

Digital Public Infrastructure for Driving National Housing Policy Efficacy and Outcomes

Australia's housing crisis is complex and systemic. While policy settings vary across jurisdictions, the operational reality of housing delivery sits across multiple sectors. Fragmented data, inconsistent planning systems, and limited cross-government coordination can further exacerbate the challenges.

Overview

The 2026 *Digital Public Infrastructure for Driving National Housing Policy Efficacy and Outcomes* report identifies a critical missing capability: Shared digital public infrastructure (DPI) to support housing policy, delivery, monitoring and coordination in Australia.

The report explores how DPI can improve housing policy outcomes in Australia by addressing systemic coordination, data, and capability gaps across governments. It highlights that the housing crisis is not simply an outcome of constrained supply, but the result of deeply interconnected structural, economic, and institutional factors that sit across all levels of government.

Key Challenges

Local Government insights highlight that housing challenges stem from a combination of economic incentives, infrastructure constraints, labour shortages, and cultural expectations about housing. These pressures are compounded by fragmented systems, inconsistent data, and a lack of shared understanding of what successful housing outcomes look like. Operationally, councils vary widely in capability, with many lacking access to consistent tools, data, and modelling platforms. Observability is also limited, with siloed datasets and weak real-time visibility of housing dynamics. Strategically, policy is often developed without sufficient coordination or local feasibility input, resulting in inefficiencies, duplication, and unintended negative consequences.

Research Approach

The research, conducted by Pia Andrews and Lisa Bennetto, involved interviews with 61 stakeholders across government, industry, and academia, supported by desktop research and international insights.

What is DPI?

DPI is defined as foundational, shared digital systems designed to support public outcomes at scale. Unlike isolated digital tools, DPI enables interoperability, reuse, and coordination across jurisdictions. It includes capabilities such as shared data platforms, modelling systems, and digital representations of policy.

Benefits of DPI

DPI offers several key advantages for housing policy. It can provide a shared evidence-base across governments, enabling better coordination and reducing duplication. It improves observability by creating real-time visibility of housing systems and outcomes, while also strengthening policy design by enabling scenario testing and modelling before implementation. Importantly, DPI supports a shift from fragmented, localised approaches toward scalable, system-wide solutions that can deliver more consistent and effective housing outcomes nationally.

DPI Recommendations

This research proposes twelve priority DPI capabilities to address systemic housing challenges at a national level.

TWELVE RECOMMENDATIONS

Digital Housing Policy Twin

A shared reference implementation of housing legislation, regulation and other rules as code to consume, automate compliance, cooperative modelling, scenario testing and to monitor policy efficacy and impact.

Housing DEX

A shared data and analytics commons for relevant data for planning and housing with a shared high value analytics layer available to all contributors.

Growth and Economic Modelling Platform

A persistent platform for Local, State/Territory and Federal Governments to do growth and economic modelling.

Populations for Planning

A supplement dataset to the Census that represents transient and missing populations for planning, and real-time population movement.

BuildMe3D

A public 3D tool for designing building plans that can validate compliance checks pre-submission.

National Liveability Standard

Defining a clear national minimum housing liveability standard (with reference implementation), measurement framework and monitoring approach to liveability of new construction.

AI Housing Sandbox

A shared set of AI platforms/ environments to test different AI, and complement solutions with technical guardrails for housing

Affordable materials for affordable housing

Pathways for novel solutions and methods like industrial 3D printing, material recycling, Modern Methods of Construction (MMC), cruise ships, etc

DwellingID

A national housing register with unique identifiers for stock, providing a shared and common data spine for analysis and a history of change.

Housing Knowledge and Innovation Hub

A website for case studies, reports, solutions or ideas for improving housing outcomes for reuse and visibility.

Common State/Territory planning portal(s)

Common State/Territory planning portal(s) for submitting, managing and analysing building applications, trends and patterns of behaviour in real time.

National Infrastructure Register

A National Infrastructure Register including underground/overground existing and planned infrastructure for improved planning and coordination of housing.

These recommendations focus on scalable, system-wide interventions that address underlying structural constraints rather than short-term symptoms. For further detail, implementation concepts, and case studies, refer to unsw.to/HAL.

