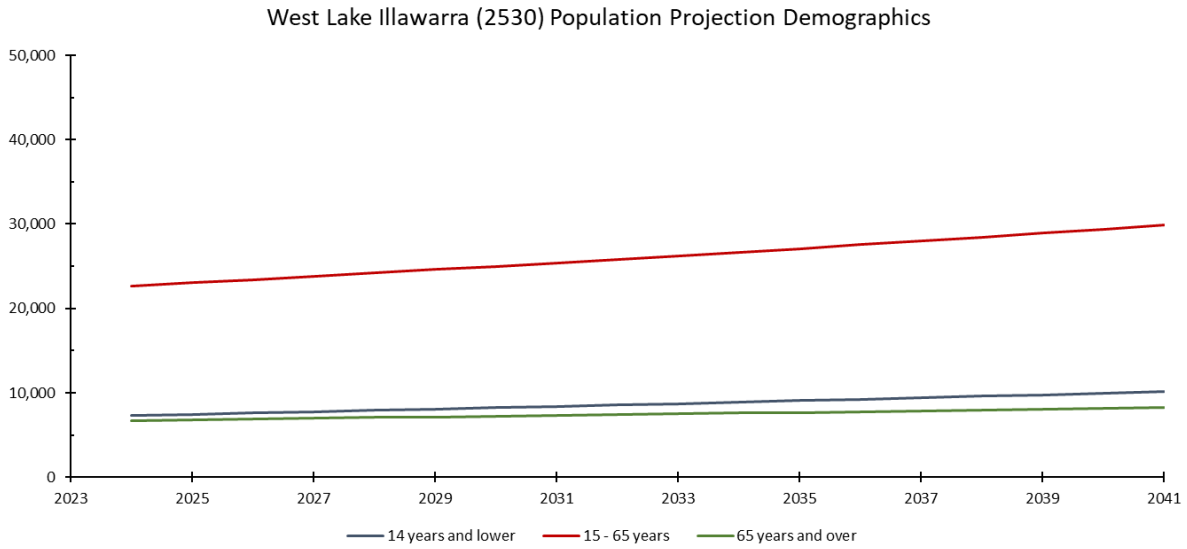


Figure 25: Population Demographics (2530 - West Lake Illawarra).

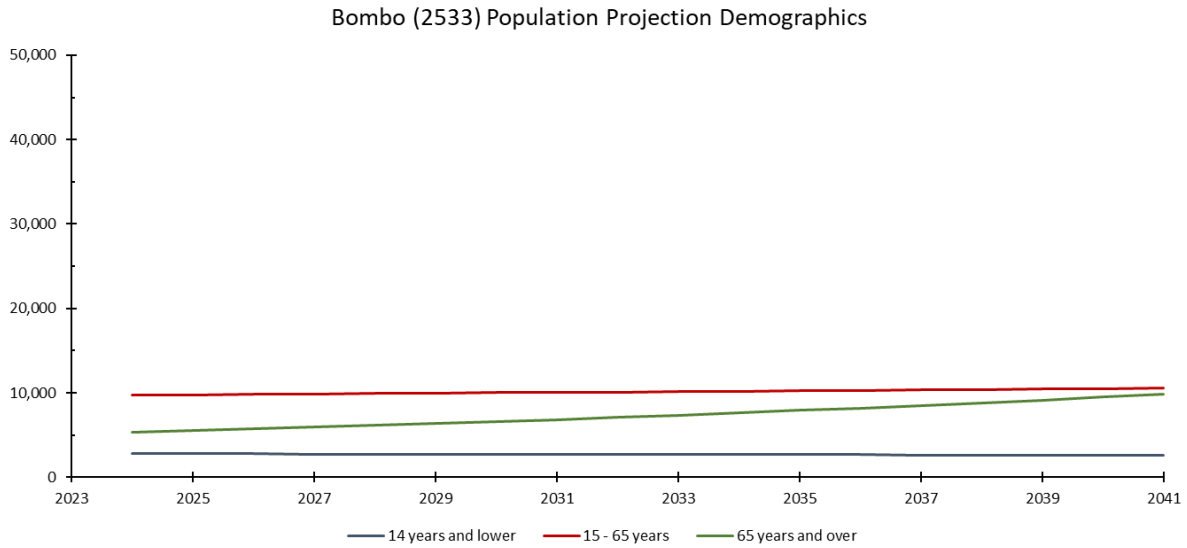


Figure 26: Population Demographics (2533 - Bombo).

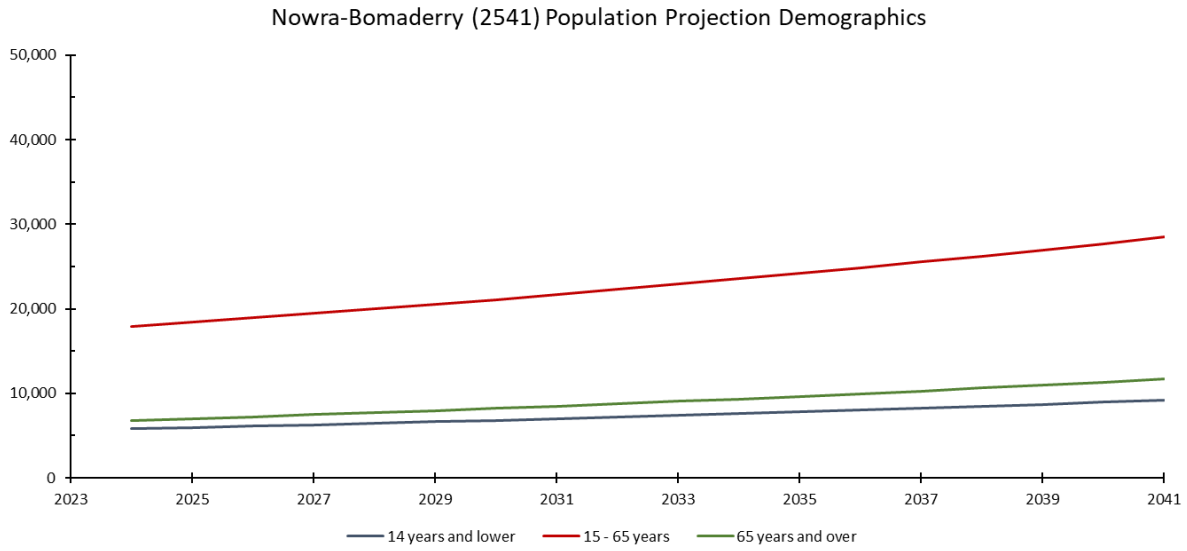


Figure 27: Population Demographics (2541 – Nowra-Bomaderry).

When reviewing this against the Illawarra-Shoalhaven Regional Plan, population projections indicate that the Shoalhaven region will be the most aged LGA in the region. This may indicate that our forecasts should accommodate higher growth rates for this age demographic. If the case, this demographic shift will drive demand for age-friendly housing, health services, and accessible infrastructure.

Dwelling Types and Density

Whilst we've seen that dwelling density has largely not changed over the past 10 years, as housing affordability deteriorates and rental stress increases, people-per-dwelling should increase. As this metric cannot be easily forecast and is dependent on various sensitivities, we've drawn on a number of assumptions from the regional plan and from historic trends to understand future conditions.

Reviewing this from a population standpoint, as population grows and ages, the average household size is expected to decline. This shift is driven by several factors, including an increase in older age groups, changing family structures, and lifestyle preferences. Between 2016 and 2021, the proportion of couple-only households and lone-person households rose, while couple families with children declined. Currently, couple-only households make up 27.7% of all households, slightly more than couple families with children at 27.5%, and lone-person households account for 24.7%. This is validated by the dwelling forecasts of the region as with an increase of 58,000 new homes for 100,000 more people, we average a 1.72 people per dwelling ratio.

Interestingly, this deviates from historical trends and moves away from the ideology that as housing affordability deteriorates, people per dwelling should increase. Given this is an average across all dwelling types, we've chosen to adopt historical trends which allows us to estimate people per house, semi-detached and unit in the growth areas.

Table 11: Persons per dwelling forecasts.

Growth Area	West Lake Illawarra	Bombo	Nowra-Bomaderry
House	2.78	2.71	2.50
Semi-detached	1.78	1.90	1.62
Unit	1.59	1.79	1.61
Average	**2.05**	**2.13**	**1.91**

Dwelling Types

As it was validated that historical trends would allow us to most accurately forecast future demand, the metrics noted in Table 11 forecasts have been used to determine future dwelling demand. This is done by dividing the forecasted population per growth area by the people per dwelling metrics and can be seen in Figure 28.

Based on these calculations, the total number of required dwellings required in 2041 across the growth areas is listed in Table 12.

Table 12: Required dwelling numbers in 2041 across growth areas.

West Lake Illawarra	Bombo	Nowra-Bomaderry
18,374	9,608	21,542

West Lake Illawarra (2530)

	Current	Projection															
Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
House	12,134	12,328	12,526	12,727	12,930	13,138	13,348	13,562	13,779	14,000	14,224	14,452	14,684	14,919	15,158	15,401	15,648
Semi-detached	1,400	1,422	1,445	1,468	1,492	1,516	1,540	1,565	1,590	1,615	1,641	1,668	1,694	1,721	1,749	1,777	1,805
Unit	244	248	252	256	260	264	269	273	277	282	286	291	295	300	305	310	315
Unoccupied	470	477	485	493	501	509	517	525	534	542	551	560	569	578	587	596	606
Total	14,248	14,476	14,708	14,944	15,183	15,427	15,674	15,925	16,180	16,439	16,703	16,970	17,242	17,518	17,799	18,084	18,374

Bombo (2533)

	Current	Projection															
Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
House	5,265	5,317	5,370	5,424	5,478	5,533	5,588	5,643	5,699	5,756	5,814	5,872	5,930	5,989	6,049	6,109	6,170
Semi-detached	1,060	1,071	1,082	1,092	1,103	1,114	1,125	1,137	1,148	1,159	1,171	1,183	1,194	1,206	1,218	1,230	1,243
Unit	737	744	752	759	767	775	782	790	798	806	814	822	830	838	847	855	864
Unoccupied	1,033	1,049	1,066	1,083	1,100	1,118	1,136	1,154	1,173	1,191	1,210	1,230	1,250	1,270	1,290	1,311	1,332
Total	8,095	8,182	8,270	8,359	8,449	8,539	8,631	8,724	8,818	8,913	9,009	9,106	9,204	9,303	9,404	9,505	9,608
Number of Sales that year																	

Nowra / Bomaderry (2541)

	Current	Projection															
Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
House	10,837	11,145	11,462	11,788	12,123	12,468	12,823	13,187	13,562	13,948	14,345	14,752	15,172	15,603	16,047	16,503	16,973
Semi-detached	1,616	1,662	1,710	1,758	1,808	1,860	1,912	1,967	2,023	2,080	2,139	2,200	2,263	2,327	2,393	2,461	2,531
Unit	436	449	462	475	488	502	516	531	546	562	578	594	611	628	646	665	684
Unoccupied	865	889	915	941	967	995	1,023	1,052	1,082	1,113	1,145	1,177	1,211	1,245	1,280	1,317	1,354
Total	13,755	14,146	14,548	14,962	15,387	15,825	16,275	16,738	17,213	17,703	18,206	18,724	19,256	19,804	20,367	20,946	21,542

Figure 28: Forecast number of dwellings per type.

While it is understood that detached houses will remain the predominant dwelling type across all growth areas, there are likely to be increasing numbers of households with younger couples and smaller family units based on the population projection demographics seen for each growth area (Figure 25, Figure 26 and Figure 27). It can be expected that housing demand will shift from 3-4 bedrooms (historically) to 2-3 bedrooms due to this trend, which is re-affirmed by the findings in the Shoalhaven-Illawarra regional plan and illustrated in Figure 29.

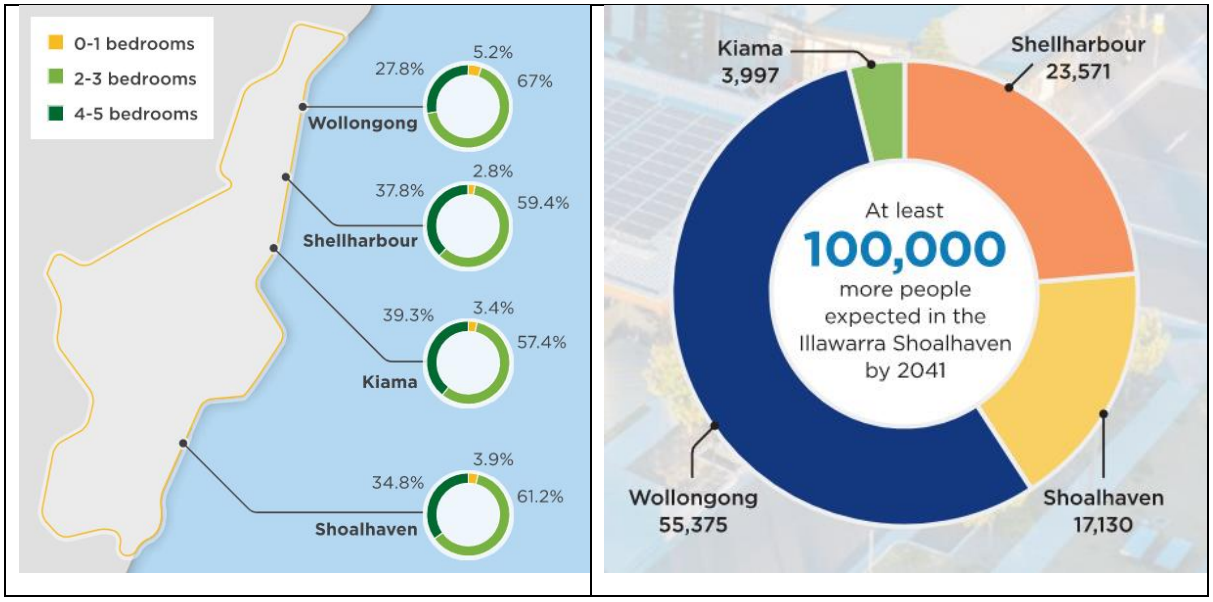


Figure 29: Dwelling structure forecast (Shoalhaven Illawarra 2041 Regional Plan).

6.2.4 Overall Findings

Table 13 lists out the comparative housing metrics between 2041 and 2025. Key findings are explored in the subsequent sections herein.

Table 13: Housing metric comparison (2025 vs 2041).

Growth Area	Population	Avg. Persons per Dwelling	Median House Price	Median Income (annual)	House to Income Ratio	Total Dwellings	Gross Rental Yield	Vacancy Rate	Months of Stock*	Capital Growth (10yr p.a)	Rental Growth (10yr p.a)	Planning Approvals (p.a)	Build Completions (p.a)
2025													
West Lake Illawarra	37,346	2.7	$822,839	$114,157	7.2	14,248	4.40%	0.30%	7.6	8.40%	4.80%	59	29
Bombo	17,879	2.5	$1,299,261	$129,312	10	8,095	4.30%	1.90%	12.6	6.90%	6.60%	69	116
Nowra-Bomaderry	31,368	2.4	$742,933	$89,820	8.3	13,755	4.00%	1.50%	7.7	7.50%	5.10%	233	72
2041													
West Lake Illawarra	48,161	2.62	$3,628,571	$165,984	21.9	17,768	4.40%	0.30%	4.0	8.40%	4.80%	59	53
Bombo	20,951	2.18	$4,880,947	$193,024	25.3	8,276	4.30%	1.90%	4.0	6.90%	6.60%	69	118
Nowra-Bomaderry	49,127	2.28	$2,228,878	$138,476	16.1	20,188	4.00%	1.50%	4.0	7.50%	5.10%	233	187

**Assumed transition to a balanced market based on reducing months of stock trends observed historically for each region.*

Population Growth

The Nowra-Bomaderry (2541) growth area is expected to experience the fastest growth (2.84% p.a.), driven by land availability and infrastructure investment, while the West Lake Illawarra (2530) growth area expects more modest, but strong growth (1.60% p.a.). The Bombo (2533) growth area remains modest at 1% p.a.

Expected population growth in Nowra-Bomaderry (2541) significantly exceeds regional plan estimates, suggesting current planning may underestimate future demand.

Rapid population growth is likely to strain housing supply, transport and services in the West Lake Illawarra and Nowa-Bomaderry areas.

Demographics

An ageing population trend is observed across all areas, especially in the Nowra-Bomaderry (2541) growth area). Increase in lone-person and couple-only households are also expected to drive demand for smaller, accessible homes.

The growth areas may see a higher demand for age-friendly housing and health services.

People per Dwelling

The average household size is expected to decline from 2.4-2.7 people per dwelling to 1.9–2.1 people per dwelling. Detached houses remain dominant, but demand is expected to shift toward 2–3 bedroom homes.

Future planning will need to accommodate the needs and considerations for smaller dwellings and diverse housing types.

Affordability

House prices and rents are expected to continue rising sharply in line with growth seen over the past decade, further outpacing income growth. House-to-income ratios are calculated deteriorate severely (e.g., 2533 from 15.21, already severely unaffordable, to 26.90).

Homeownership will likely become unattainable for many with rental stress also increasing.

6.2.5 Housing Shortfall

A housing shortfall is defined as the gap between the number of available dwellings and the number of dwellings needed to accommodate the population's demand. As noted in earlier Sections, this occurs when the housing supply cannot keep pace with population growth, leading to higher prices, reduced affordability, and increased competition for existing homes which are applying pressure to the existing housing market.

Table 12 listed out the calculated required number of dwellings in year 2041 based on the projected population over this time period, and Section 6.2.1.3 explored the historic building approvals and completions seen across the growth areas. The historic build completions enable a projection of annual build completions as outlined in Table 13. Based on these expected annual build completions, the total expected building completions over the time period can be estimated and evaluated against the required projected dwelling numbers to determine the shortfall as summarised in Table 14.

Table 14: Persons per dwelling forecasts.

Growth Area	West Lake Illawarra	Bombo	Nowra-Bomaderry
Annual Build Completions	53	118	187
Total Completions (2041)	848	1,888	2,992
Additional Required Dwellings (2041)	4,073	1,395	7,600
Shortfall Value	**3,225**	**No Shortfall Expected**	**4,608**
Shortfall Percentage	**17.8%**	**No Shortfall Expected**	**22.3%**

**Shortfall percentage is calculated as the gap in housing (difference between required and established supply) as a percentage of required supply.*

Figure 30, Figure 31 and Figure 32 show these shortfall distributions over the assessment period for each growth area.

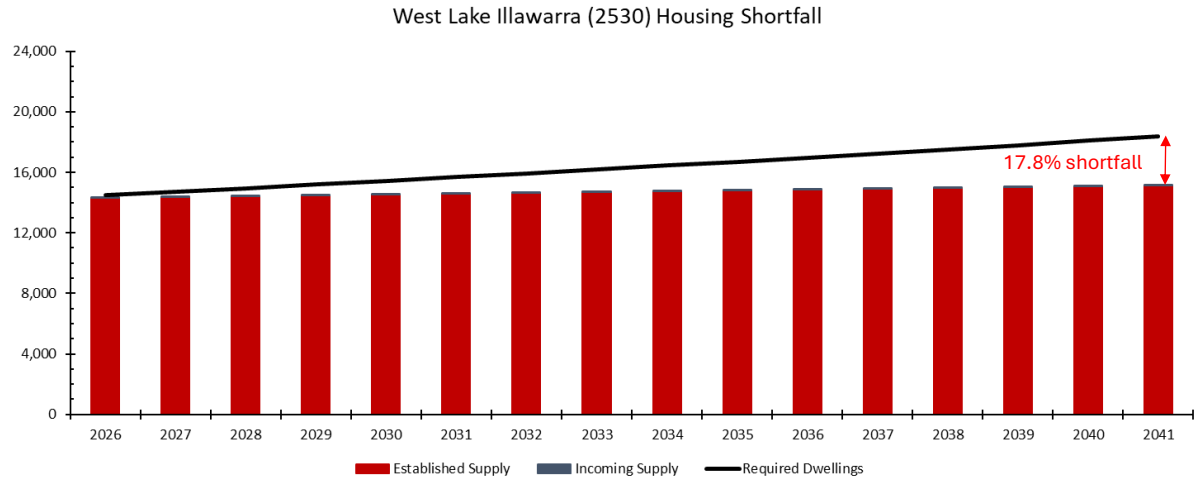


Figure 30: Projected established, incoming and required housing supply for West Lake Illawarra (2530).

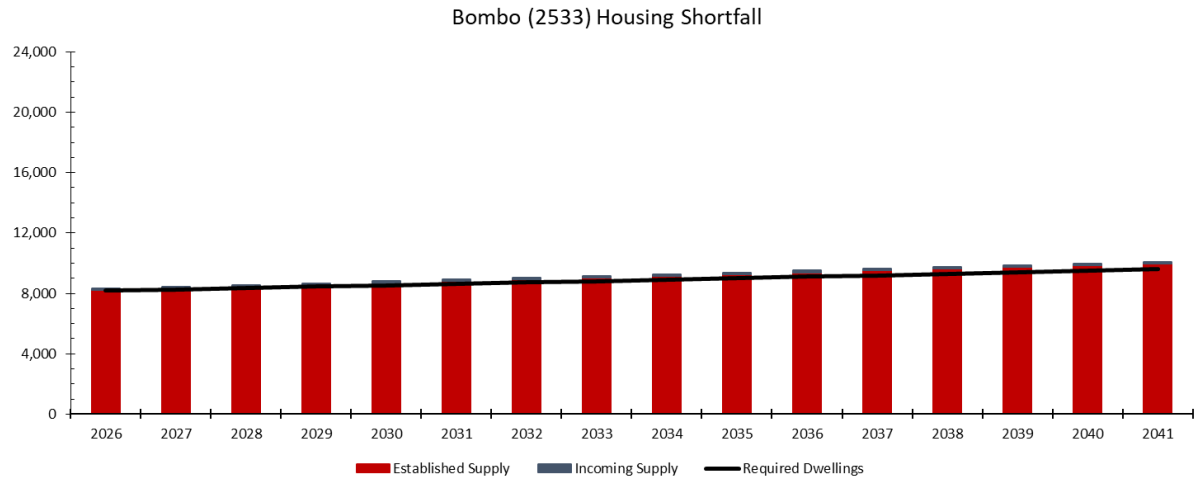


Figure 31: Projected established, incoming and required housing supply for Bombo (2533).

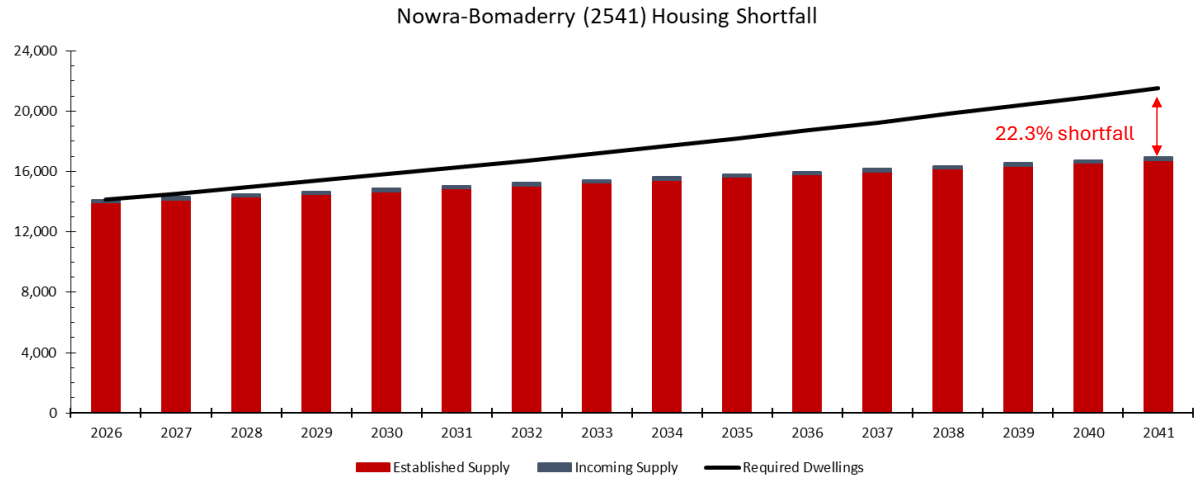


Figure 32: Projected established, incoming and required housing supply for West Lake Illawarra (2530).

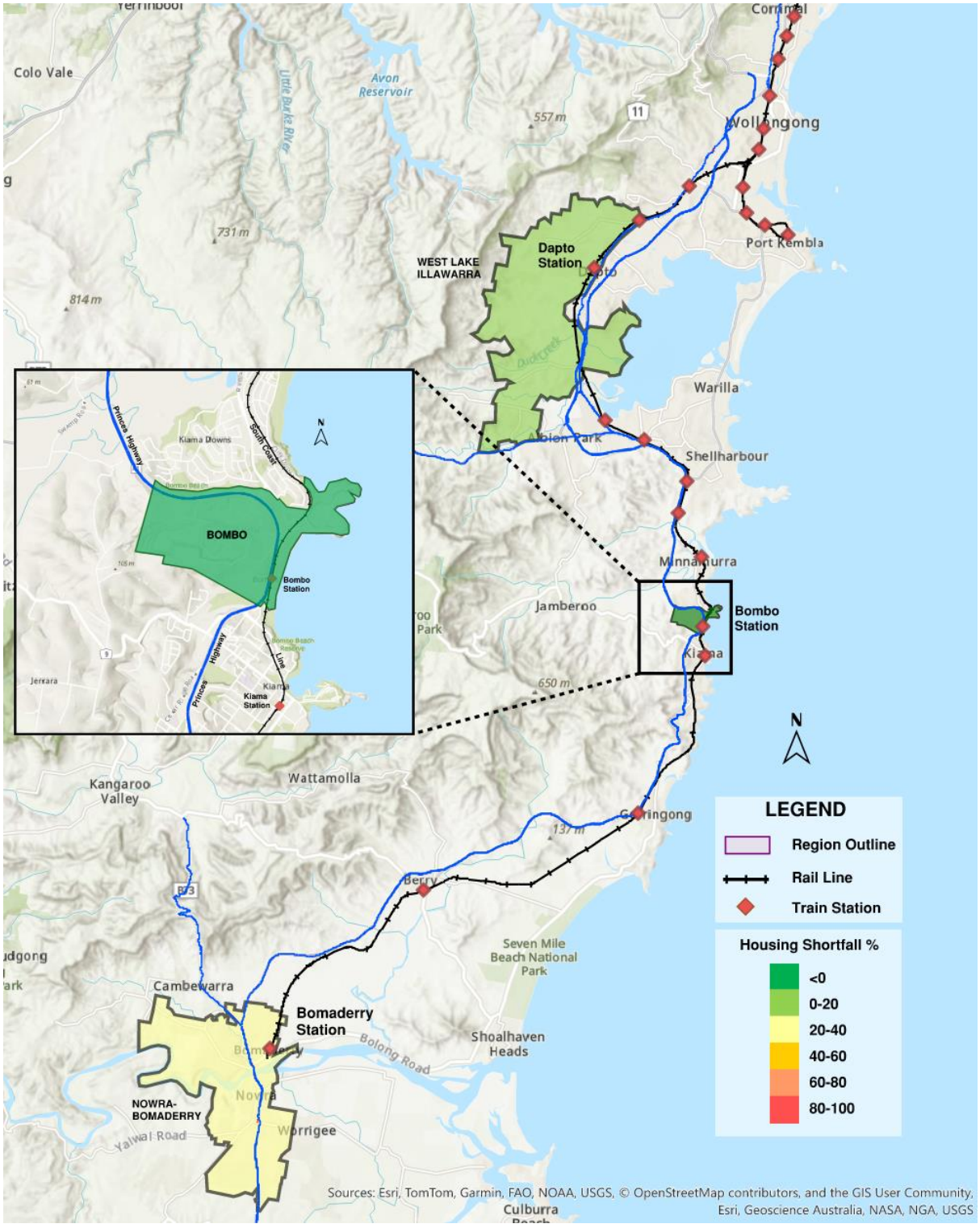


Figure 33: Projected housing shortfall across the growth regions at year 2041.

6.2.6 Sensitivities

Forecasting housing supply and demand is highly sensitive to external factors that cannot always be quantified with precision. Variables such as interest rate fluctuations, changes in construction costs, and population growth variances can significantly alter housing market dynamics. Whilst this was factored into the forecasts and findings using

historical trends, there is no saying that the same trends will occur in the future. As such, the following subsections aims to show the impact such sensitivities can have on the respective outcomes.

Interest Rates

The supply of new dwellings is sensitive to interest rates, which affect the cost of development and prospective homeowners' borrowing capacity to purchase a dwelling. This, in turn, influences the commercial feasibility of development. Figure 34 shows the impact a change of 50 basis points in interest rate can have on new housing supply over a 4-year period.

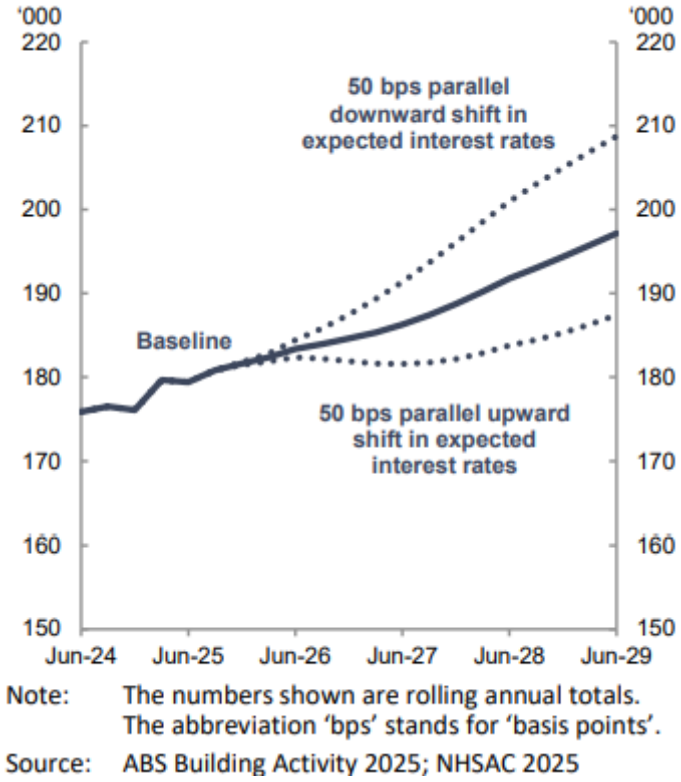


Figure 34: Impact of 50 basis point variance in interest rates to gross new housing supply (Source: ABS Building Activity 2025; NHSAC 2025).

The scenario analysis demonstrates the significant sensitivity of housing supply to interest rates. An unexpected increase in interest rates of 50 basis points would result in new supply remaining around its current 10-year low for most of the Housing Accord period, with cumulative gross new supply totalling 915,000. Conversely, an unexpected decline in interest rates of 50 basis points would support an increase in dwelling supply and result in gross new supply of 965,000 dwellings over the Housing Accord period.

Construction Costs

Changes in construction costs influence housing supply, primarily by changing builders' and developers' commercial feasibility. Two scenarios are used to assess the implications for supply of a +20 per cent or –20 per cent change in the cost of

construction per dwelling from the June quarter of 2025 onwards relative to the baseline forecasts (Figure 35).

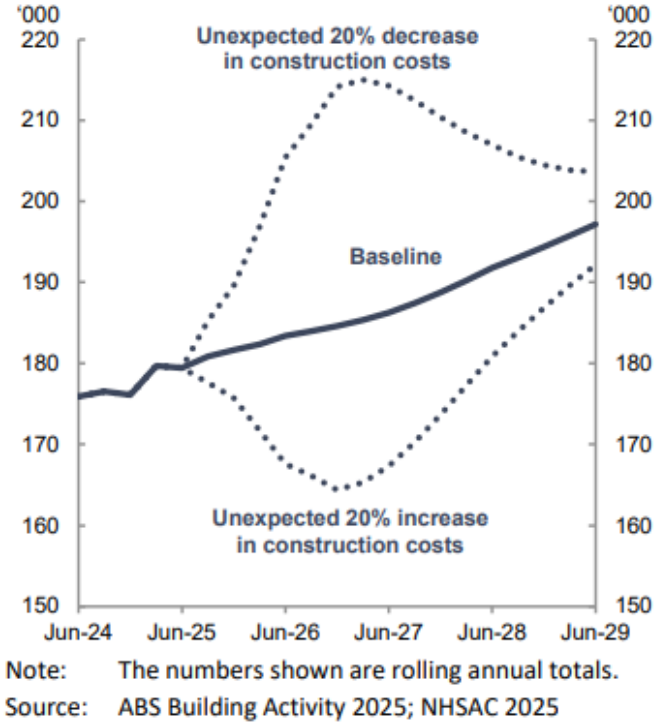


Figure 35: Impact of 20% variance in construction cost to gross new housing supply (Source: ABS Building Activity 2025; NHSAC 2025).

Such a change could arise from a change in material costs, labour costs and/or productivity. The magnitude of the change is consistent with the shock experienced during the Pandemic and associated supply chain disruptions. The scenario demonstrates that a significant change in the cost of dwelling construction would have a significant effect on new dwelling supply. An unexpected one-off 20 per cent increase in the cost of construction would result in gross supply softening in the near term before returning to baseline expectations by the end of the forecast period.

Population Scenarios

Population growth can change due to variations in migration levels, fertility rates and life expectancy. Changes in population growth alter new demand for housing, which affects vacancy rates, rents and housing prices. In turn, changes in housing prices alter the commercial feasibility of new housing projects and, therefore, affect new housing supply.

The dashed lines in Figure 36 show alternative forecasts of housing supply and demand in high- and low-population growth scenarios. These scenarios are constructed from the baseline forecasts by raising or lowering year-on-year population increases by 15 per cent, starting from the 2024–25 financial year.

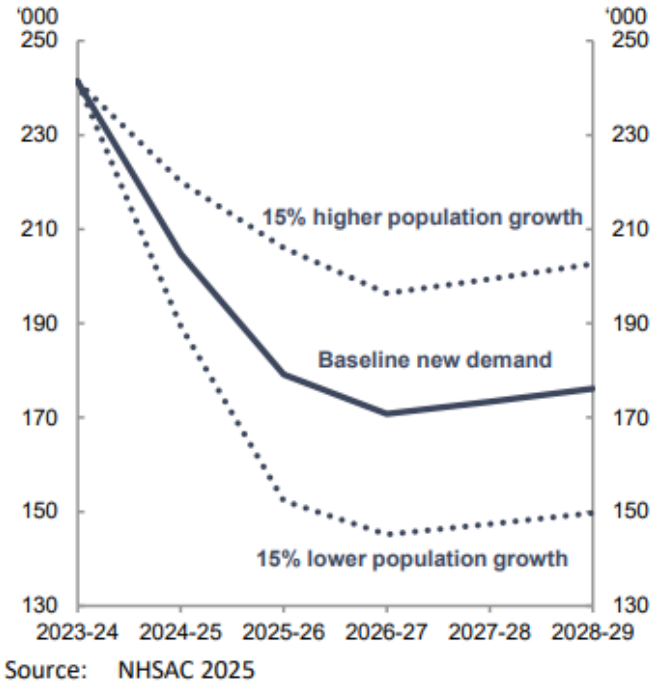


Figure 36: Impact of 15% variance in population growth to new housing demand (Source: ABS Building Activity 2025; NHSAC 2025).

6.3 Transport Infrastructure Demand Assessment

This section assesses the current adequacy and capacity of transport infrastructure across the three study areas within the Shoalhaven–Illawarra region — West Lake Illawarra, Nowra–Bomaderry, and Bombo.
The analysis focuses on two key transport modes:

- Major Roads: State and national roads
- High-Capacity Public Transport (Rail): Heavy rail lines that support regional passenger movements and provide interconnections with Greater Sydney and Wollongong.

6.3.1 Major Roads - Current and Future Capacity

6.3.1.1 West Lake Illawarra

The West Lake Illawarra region forms part of the Illawarra's primary north–south transport corridor, linking to Wollongong and the Sydney metropolitan area via the Princes Motorway (M1) and Princes Highway, and connecting westward through the Illawarra Highway. These corridors provide the key commuter and freight links for the region and are critical to enabling future housing development within the Illawarra–Shoalhaven growth corridor.

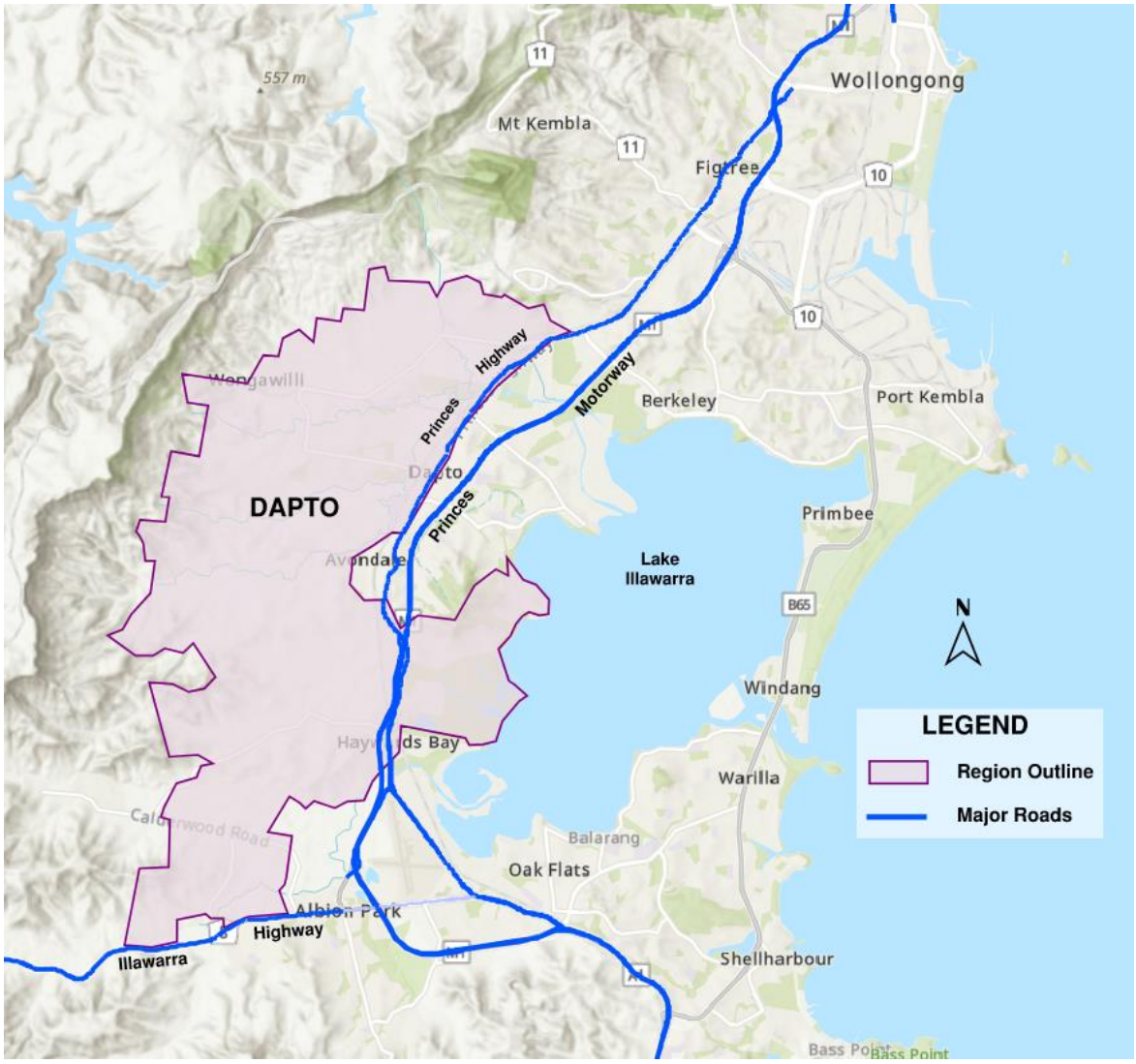


Figure 37: West Lake Illawarra Growth Region and Major Road Network.

Supply-Side Assessment

All three major routes in Dapto are classified as high-speed corridors (≥80 km/h). The Princes Motorway operates as a fully divided, unsignalised motorway, while the Princes and Illawarra Highways are partially signalised within urban areas.

The key assumptions made during this assessment were:

- Peak-hour traffic = 5% of daily traffic, as per AGTM03 guidance.
- Heavy vehicle proportion = 10%, reflecting the freight-intensive nature of the Illawarra–Shoalhaven corridor (Shoalhaven Transport Strategy 2045).

Table 15: West Lake Illawarra Region Major Road Design Capacity.

Road Name	Lanes (each way)	Divided / Undivided	Speed (km/h)	Design Capacity (pc/hr/ln)	Design AADT (veh/day/ direction)
Princes Highway	2	Undivided	80	1,900	76,000
Princes Motorway	2	Divided	100	1,986	79,455
Illawarra Highway	1	Undivided	80	1,727	34,545

Demand-Side Assessment

Traffic volume data from Transport for NSW permanent counters were analysed for multiple years. The most recent (2025) counts for the Princes Motorway indicate significantly higher volumes than historical data on adjacent corridors.

Table 16: West Lake Illawarra Region Major Road Traffic Data Analysis.

Road Name	Counter ID	Direction	Year	Peak Hour Volume (veh/h)	AADT (veh/day)	% Heavy Vehicles
Princes Motorway	113526	SB	2025	4,526	86,198	4.0%
Princes Motorway	113526	NB	2025	4,202	85,414	4.3%
Illawarra Highway	07038	EB	2007	1,633	14,528	n/a
Princes Highway	07223	NB	2009	1,135	11,209	n/a

Capacity Analysis

Volume-to-capacity (V/C) ratios were calculated to benchmark network performance. According to Austroads Level of Service (LOS) definitions:

- V/C < 0.8 = Stable flow (LOS A–C)
- 0.8–1.0 = Near capacity (LOS D–E)
- >1.0 = Over capacity (LOS F)

Table 17: West Lake Illawarra Region Major Road Capacity Analysis.

Road Name	Year	Direction	AADT (veh/day)	Design AADT	V/C Ratio
Princes Motorway	2025	SB	86,198	79,455	1.08
Princes Motorway	2025	NB	85,414	79,455	1.07
Illawarra Highway	2007	WB	14,040	31,091	0.45
Princes Highway	2009	NB	11,209	76,000	0.15

The Princes Motorway currently operates over capacity during peak hours (V/C > 1.0), while the Princes and Illawarra Highways remain within stable operating ranges. Access

constraints to the motorway are emerging as a critical bottleneck for regional mobility and housing growth.

Future Capacity Outlook

Population projections for Dapto indicate continued residential growth through 2041. Applying a conservative traffic growth factor (1.5–2.0% p.a. across the years), demand is expected to significantly exceed current motorway capacity without upgrades.

Table 18: West Lake Illawarra Region Major Road Future Capacity Analysis.

Road Name	Base Year (2025) AADT	Forecast Year (2041) AADT	Design Capacity	Future V/C
Princes Motorway	86,198	115,000	79,455	1.45
Princes Highway	11,800	17,000	76,000	0.22
Illawarra Highway	14,500	18,000	34,545	0.52

Summary of Findings

The figures below provide a heat map of the V/C Ratios for the major roads in the region.

The Princes and Illawarra highways are operating under design capacity with a level of service A-C. Even with the forecasted growth in the region, these roads will experience a maintainable increase in usage.

The Princes Motorway currently exhibits Level of Service E–F, reflecting overcapacity conditions that will worsen under the forecasted growth. This capacity gap will only increase over the years without a change to the supply of infrastructure.

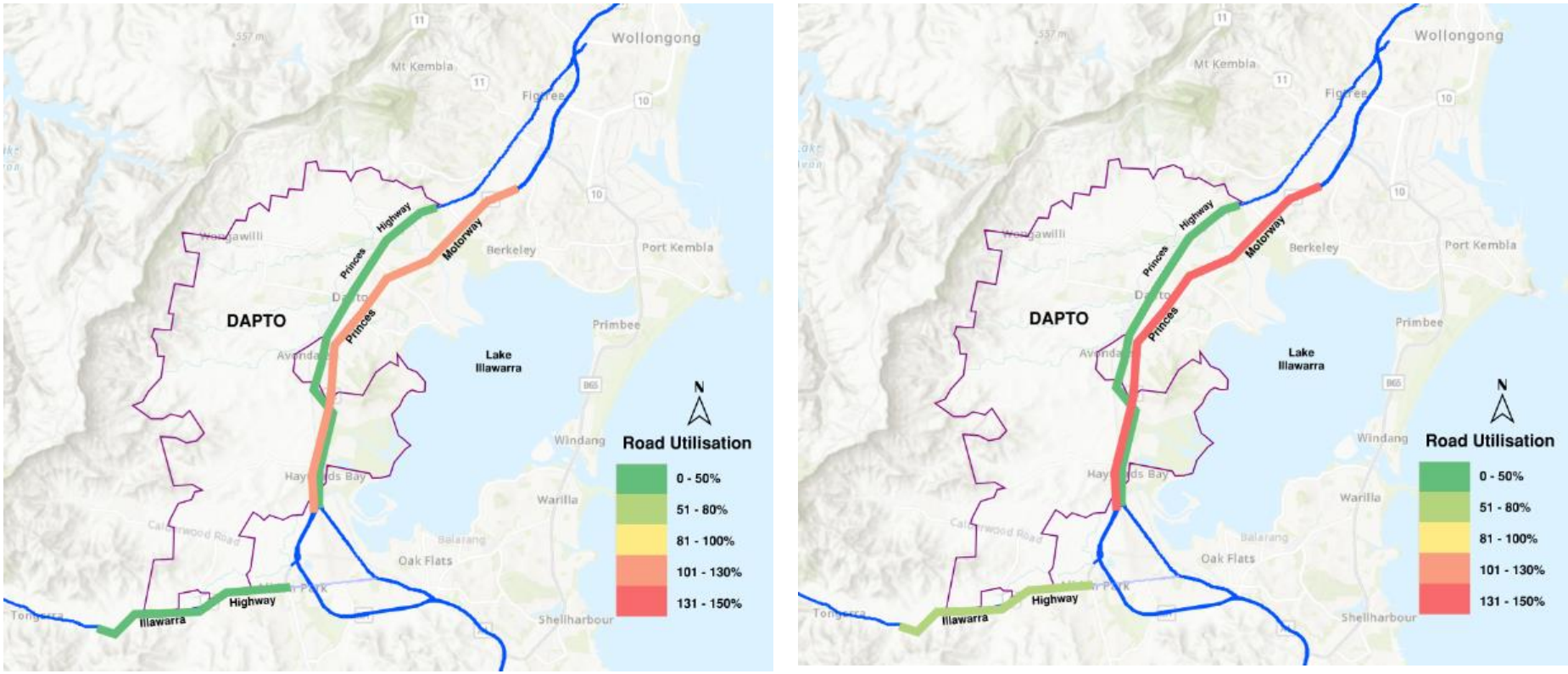


Figure 38: West Lake Illawarra Major Roads Current (left) and Future (right) V/C Ratio Heat Map.

6.3.1.2 Bombo

The Bombo region, located between Kiama and Gerringong within the Illawarra–Shoalhaven corridor, is traversed by the Princes Highway, a key north–south arterial route linking the South Coast to Wollongong and Sydney.

This corridor provides the primary regional connection for both passenger and freight movement, serving coastal communities, regional industries, and tourism destinations along the South Coast. Its role as a divided carriageway ensures efficient and reliable travel through the Bombo area.

Figure 39: Bombo region Major Roads.

Supply Side Assessment

The Princes Highway through the Bombo region functions as a divided dual-carriageway, designed for high-speed regional movement. The corridor's configuration supports inter-regional commuting, freight haulage, and tourism travel with minimal physical or operational constraints.

The key assumptions made during this assessment were:

- Peak-hour traffic = 5% of daily traffic, as per AGTM03 guidance.
- Heavy vehicle proportion = 5%, was selected as major freight hubs are not close to these locations

Table 19: Bombo Region Major Road Design Capacity.

Road Name	Lanes (each way)	Divided / Undivided	Speed (km/h)	Design Capacity (pc/hr/ln)	Design AADT (veh/day/ direction)
Princes Highway	2	Divided	100	2,081	83,238

Demand-Side Assessment

Traffic data from Transport for NSW permanent count stations were reviewed to quantify existing travel demand on the Princes Highway within the Bombo region.

Observed AADT and peak-hour data were analysed to evaluate the relationship between actual traffic volumes and the corridor's design capacity.

Table 20: Bombo Region Major Road Key Traffic Data Analysis.

Road Name	Counter ID	Direction	Year	Peak Hour Volume (veh/h)	AADT (veh/day)	% Heavy Vehicles
Princes Highway	07804	NB	2021	1,843	19,370	Unknown

Capacity Analysis

Volume-to-capacity (V/C) ratios were calculated to benchmark network performance. According to Austroads Level of Service (LOS) definitions:

- V/C < 0.8 = Stable flow (LOS A–C)
- 0.8–1.0 = Near capacity (LOS D–E)
- >1.0 = Over capacity (LOS F)

Table 21: Bombo Region Major Road Capacity Analysis.

Road Name	Year	Direction	AADT (veh/day)	Design AADT	V/C Ratio
Princes Highway	2021	NB	19,370	83,238	0.19

The Princes Highway operates well below design capacity, providing excellent levels of service (LOS A). Current traffic volumes represent less than 20 % of the road's theoretical capacity, highlighting substantial operational resilience and minimal congestion risk during peak periods.

Future Capacity Outlook

Traffic growth in the Bombo area is expected to follow trends associated with coastal residential expansion and tourism activity. Applying a compound annual growth rate of 2.8 %, forecast volumes remain well within the corridor's design capacity through 2041.

Table 22: Bombo Region Major Road Future Capacity Analysis.

Road Name	Base Year	Base Year AADT	Forecast Year (2041) AADT	Design Capacity	Future V/C
Princes Highway	2021	19,370	27,094	83,238	0.33

Even under sustained growth, the Princes Highway will continue to operate well below capacity with LOS A–B performance expected across the analysis horizon. The dual-carriageway configuration and ongoing corridor upgrades provide sufficient capacity and safety for long-term traffic demand.

Summary of Findings

The figures below provide a heat map of the V/C Ratios for the major roads in the region.

The Princes Highway is the sole major corridor through the Bombo region and currently operates well within design capacity with a level of service A-B. Even with the forecasted growth in the region, this road will experience a maintainable increase in usage.

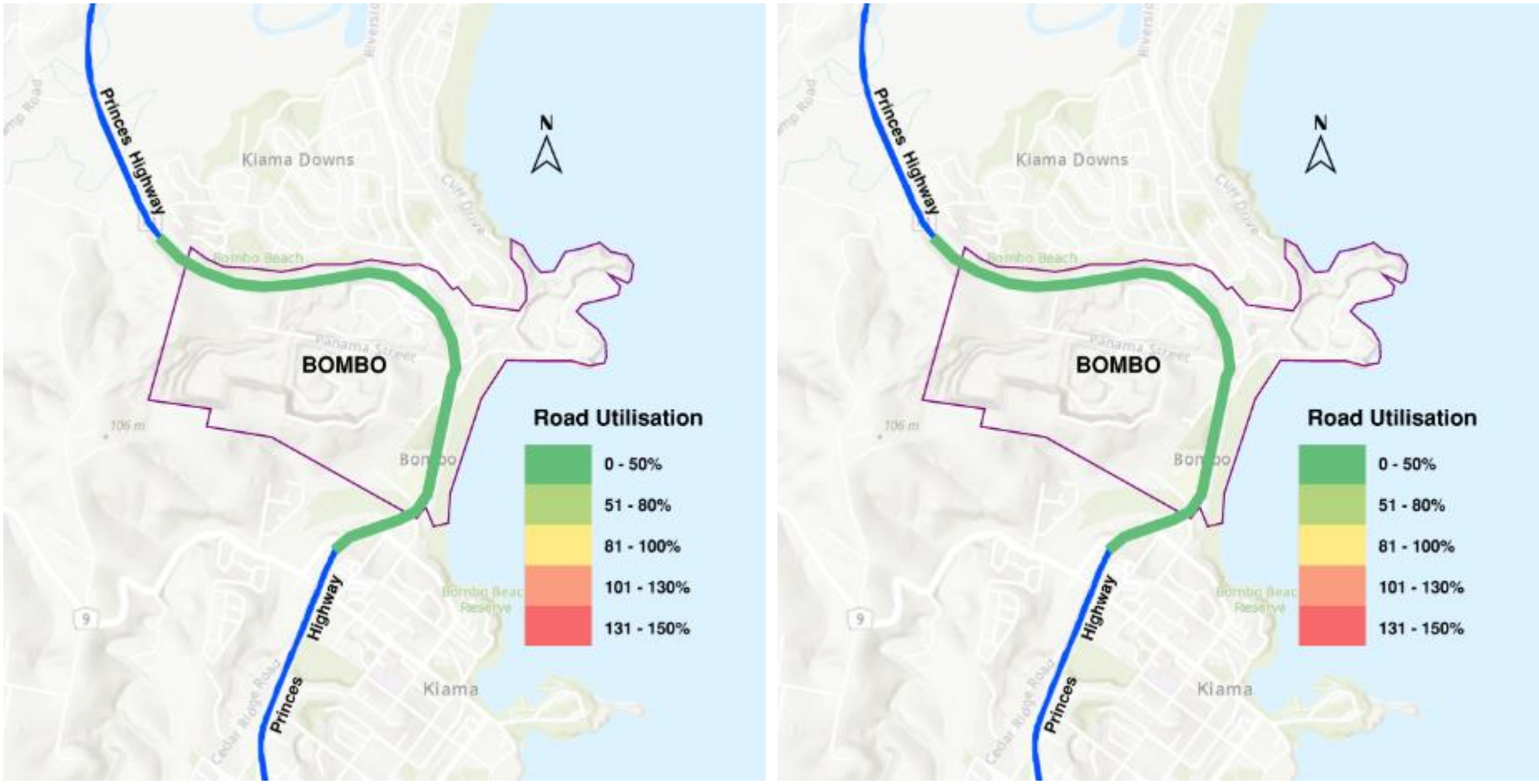


Figure 40: Bombo Major Roads Current (left) and Future (right) V/C Ratio Heat Map.

6.3.1.3 Nowra-Bomaderry

Nowra–Bomaderry forms the southern gateway of the Illawarra–Shoalhaven corridor and functions as a key interchange between the regional and inter-regional road network. The area is primarily served by the Princes Highway, a divided arterial forming part of the National Land Transport Network, and Moss Vale Road, a strategic connector providing inland access to the Southern Highlands.

These corridors support both commuter and freight movements across the Shoalhaven River and northward toward Wollongong and Sydney. Localised speed reductions and intersection controls within urbanised sections of the corridor influence overall capacity and service performance.

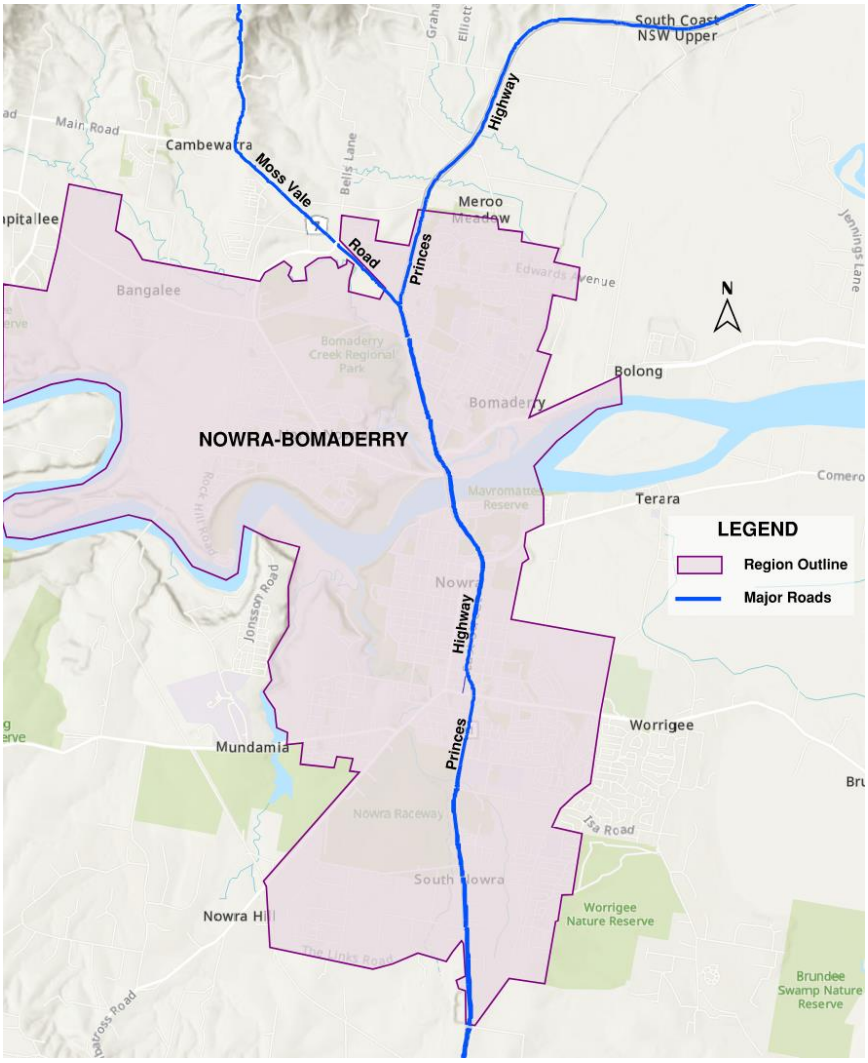


Figure 41: Nowra-Bomaderry region Major Roads.

Supply Side Assessment

Both key routes operate as high-speed corridors (> 80 km/h); however, recorded locations reflect lower posted limits where urbanisation has introduced intersection control and frontage access.

The key assumptions made during this assessment were:

- Peak-hour traffic = 5% of daily traffic, as per AGTM03 guidance.
- Heavy vehicle proportion = 5%, was selected as major freight hubs are not close to these locations

Table 23: Nowra-Bomaderry Region Major Road Design Capacity.

Road Name	Lanes (each way)	Divided / Undivided	Speed (km/h)	Design Capacity (pc/hr/ln)	Design AADT (veh/day/ direction)
Princes Highway	2	Divided	70	1,810	72,381
Moss Vale Road	1	Undivided	60	1,448	28,952

Demand-Side Assessment

Traffic count data from Transport for NSW permanent monitoring stations were used to evaluate current utilisation of the major road network within the Nowra–Bomaderry region. The assessment draws on observed Average Annual Daily Traffic (AADT) and peak-hour volumes to understand how existing traffic demand compares with design capacity.

Table 24 summarises recorded volumes for the key corridors

Table 24: Nowra-Bomaderry Region Major Road Key Traffic Data Analysis.

Road Name	Counter ID	Direction	Year	Peak Hour Volume (veh/h)	AADT (veh/day)	% Heavy Vehicles
Princes Highway	07051	SB	2011	2,294	22,936	Unknown
Moss Vale Road	07354	EB	2007	786	7,431	Unknown

Capacity Analysis

Volume-to-capacity (V/C) ratios were calculated to benchmark network performance. According to Austroads Level of Service (LOS) definitions:

- V/C < 0.8 = Stable flow (LOS A–C)
- 0.8–1.0 = Near capacity (LOS D–E)
- >1.0 = Over capacity (LOS F)

Table 25: Nowra-Bomaderry Region Major Road Capacity Analysis.

Road Name	Year	Direction	AADT (veh/day)	Design AADT	V/C Ratio
Princes Highway	2011	SB	22,936	72,381	0.32
Moss Vale Road	2007	EB	786	28,952	0.24

- Both corridors currently operate well below capacity, indicating stable operating conditions (LOS A–C).
- The Princes Highway accommodates the majority of regional through-traffic and has sufficient reserve capacity under current demand.
- Moss Vale Road primarily serves local and recreational travel, with minimal utilisation relative to its design standard.

Future Capacity Outlook

Population and housing projections for Nowra–Bomaderry indicate continued growth consistent with the Illawarra–Shoalhaven Regional Plan 2042. Applying a compound traffic growth rate of 2.8 % per annum, both corridors are expected to experience increased volumes; however, available capacity is likely to remain adequate in the medium term.

Table 26: Nowra-Bomaderry Region Major Road Future Capacity Analysis.

Road Name	Base Year	Base Year AADT	Forecast Year (2041) AADT	Design Capacity	Future V/C
Princes Highway	2011	22,936	39,463	72,381	0.55
Moss Vale Road	2007	786	10,570	28,952	0.37

Forecast utilisation remains well within design capacity, even under sustained traffic growth. Targeted intersection upgrades and local access management will be sufficient to maintain LOS C or better through 2041.

Summary of Findings

The figures below provide a heat map of the V/C Ratios for the major roads in the region.

The Princes Highway and Moss Vale Road currently operate well below design capacity with a level of service A-C. With the forecasted growth of the region, both roads will still maintain a level of service A-C.

Figure 42: Nowra-Bomaderry Major Roads Current (left) and Future (right) V/C Ratio Heat Map.

6.3.2 Major Rail

The Shoalhaven-Illawarra region is served by the South Coast railway line, a vital component of New South Wales' heavy rail network. This line stretches from Sydney's Illawarra Junction to Bomaderry, just north of Nowra, traversing key urban centres such as Wollongong, Shellharbour, and Kiama/Bombo, and Dapto. The line is electrified up to Kiama, with diesel services continuing south to Bomaderry. It plays a dual role in supporting both passenger and freight transport, with connections to industrial hubs like Port Kembla and a branch line from Unanderra to Moss Vale linking to the Main South Line. Historically, the line was developed to support coal and steel industries, and today it remains essential for moving goods such as steel, coal, and grain, while also providing daily commuter services to Greater Sydney.

In contrast to the assessment of the roads in the Dapto, Nowra-Bomaderry, and Bombo regions, the rail infrastructure in the region must be assessed in a more wholistic manner given that one rail line – the Southern Rail Line – services all three regions. An assessment cannot be isolated to a single area, as changes up- or down- stream will affect the network as a whole.

Supply-Side Assessment

This assessment has been conducted based on supply during the weekday AM peak. Train network demand is typically measured during the AM peak period because it represents the highest concentration of commuter activity, particularly for work and education-related travel. This time window - usually defined as trains arriving between 8:00 am and 9:00 am in the CBD or primary hub - captures the most intense usage of the network, providing a reliable benchmark for assessing capacity, service performance, and infrastructure needs. By focusing on this peak, we can identify bottlenecks and determine where upgrades are required into the future.

Table 27: Train line capacities.

Line Segment	Total Trains During AM Peak	Train Model	Capacity Per Train (number of seats)	Total AM Peak Capacity (number of seats)
Bomaderry - Kiama	1	Endeavour N (2-car)	177	177
Kiama - Dapto	2	OSCAR H (8 car)	864	1,728
Dapto – Central Station	3	OSCAR H (8 car)	864	2,592

Source: NSW Government Transport Open Data – Train Seating Occupancy.

Demand-Side Assessment

The demand of the current rail line has been assessed based on Opal card Tap-on/Tap-off data. This data was collected of three 2-week periods. These were 25 July – 14th August 2016; 21st November – 27th November and 26th December – 1st January 2016, and 24th February – 1st March and 23rd March to 29th March 2020.

The data from 2020 was excluded from the analysis, as the data was found to be heavily influenced by the Covid-19 pandemic and was not representative of the trends seen in the remaining data sets.

This Opal data was then assigned to a specific train line on the network and assigned a time 'bin' corresponding to when this trip would arrive at the CBD (Central Station).

This data was then used to calculate how many people tapped-on and tapped-off at given stations as a function of time. Assuming that people boarded the first train available to them, this allowed for the demand on the various train lines to be calculated as a function of time. For this assessment, we present this data for the South Coast Railway line during the weekday AM peak (measured as trips arriving to Central Station between 8 am and 9 am).

Figure 43 shows the number of commuters in the network at a given station during this window for each of the days in the data set. This plot also charts the capacity of the train line as a function of station.

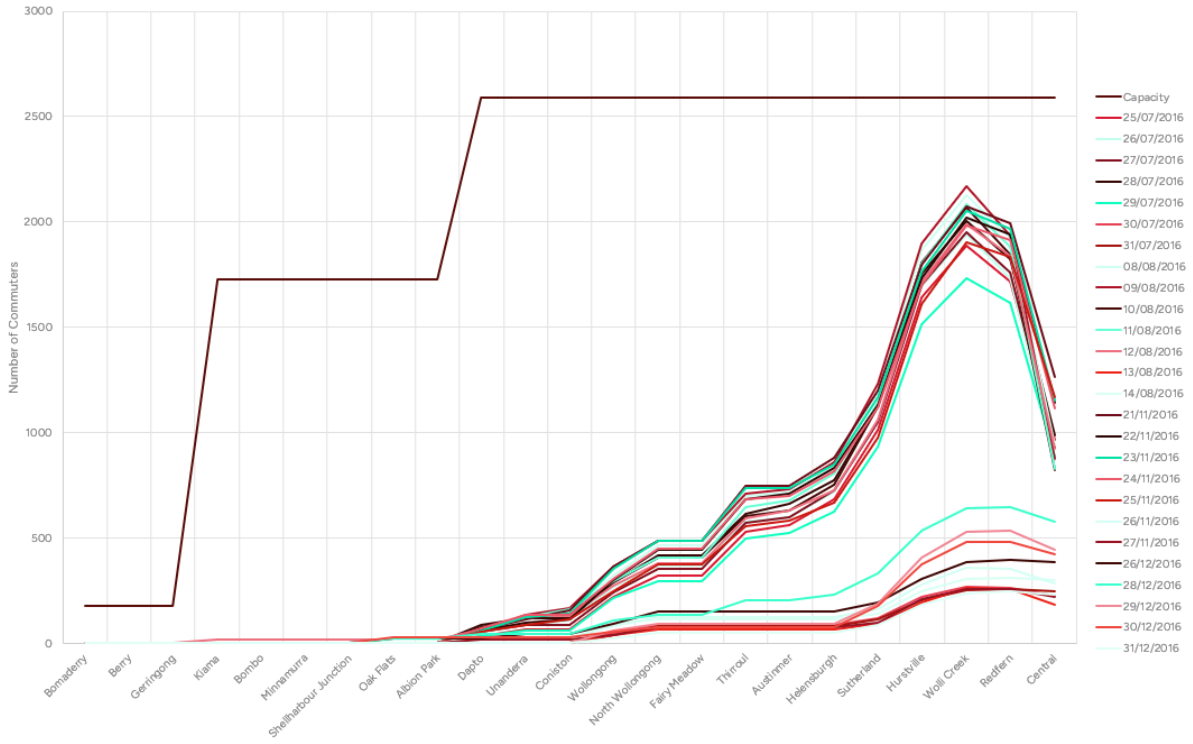


Figure 43: Rail commuter numbers and line capacity.

From this data, outliers were removed to show trends on the network. In this case, the outliers correspond to the 2016 Christmas period.

Once outliers were removed, the commuter demand on the network was averaged as shown in Figure 44.

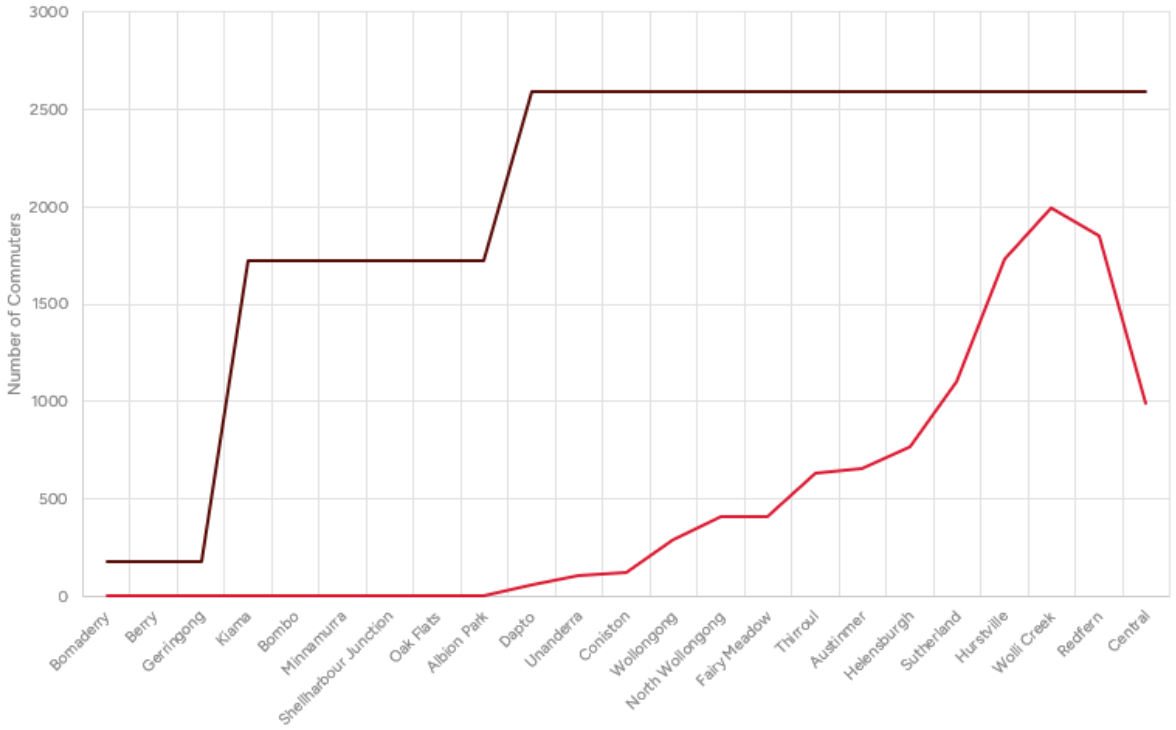


Figure 44: Rail commuter demand and line capacity (outliers removed).

This commuter data was then calibrated to account for seasonal fluctuations in commuter numbers, with peak numbers occurring in March of a given year. This seasonal variance is plotted in Figure 45.

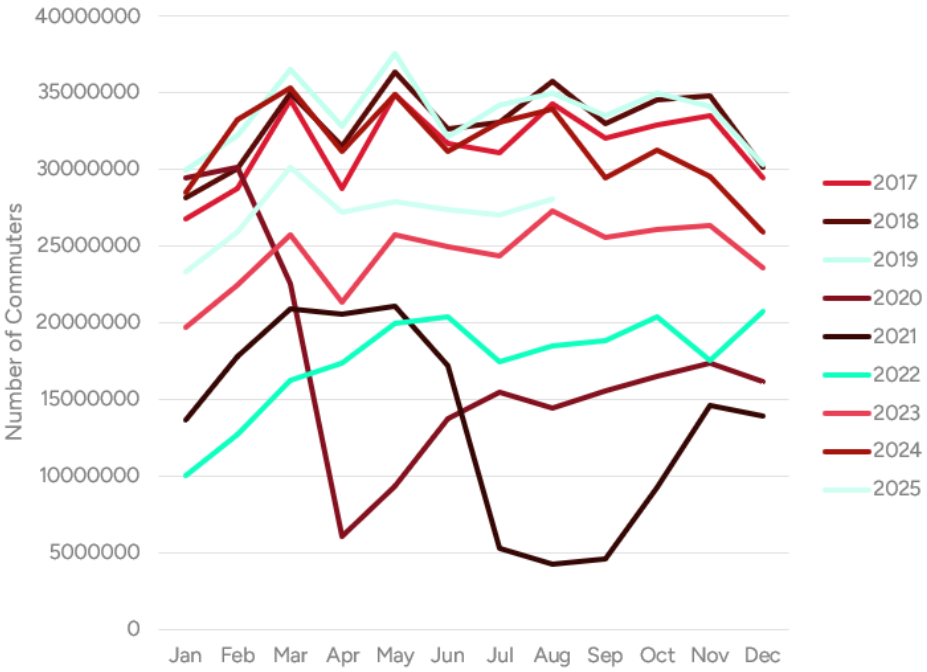


Figure 45: Commuter data seasonal variance.

The data was also projected forward to 2025 to account for the population growth that has occurred in the various regions that the train line services. This projection was based on growth at an LGA level, with commuter numbers scaled at each station depending on the respective LGA as seen in Figure 46.

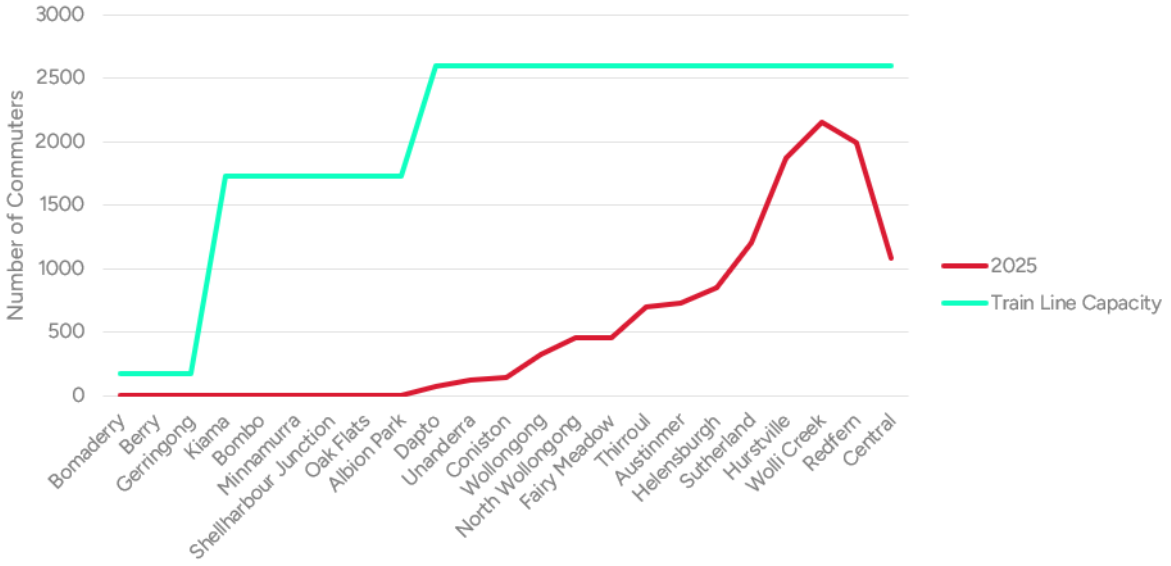


Figure 46: Rail commuter demand and line capacity in 2025.

This plot demonstrates how the capacity of the train line increases as it heads towards the CBD and people board the train services.

Capacity Analysis Summary

The South Coast railway line currently operates well below design capacity. Current commuter volumes in the in the Illawarra-Shoalhaven region are low compared to the network capacity (approx. 18% of capacity during AM peak). The commuter volume then rises as the train line approaches the Sydney CBD with a peak capacity demand of 83.4%. This represents a residual capacity of 16.4%.

Future Capacity Outlook

The current train line capacity calculated above was then projected forward based on the housing and population growth estimates outlined in the previous sections. The growth in commuter numbers at each station was scaled by the respective growth numbers as seen in Figure 47.

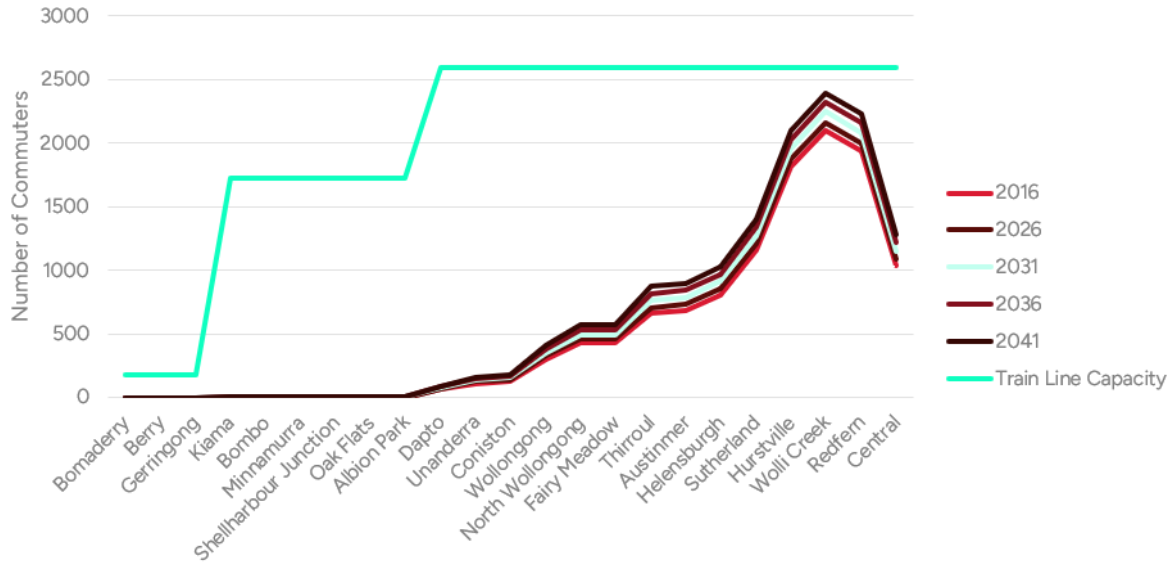


Figure 47: Rail commuter demand growth over time.

From this data, the peak line capacity was calculated as a function of time projecting forward to 2041 and is shown in Figure 48. This shows the current line capacity utilisation of 83.4% and the projected capacity utilisation of 92.5% in 2041.

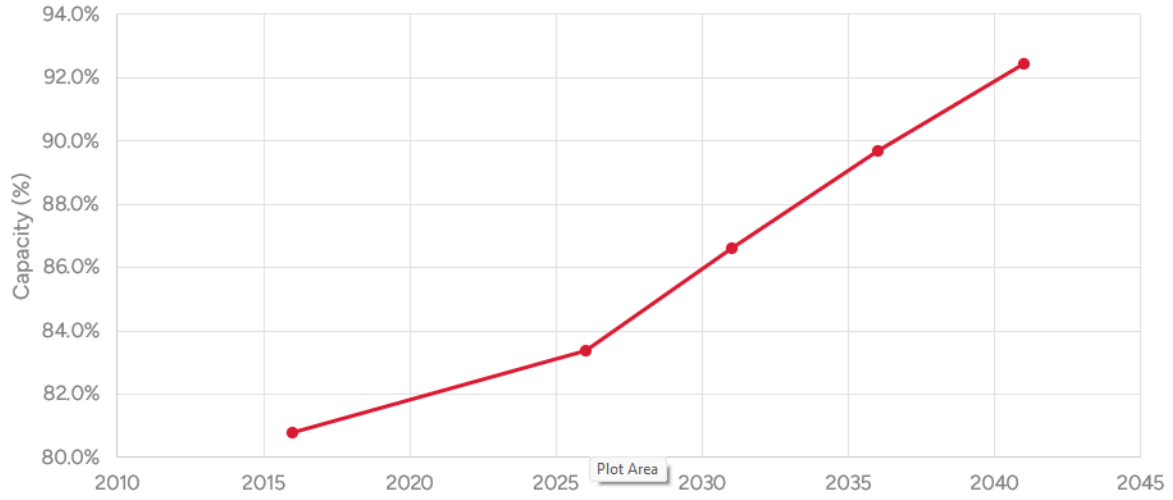


Figure 48: Peak line capacity.

Interpretation

Even with the sustained growth in the region over the next 15 years the South Coast railway line will continue to operate below capacity. While the Nowra-Bombaderry, Bombo and Dapto regions will see 92%, 34% and 50% growth respectively over the next 15 years, the growth in usage of the South Coast line as a whole is a much more modest 9.1%. The commuters from these communities currently do not represent a large proportion of the commuters utilising the South Coast line. The growth seen in the capacity utilisation is a function of both the high population and housing stock growth in the relatively small Shoalhaven-Illawarra Region and the much smaller population and housing stock growth in the much larger Southerland Shire and Wollongong regions (approx. 2.4% and 24% respectively).

Summary of Findings

- The South Coast Railway Line is the sole means of public transport for commuters in the Shoalhaven-Illawarra region. It Allows people to commute from the region to Wollongong and the Sydney CBD.
- The current rail line commuter capacity utilisation is low in the Shoalhaven-Illawarra region, with approximately 18% utilisation. This utilisation grows as the train line moves towards the Sydney CBD with a peak utilisation of 83.4%.
- The projected increase in commuter capacity utilisation over the next 15 years to 2041 is approximately 9.1%. This gives a projected utilisation of 92.5% in 2041. This means that the line is approaching capacity but shouldn't require substantial investment over this timeframe.
- Overall, the South Coast Railway Line demonstrates high operational adequacy being utilised effectively now and into the future. The current line caters for the projected growth in demand as housing in the region grows over the next 15 years.

6.4 Transport Infrastructure Gap Assessment

6.4.1 West Lake Illawarra

6.4.1.1 Housing Growth and Demand

West Lake Illawarra is projected to experience significant population and housing growth over the assessment period 2025 to 2041. The total dwellings are expected to increase by an average annual growth rate of around 1.6%.

Annual build completions are forecast to reach a total of 848 completions by 2041. Based on projected housing demand, an estimated additional 4,073 dwellings will be required to meet population growth by 2041, resulting in a 3,225 shortfall (refer to Table 14). This indicates that an increase in residential supply is required to service the growing population.

6.4.1.2 Transport Infrastructure Capacity

Rail Network

The West Lake Illawarra South Coast Line overall currently exhibits low commuter capacity utilisation within the Shoalhaven–Illawarra section, averaging 18% utilisation for 2025 and reaching 92.5% utilization in 2041, as outlined in Section 6.3.2.

At Dapto Station, whilst population growth is forecasted to increase by 50% over the next 15 years, this will contribute to a modest growth usage across the South Coast line of approx. 10.9%. This shows that despite increasing demand, the network has significant residual capacity and is well placed to absorb this increase in capacity.

Road Network

Based on the analysis carried out in Section 6.3.1.1, The Princes Motorway currently operates at a Volume-to-Capacity (V/C) ratio of 1.08 and is projected to increase to approximately 1.45 in 2041. Resulting in a LOS F.

This suggests the existing road corridor is currently at over capacity and is predicted to worsen as housing and employment demand increases through to 2041. Without significant upgrades, congestion will worsen further.

Planned and Proposed Infrastructure Projects

The current Transport NSW projects for the West Lake Illawarra region are:

- Rail Infrastructure Upgrade projects
  - High-Speed Rail (South Coast) is being reviewed as a feasibility assessment. This is being considered but is unlikely to move forward given it's a low priority.
- Road Infrastructure Upgrade projects

- M1 Princes Motorway South-Facing Ramps (Dapto) is being reviewed at an options assessment stage.
- Princes Highway Upgrade program aims at improving the existing network north of Dapto.
- Picton Road Upgrade is at the strategic design and planning stage to assess alignment considerations for a detailed design and construction.

6.4.1.3 Transport Gap Analysis

The assessment finds significant capacity gaps and infrastructure constraints expected in West Lake Illawarra by 2041. The Princes Motorway is already operating over capacity with a volume-to-capacity (V/C) ratio of 1.08, and is projected to deteriorate to 1.45, maintaining a Level of Service (LOS) F. While the Princes Highway and Illawarra Highway remain within acceptable limits, the motorway's congestion poses a critical risk to regional mobility.

Rail infrastructure, though currently adequate, is forecast to reach 92.5% peak-hour utilisation, indicating emerging pressure. Without committed upgrades, both road and rail networks will struggle to support the area's projected housing and population growth.

Table 28 summarises the projected housing shortfall, and capacities for road and rail at year 2041. Figure 49 provides a heatmap of these projected capacities.

Table 28: West Lake Illawarra Region summary for year 2041 outlining housing shortfall and road and rail utilisation.

Housing Shortfall	Rail Capacity	Princes Mwy	Princes Hwy	Illawarra Hwy
17.9%	92.5%	145.0%	22.0%	52.0%

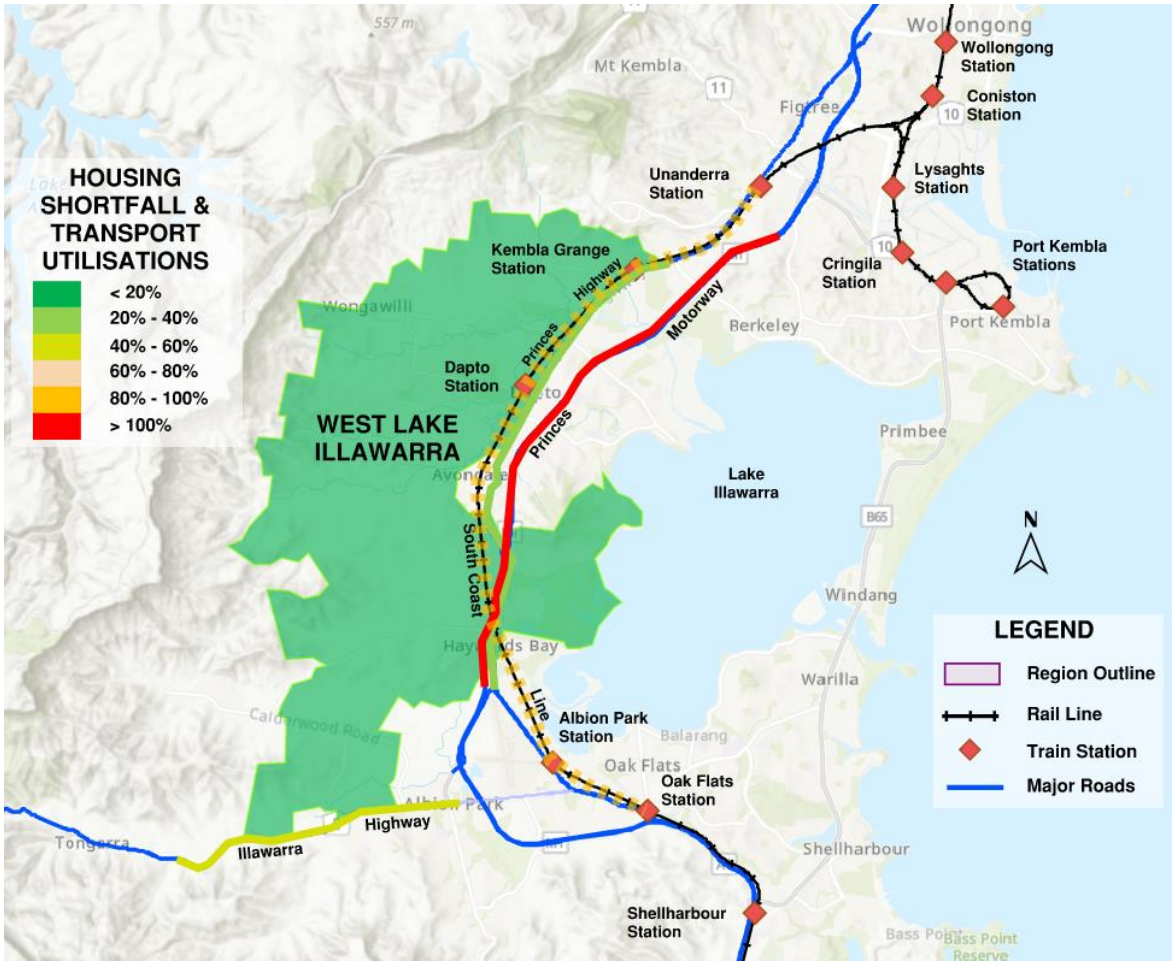


Figure 49: 2041 West Lake Illawarra Region: Housing shortfall, Rail and Road utilisations

6.4.2 Bombo

6.4.2.1 Housing Growth and Demand

Bombo is projected to experience modest population and housing growth over the assessment period 2025 to 2041. The total dwellings are expected to increase by an average annual growth rate of around 1%.

Annual build completions are forecast to reach a total of 1,888 completions by 2041. Based on projected housing demand, an estimated additional 1,395 dwellings will be required to meet population growth by 2041. Refer to Section 6.2.5 for further details.

Under these assumptions, no housing shortfall is anticipated within the Bombo area by 2041, indicating that planned residential supply is expected to align with population growth.

6.4.2.2 Transport Infrastructure Capacity

Rail Network

The South Coast Line overall currently exhibits low commuter capacity utilisation within the Shoalhaven–Illawarra section, averaging 18% utilisation for 2025 and reaching 92.5% utilization in 2041, as outlined in Section 6.3.2.

At Bombo Station, however, utilisation remains extremely low, with current and forecast peak-hour usage estimated at around 1%. This reflects limited local boardings relative to the line's total carrying capacity.

Road Network

Based on the analysis carried out in Section 6.3.1.2, The Princes Highway currently operates at a Volume-to-Capacity (V/C) ratio of 0.19 and is projected to increase to approximately 0.33 in 2041. Resulting in a LOS A-B.

This suggests the existing road corridor provides ample spare capacity to accommodate anticipated traffic growth associated with housing and employment expansion through 2041.

Planned and Proposed Infrastructure Projects

The current Transport NSW projects for the Bombo region are:

- Rail Infrastructure Upgrades project
  - Part of the rail Infrastructure fleet is being upgraded to the Mariyung Fleet and the XPT, EPLORER and Endeavour trains are being replaced with newer fleet.
  - This involves modifications within the rail corridor, including platforms, train stopping markers and lighting. In addition, works to stabling yards and provisioning sites.

- Bombo Station will undergo investigation to determine whether it will require any modifications.

- Illawarra Rail Resilience Plan
  - Ongoing investigations to enhance reliability and resilience of the South Coast Line, including potential upgrades between Wollongong and Bomaderry.
  - Bombo station is part of the investigations which will provide a report to government to determine what upgrades if any are needed

Based on the above there are no planned or proposed infrastructure projects for Bombo Station as all current projects are report based investigations only.

6.4.2.3 Transport Gap Analysis

The assessment finds no significant capacity gaps or infrastructure constraints expected in Bombo by 2041. Both road and rail networks are projected to operate comfortably within design limits, with the Princes Highway maintaining Level of Service A–B and the South Coast Line showing very low utilisation at Bombo Station.

Rail infrastructure, though currently adequate, is forecast to reach 92.5% peak-hour utilisation, indicating emerging pressure. Without committed upgrades, both road and rail networks will struggle to support the area's projected housing and population growth.

Table 29 summarises the projected housing shortfall, and utilisation for road and rail at year 2041. Figure 50 provides a heatmap of these projected capacities.

Table 29: Bombo Region summary for year 2041 outlining housing shortfall and road and rail utilisation.

Housing Shortfall	Rail Capacity	Princes Hwy
0.0%	92.5%	33.0%

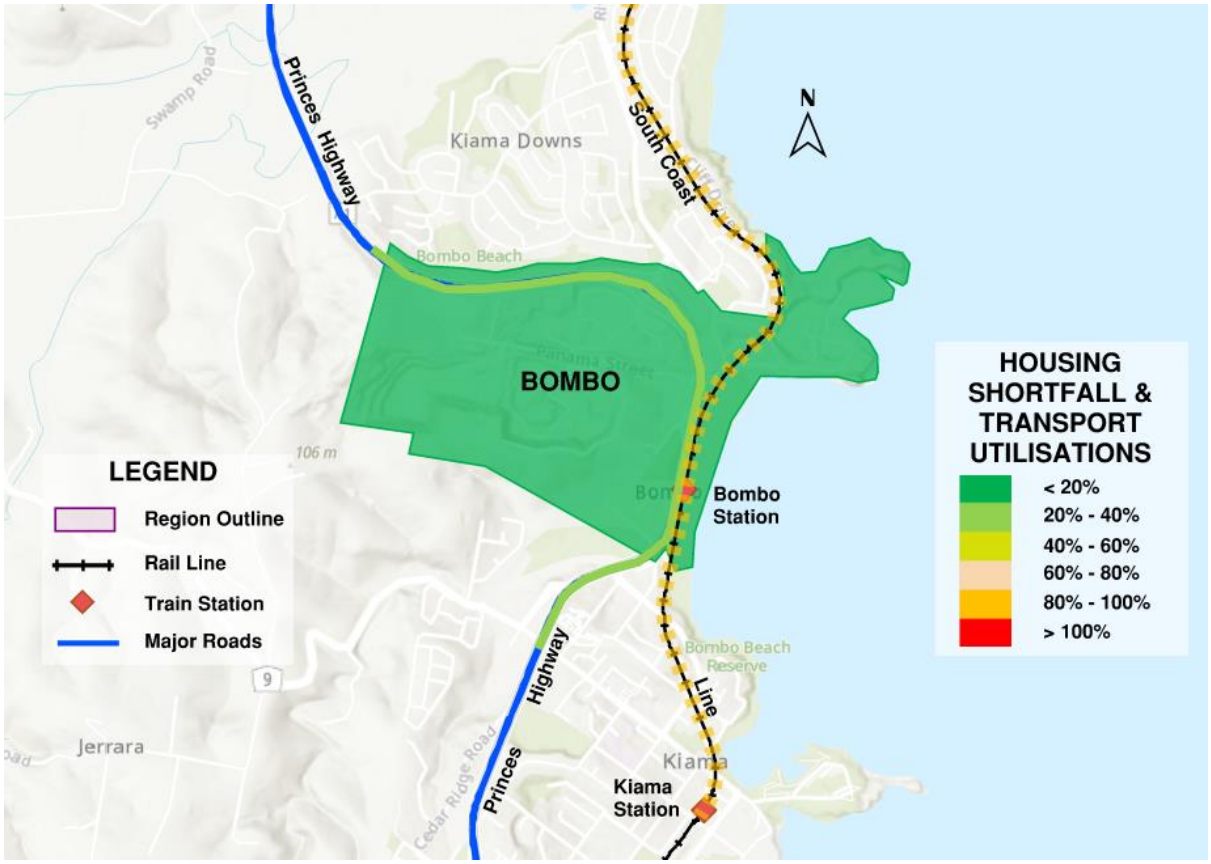


Figure 50: 2041 Bombo Region Heatmap: Housing shortfall, rail and road utilisations

6.4.3 Nowra-Bomaderry

6.4.3.1 Housing Growth and Demand

Nowra-Bomaderry is projected to experience significant population and housing growth over the assessment period 2025 to 2041. The total dwellings are expected to increase by an average annual growth rate of around 2.84%.

Annual build completions are forecast to reach a total of 2,992 completions by 2041. Based on projected housing demand, an estimated additional 7,600 dwellings will be required to meet population growth by 2041, resulting in a 4,608 shortfall (refer to Table 14). This indicates that an increase in residential supply is required to service the growing population.

6.4.3.2 Transport Infrastructure Capacity

Rail Network

The Nowra-Bomaderry South Coast Line overall currently exhibits low commuter capacity utilisation within the Shoalhaven–Illawarra section, averaging 18% utilisation for 2025 and reaching 92.5% utilization in 2041, as outlined in Section 6.3.2.

At Nowra Station, whilst growth is forecasted to increase by 92% over the next 15 years, this will contribute to a modest growth usage across the South-Coast line of approx. 10.9%. This shows that despite increasing demand, the network has significant residual capacity and is well placed to absorb this increase in capacity.

Road Network

Based on the analysis carried out in Section 6.3.1.3, The Princes Motorway currently operates at a Volume-to-Capacity (V/C) ratio of 0.32 and is projected to increase to approximately 0.55 in 2041. Resulting in a LOS C.

This suggests the existing road corridor provides sufficient spare capacity to accommodate anticipated traffic growth associated with housing and employment expansion through 2041.

Planned and Proposed Infrastructure Projects

The current Transport NSW projects for the Nowra-Bomaderry region are:

- Rail Infrastructure Upgrade projects
  - High-Speed Rail (South Coast) is being reviewed as a feasibility assessment. This is being considered but is unlikely to move forward given it's a low priority.
- Road Infrastructure Upgrade projects

- Princes Highway Upgrade Program (Nowra Bypass) aims to provide improved safety, better connected communities and eased traffic congestion.

6.4.3.3 Transport Gap Analysis

The assessment finds no significant capacity gaps or infrastructure constraints expected in Nowra-Bomaderry by 2041. Both road and rail networks are projected to operate comfortably within design limits, with the Princes Highway maintaining Level of Service A–C and the South Coast Line showing very low utilisation at Nowra Station.

Rail infrastructure, though currently adequate, is forecast to reach 92.5% peak-hour utilisation, indicating emerging pressure. Without committed upgrades, both road and rail networks will struggle to support the area's projected housing and population growth.

Table 30 summarises the projected housing shortfall, and capacities for road and rail at year 2041. Figure 51 provides a heatmap of these projected capacities.

Table 30: Nowra-Bomaderry Region summary for year 2041 outlining housing shortfall and road and rail utilisation.

Housing Shortfall	Rail Capacity	Princes Hwy	Moss Vale Rd
22.3%	92.5%	55.0%	37.0%

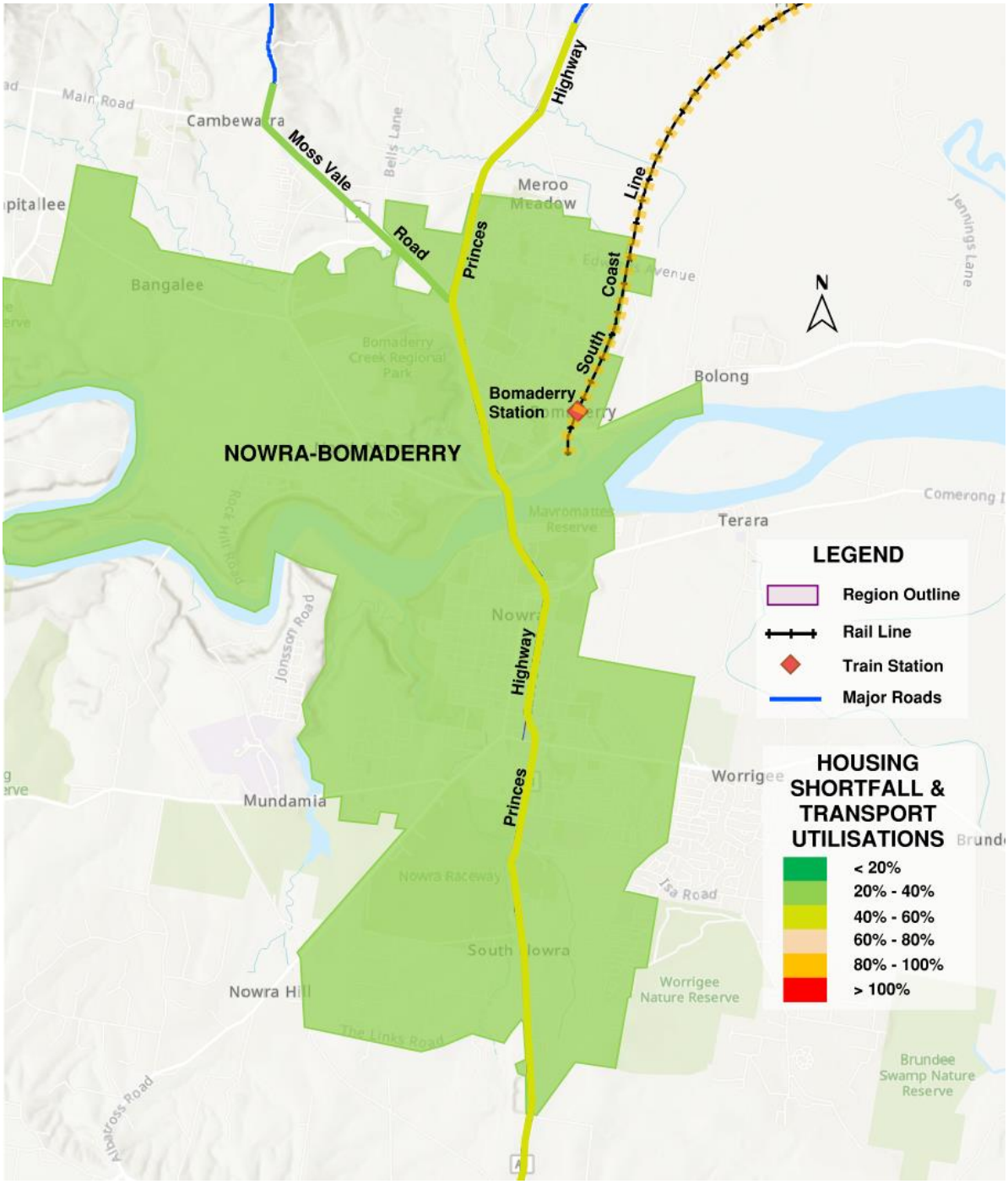


Figure 51: 2041 Nowra-Bomaderry Region Heatmap: Housing shortfall, Rail and Road utilisations.

7. Implementation of Framework

7.1 Scalability

The Infrastructure Gap Assessment Framework developed in this report demonstrates strong scalability across geographic contexts due to its modular structure and reliance on publicly available, standardized datasets. At its core, the framework integrates housing supply forecasting, transport demand and capacity analysis, and infrastructure gap identification—each of which can be adapted to different spatial scales, from postcode-level micro-assessments to state-wide or national strategic planning.

The housing supply component uses datasets such as ABS Census, NSW Planning dashboards, and ForecastID, which are available at multiple geographic levels (SA2, LGA, state). This allows the framework to flexibly adjust its granularity depending on the scope of the assessment. For example, in the proof-of-concept application to the Illawarra–Shoalhaven region, postcode-level data was used to assess growth areas such as West Lake Illawarra, Nowra–Bomaderry, and Bombo. Where postcode-level data was unavailable, SA2 and LGA-level proxies were used to maintain consistency and coverage. This approach ensures that the framework remains robust even when data gaps exist, and it can be scaled up or down depending on the availability and resolution of data.

Transport demand and capacity analysis similarly benefits from scalability. The framework applies Austroads and ATAP standards to assess road and rail performance using metrics such as volume-to-capacity (V/C) ratios and Level of Service (LOS). These metrics are universally applicable and can be normalized across different regions. In the case study, major corridors such as the Princes Motorway and South Coast Rail Line were assessed using traffic counter data and Opal card usage, respectively. These methods can be replicated in other jurisdictions using equivalent datasets, enabling consistent benchmarking of transport adequacy.

Why it Works Nationally

The gap analysis component compares forecast housing-driven transport demand against current and planned infrastructure capacity. This comparison is scalable through hierarchical prioritization. At the local level, it may identify needs for intersection upgrades or station access improvements. At the regional level, it can highlight corridor duplications or rail frequency enhancements. At the national level, it can inform strategic freight and passenger network investments.

7.2 Applicability of Public Data

The Infrastructure Gap Assessment Framework relies heavily on publicly available datasets, which enhances its transparency, reproducibility, and accessibility for government agencies, industry stakeholders, and community groups. This reliance on open data sources such as the ABS Census, NSW Planning dashboards, ForecastID, AIHW, and Transport for NSW's Open Data Hub ensures that the framework can be

implemented without the need for proprietary or restricted datasets, making it a cost-effective and scalable solution for infrastructure planning.

Interestingly, the application also revealed limitations in the granularity, consistency, and timeliness of public data. For example, traffic counter data was often incomplete or outdated, particularly in regional areas, with some stations providing only partial-year samples or lacking heavy vehicle classifications. Rail data was similarly constrained, with limited availability of rolling stock capacity and service frequency metrics outside major metropolitan corridors. These gaps required the use of proxy data and assumptions, such as applying standard Austroads design capacities and interpolating missing values using historical trends.

Despite these challenges, the framework demonstrated that public data can support robust infrastructure assessments when combined with transparent methodologies and critical reconciliation of assumptions. The use of standardised geographic units such as SA2 and LGA boundaries enabled consistent spatial analysis, while scenario modelling helped account for sensitivities such as interest rate fluctuations, construction cost shocks, and migration variances. These techniques allowed the framework to remain resilient and adaptable, even when data completeness was imperfect.

8. Recommendations

8.1 Housing

8.1.1 Current Government Interventions

Planning Initiatives

The NSW Government launched the Faster Assessments Incentive Program in September 2025, which will provide up to $200 million in infrastructure funding over three years, with the first round awarding $67 million to eligible councils that meet or show significant improvement in their development application (DA) assessment timeframes. This funding is a "carrot" to encourage Illawarra-Shoalhaven councils (and others) to speed up housing approvals and is tied to infrastructure and housing projects nominated by the successful councils.

Planning Changes

Shoalhaven City Council has aimed to explore whether tiny homes could be a viable solution to the region's housing crisis, focusing on affordability, speed of delivery, resilience and sustainability and diversity of housing options.

The Council commissioned a Tiny Homes Research Paper as part of its Affordable Housing Strategy, seeking to understand the current landscape and identify reforms needed.

Finalising the Affordable Housing Strategy did achieve some things. It formally recognised tiny homes as part of Shoalhaven's housing mix. It created a policy foundation for LEP/DCP changes to set clearer rules. It linked tiny homes to the 14,600 new dwellings needed by 2041, meaning they can count towards housing targets. It strengthened Council's advocacy platform to lobby for state-wide reforms and it set the agenda for education and pilots (fact sheets, compliance checklists, a Nowra pilot project) — though none have yet begun.

What it hasn't done is change anything on the ground: no new approvals, no dwellings built, no simpler rules. It is groundwork, not delivery however it's a great start at solving the housing supply issue at an affordable price point.

Zoning Changes

The Minns Labor Government's Low and Mid-Rise policy is set to deliver 112,000 homes across New South Wales over the next five years as the next stage of the policy comes into effect. The new reforms change planning controls within 800 metres, or 10-minute walk, around 171 town centres and stations to allow dual-occupancies, terraces, townhouses and residential flat buildings across metropolitan Sydney, the Central Coast, Illawarra-Shoalhaven and Hunter regions.

Without these changes, New South Wales risks becoming a state without a future because it's simply too expensive to put a roof over your head. The Low and Mid-Rise housing policy will reintroduce housing choice and diversity back into our communities, filling the "missing middle" between high-rise apartments and greenfield development.

Allowing these housing types to be permissible again will boost housing supply around transport and town-centres, improve affordability, maintain the character of an area and build better communities. In fact, the NSW Government has estimated that it's Low and Mid-Rise Housing Policy initiative has the potential to supply 112,000 new homes over the Housing Accord period.

8.1.2 Housing Recommendations from this Study

Increased Investment in Affordable Housing

Social and affordable housing reduces the incidence of homelessness and poverty, and alleviates the tenure insecurity associated with private renting, especially for vulnerable cohorts. It assists businesses and government service providers that rely on workers on low and moderate wages, and it fosters more cohesive, diverse and sustainable communities.

Increasing investment in social and affordable housing would help reduce homelessness and the associated costs to wellbeing, society and the economy. It would also improve workforce participation and have a net positive fiscal impact.

Improve Construction Sector Capacity and Productivity

Housing construction productivity has declined over the past 3 decades (Productivity Commission 2025a). Complex regulations, fragmented industry structure, low innovation and limited economies of scale have constrained productivity growth, acting as a handbrake on output in the sector.

Labour shortages can significantly delay project completion times and increase average workloads (Infrastructure Australia 2024). BuildSkills Australia estimates a further 90,000 workers are needed to deliver the 1.2 million homes target in the Housing Accord period (BuildSkills 2024). The Productivity Commission has also identified workforce flexibility as key to improving productivity in the broader sector (Productivity Commission 2025a). To build capacity in the construction workforce, governments should continue to invest in skills training for domestic apprentices, boosting the supply of construction workers through migration, and working with industry to increase workforce participation and labour productivity. Part of the shortfall in the construction labour force could be addressed by better targeting skilled migration pathways.

Apply Best Practice Principles to Planning Systems and Make Land Available

Land release, land use and planning approval requirements vary markedly across the states and territories and the hundreds of local governments that provide the planning consent authority. Complex and inconsistent planning systems are difficult for developers and builders to navigate, limit the ability of the sector to achieve scale, add

to the costs of housing by delaying approval times, and impede the implementation of development strategies. Best practice planning principles can increase the speed of development approval, making housing supply more responsive to demand.

The supply of land available for development can affect how quickly the sector responds to demand. Currently, land assembly is mostly left to individual developers, making them prone to hold outs by sellers and misaligned price expectations. Significant capital costs that cannot be met by the private sector also limit the available supply of developable land. As such, governments should play a greater role in assembling sites for housing development, particularly infill housing

Support Better Outcomes for Renters

Improving outcomes for renters is essential for a housing system that promotes an inclusive and prosperous society. Renters deserve access to affordable and secure housing. Renting is increasingly the only viable option for much of the population, with more than 30 per cent of households renting (ABS 2022a). This could be improved by providing increased subsidy for rental assistance, greater land release and rental market protections (i.e. max rental increase).

Ensure the Tax System Supports Housing Supply and Affordability

Tax settings have wide-ranging impacts on the housing system, affecting the demand, supply and affordability of housing. As noted in State of the Housing System 2024, taxes administered by Australian, state and territory, and local governments can influence the decisions of households and investors (NHSAC 2024). For instance, for households, tax settings can affect housing affordability and mobility. For developers, tax settings can affect project feasibility and housing supply.

Housing-related taxes or tax system features that affect housing include the capital gains tax (CGT) and CGT discount, the main residence exemption, income tax on rental income, negative gearing, stamp duty, land tax and council rates (NHSAC 2024). These should be reviewed by each jurisdiction to ensure outcomes are best placed to promote housing supply and affordability.

Prefabricated Building Practices

The Institute of Public Affairs (IPA) research claims that between 2014 and 2024, the time needed to build a house in Australia increased by 50 per cent and the cost of housing construction increased by 53 per cent. Further to this, housing approvals and net housing supply both fell by approximately 15 per cent. To combat these labour shortages and increased construction costs, construction methodology should be reviewed to leverage efficiencies.

Prefabricated homes are one option which offers significant benefits, including faster construction times, cost savings, and enhanced quality control due to factory-controlled production. They are also a more sustainable building method, generating less waste and improving energy efficiency, while still providing design versatility and suitability for various locations.

8.2 Transport

Digital Technology Implementation

Implementation of long-term traffic monitoring and rail usage monitoring software on the road and rail networks. This would feed into an integrated dashboard providing instant and long term analysis on the various transport networks. The results would better inform the future decisions of infrastructure upgrades.

Freight Infrastructure Upgrades

Given the Shoalhaven–Illawarra region's strong freight activity associated with its ports, targeted freight transport upgrades should be prioritised. Freight movements have a substantial influence on the capacity and performance of the public road network. Initiatives that shift or reduce heavy vehicle traffic, such as dedicated freight routes or rail freight enhancements, would deliver significant benefits for general traffic flow and improve network accessibility for local users.

Local Government Partnership for Local Transport

Incentivise or form a partnership with local government to increase the availability of local public transport routes and additions of bus only lanes. This would reduce the use of private vehicles on the main roads and would provide economical benefits to the region.

Train Station Improvements

Improve the station infrastructure, such as accessibility, lighting, aesthetical appeal, to encourage mode shifts from private vehicles. This is based on assumed adequate capacity of rail network.

Targeted Intersection Improvements

This analysis covered major roads and rail, however bottlenecks may be occurring due to the intersections along the routes. A review or consideration to metered ramp or intersection access to major roads is recommended as it reduces congestion.

9. Conclusion

The assessment undertaken through this study demonstrates the value of a structured, data-driven framework to identify and quantify infrastructure gaps impacting future housing growth and liveability across Australia. By integrating publicly available datasets, Austroads capacity standards, and regional planning forecasts, the Framework provides Infrastructure Australia with a repeatable and scalable tool for evaluating the adequacy of transport infrastructure relative to projected housing demand.

Applied to the Shoalhaven–Illawarra region as a proof of concept, the Framework revealed clear variations in growth dynamics and infrastructure performance across the three focus areas, West Lake Illawarra, Bombo, and Nowra–Bomaderry. West Lake Illawarra and Nowra–Bomaderry are forecast to experience rapid housing and population growth, resulting in capacity shortfalls in the road networks. The Princes Motorway, in particular, already operates beyond its design capacity and will face worsening congestion under future growth scenarios without targeted investment. Conversely, Bombo remains comparatively balanced, with strong transport capacity and moderate housing demand maintaining service levels in line with projected growth.

Housing affordability across the region is expected to deteriorate further, with price-to-income ratios exceeding sustainable thresholds by 2041. This, combined with significant housing shortfalls of up to 22% in some locations, reinforces the need for coordinated infrastructure planning that can unlock developable land and support higher dwelling densities in suitable areas.

The outcomes of this proof of concept highlight that well timed infrastructure investments will be critical to unlocking constrained housing supply and sustaining liveability in high-growth regions. Importantly, the Framework's design allows it to be scaled nationally, enabling Infrastructure Australia to replicate the process across other metropolitan and regional centres.

Future refinement of the Framework should focus on integrating real-time datasets, refining freight and multimodal transport modelling, and improving alignment with housing pipeline data from state planning authorities. With these enhancements, the Framework can evolve into a powerful national monitoring tool to guide prioritised infrastructure investment, ensure policy alignment across jurisdictions, and foster more coordinated, data-driven decision-making to address Australia's housing and transport challenges.

9.1 Lessons Learnt

9.1.1 The Power of Structured Thinking

We learnt how a clear, repeatable framework can cut through complexity. By breaking down housing and transport challenges into scalable components, we saw how engineering logic can bring clarity to policy and planning problems. It reminded us that good engineering isn't just about solving technical issues, it's about designing systems that others can use and trust.

9.1.2 Data Isn't Just Numbers

Working with public datasets taught us how data can drive decisions at the highest levels. We saw firsthand how transparent, evidence-based analysis can shape national infrastructure priorities. It reinforced the importance of being rigorous and honest in our work, because the conclusions we draw can have real-world impacts.

9.1.3 Engineering Is About People

Behind every housing shortfall or transport bottleneck are real communities. This report reminded us that our work affects liveability, affordability, and access. It's easy to get caught up in metrics and models, but we must always ask: *Who are we designing for? What does this mean for the people who live here?*

9.1.4 Adaptability Is a Core Skill

We had to pivot between granular postcode-level analysis and broader regional forecasting. This taught us to be flexible in our approach—adapting tools and methods to suit the scale and context. It's a skill we'll carry into future projects, especially as data availability and policy settings evolve.

9.1.5 We're Not Just Problem-Solvers

This project challenged us to think beyond immediate fixes. We had to forecast, model scenarios, and anticipate future constraints. It showed us that engineers have a strategic role to play in shaping long-term infrastructure outcomes, not just responding to short-term needs.

9.1.6 Communication Is as Important as Calculation

Translating complex findings into clear, visual insights was a key part of this work. Whether it was heat maps, dashboards, or summary tables, we learnt that how we present information can determine whether it gets understood, accepted, and acted upon.