# Costing social and affordable housing delivery across Australia

Prepared for the

**Community Housing Industry Association**

by

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and

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CHIA NSW, CHIA SA, CHIA Victoria, Q Shelter, Shelter TAS, and Shelter WA.

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# 1. Introduction

This report was commissioned by Community Housing Industry Association (CHIA) to better understand:

1. the subsidy requirements to meet the need for social and affordable housing under different project types and market contexts; and
2. the impact of different policy choices on government subsidy requirements.

Part 1 of this work, summarised in the text box below, quantified Australia's unmet housing need (van den Nouwelant 2022). Based on the profile and distribution of this need, this report analyses the costs and subsidy requirement to meet that need. Specifically, this report addresses two questions:

1. the estimated costs of delivering social and affordable housing into different housing markets; and
2. the resulting 'subsidy gap' between the cost of delivering the needed housing and the potential income it generates through tenant payments and other sources of income.

This costing takes on a needs-based approach and situates this need in different geographic contexts. In other words, what it costs to deliver housing where it is needed. This contrasts with finance- or funding-first approaches that underpin social and affordable housing delivery across much of Australia.

Seven key messages arise from the analysis presented in this report:

- Government subsidy is required to support the delivery of social and affordable housing under any funding model.
- Different funding models can only change to the size of the subsidy gap required and cannot fundamentally alter the revenue base for projects.
- Up front capital funding models offers the most cost-effective pathway for social and affordable housing delivery, though may place limits on number of dwellings delivered over the short term.
- In the context of limited funding packages and uncertain future government policy, spreading subsidy payments over time may support the delivery of more dwellings in the short term, at the expense of fewer dwellings over the long term.
- Commercial capital increases the project costs and therefore size of the funding gap.
- Subsidy gaps vary considerably across the country and any funding program needs to be differentiated by housing market context.
- For-profit delivery models are the least cost-effective approach to supporting delivery of social and affordable housing.

## Australia's unmet housing needs

- Based on census counts, some **640,000** households were in need of social or affordable housing in 2021. On household growth models, this passes **940,000** households by 2041.
- **68%** of the unmet need stemmed from very-low-income households (bottom quintile by income and household type) experiencing rental stress or homelessness; **32%** from low-income households (second bottom quintile).
- **48%** of unmet need was for families with children; **16%** for couples and other adult groups; **24%** for single person households; and **12%** from those experiencing homelessness.
- Unmet housing needs were evident in all parts of the country: with **65%** in the capital cities, and **35%** in the regions.

# 2. Background to modelling

The modelling in this report is based on the Affordable Housing Assessment Tool (AHAT), which was developed as part of AHURI-commissioned research (Randolph *et al* 2018). This project level feasibility assessment tool was further developed as part of further AHURI and CHIA commissioned research (Lawson *et al* 2018; Troy *et al* 2019), to estimate costs of a national social and affordable housing program designed to meet current and project need for social and affordable housing.

AHAT is a cash flow model, taking account development costs for different dwelling types, operating costs and revenues based on the mix of households identified as being in need of housing (see van den Nouwelant *et al* 2022), all of which can be adjusted as model inputs. Each of these sets of inputs are location specific based on Statistical Area Level 4 (SA4) aggregations across Australia, a scale that approximates labour, and so housing, markets.

Van den Nouwelant et al (2022) estimated the volume of housing need across Australia broken down into two income quintiles. Based on income values, Q1 households represents a need for what is typically considered *social housing*, while Q2 households represent a need for *affordable housing*. The modelling presented in this report uses the needs estimates across both quintiles and used median income figures for the entire cohort. Estimates of rents payable were based on 30% of the median income across this cohort.

Households identified as being in housing need were also broadly assessed for their eligibility to receive Commonwealth Rent Assistance (CRA), based on reported incomes and rents at 2021 census. Minimum CRA payment rates were assumed, but the full amount of CRA is accrued to the operating revenue stream, consistent with CRA maximisation strategies that the community housing sector operates under.

Development costs were based on Rider Levett Bucknall Riders Digest (RLB 2022) and Rawlinsons Construction Costs guides (Rawlinsons 2023). Each SA4 was indexed against geographic construction cost loadings published in the Rawlinsons Construction Cost Guide. A further 20% cost loading was applied to these figures to account for volatility in construction costs since their publication, and reflect the generally higher costs, as reported by community housing providers.

Cost and revenue elements were validated with various community housing providers operating across the country. Figures used in this report represent an typical experience at project scale, to increase the accuracy of cost estimates across a program of house building. These interviews demonstrated, however, a diverse range of often very specific contexts that CHPs operate in, producing diverse costings and operating expense outcomes. The following section presents the modelling in a manner that can demonstrate the impacts of this diversity and discuss particular issues raised that impact different aspects of a project.

The main output of the model is the total subsidy requirement (subsidy ‘gap’) on a per dwelling per annum basis, assuming a 25-year timeframe. The 'dwelling’ is an average size, based on household need, with the typology (apartment, unit, house) driven by local context. Details of the modelling assumptions are described within the report, and summarised in the Appendix 1. A full description of the methodology and model is contained in Lawson *et al* (2019).

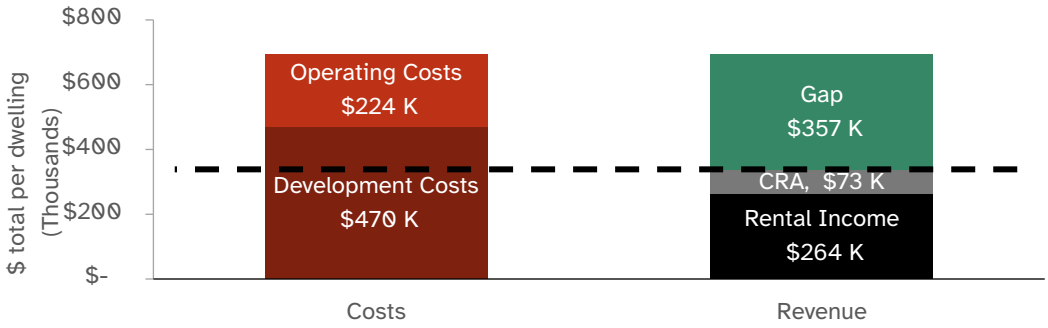
## Overall cost of meeting housing need

- Meeting the need of **940,000** households by 2041 would require and investment of between **$18 billion** and **$42 billion** per year for **20 years**.

# 3. The modelling process, and limitations

This report uses a cash flow model that quantifies the costs and revenues of building a unit of housing and then renting this housing to a tenant at an affordable price over an extended period. This means that, on the one hand, there are costs for building a dwelling, maintaining a dwelling and managing a tenancy, and, on the other hand, revenues from tenant rent. Figure 1, below, compares estimates for these costs and revenues, for housing those most in need of housing support, as a cash balance over 25 years. Importantly, this figure shows that, at a basic level, a funding gap exists because rental income that is affordable to such tenants never covers costs.

*Figure 1: comparison of costs and revenues of an average social housing unit, across 25 years*




In practice, the size of this gap will vary, depending on different costs and revenues. In some cases, the variation is a function of context – construction costs of apartments are higher than houses, for example. The modelling accounts for this with context-specific inputs. In some cases, though, the variation is a function of the project itself – construction costs differ between specific proponents/consortia in a given context. The modelling does not account for this variation, and uses typical inputs for various costs and revenues for a given context. The next section, however, highlights the sensitivity of the 'subsidy gap' to such variation.

Importantly, for a given project in a given context, the size of the subsidy gap is also dependent on how subsidy is made available by government, and the consequent impact of other risks and interventions across different components of the model. Previous research by Randolph et al (2018) identified that social and affordable housing projects are delivered in practice – that the subsidy gap is filled – through multiple layers of subsidy: grants, land, cheaper finance, availability payments, etc. Randolph et al (2018) did not find that there was an intrinsic benefit to layering, rather it was a by-product of the variable policy context in which programs operated.

The final section of this report explores the relative impacts of policy choices, in terms of how subsidy can be injected into a project. The other variables are, though, held constant between those choices. That is, inputs are common across the different scenarios, in terms of construction costs, tenant rents, etc.: different policy choices do not alter that basic costs of construction or revenue. There are, however, dimensions of policy decision making, outside the scope of the modelling in this report, that are important to understand.

### 'Cost to government' is different to cost of policy.

As demonstrated in Figure 1, whatever procurement or delivery model is adopted, meeting housing needs requires a subsidy that will have a cost to government. The modelling presented here does not take into account how this funding is sourced by government, only which policy decisions affect the extent of funding required. This is typical when costing government policies. For example, funding could be sourced through tax revenues, cuts to other programs, 'ring fenced' dividends of an investment fund, or raising bonds and so government debt. Any such 'cost to government' attached to broader decisions of government could apply equally to any of the public and private financing and procurement methods presented in this report.

### Political prudence is different to fiscal prudence.

There is legitimate concern that future governments may change the funding landscape or cancel funding altogether. This concern translates to whether to establishing a funding program delivered through the investment fund vehicle is more appropriate than a program delivered through normal budget spending priorities. Relatedly, there is concern about whether a program forms part of recurrent expenditure and accounted for through normal budget cycles or funded 'off book' through alternate means. These decisions are outside the scope of this report. However, the analysis presented in this report helps frame the trade-offs being made through the allocation of scarce government resources.

### The timing of funding for government is different to timing for a project.

This report is intended to provide context for ongoing discussions about the nature of the Housing Australia Future Fund (HAFF) funding package. It is important to note that outlining differences between upfront project funding and ongoing availability payments is not the same as suggesting funding should be delivered through HAFF or some other method. It is merely about the timing of payments for the project. The funding available at a given point of time, from a government expenditure perspective and whether from HAFF dividends or other sources, could equally be made as payments at the beginning of a project or smaller payments over a longer timeframe for a project. This latter difference has implications for the timing of the delivery any housing, but equally for the size of the funding gap, as outlined in this report.

### Project-scale efficiency is different to program-scale efficiency.

As noted, the report identifies costs based on meeting housing needs across different contexts. However, the modelling is not contingent on a specific scale of funding. The scale of funding could have a bearing on the resultant funding gap: a steadier and larger construction program could increase procurement efficiency and access to lower costs of capital, for example. This parallels the efficiencies that individual proponents/consortia might have, as noted above, and which should be maximised through tendering, at whatever scale funding is available. As noted, the approach in the modelling has been to reflect typical existing construction costs, sources (and so costs) of capital available to proponents/consortia across the different market and jurisdictional contexts. This is to ensure needs can be met in more expensive contexts (remote Northern Territory, for example) in a program of finite scale, despite a competitive tender likely demonstrating project efficiencies in other markets.

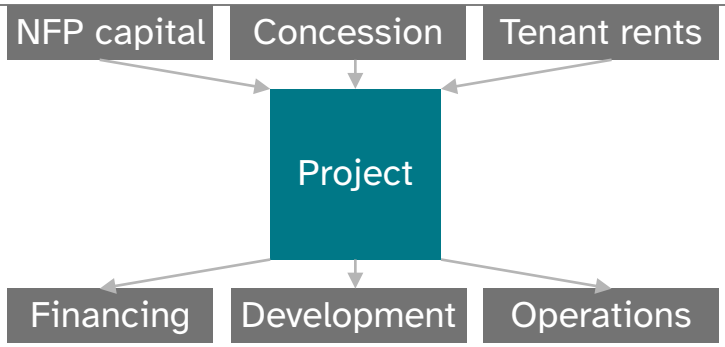
### Private sector financing is different to private sector construction or operation.

In so far as development costs have the potential to vary across sectors, the modelling is agnostic about who builds and, to some extent, operates the projects. Upfront capital models do not assume government delivered and operated housing, though this is possible. And, conversely, leveraging private sector finance does not assume greater access to perceived or real efficiencies of private sector construction or operations. Dwelling construction costs are based on current quantity surveying guides, predominantly drawn from the experiences of private sector builders.

Who would ultimately deliver the program is distinctly different from how government funding is delivered, which is the main focus of this report. There is nothing intrinsic to funding parameters that require housing to be delivered through public or private sectors. However, it is likely that, consistent with current practice, private sector building companies would complete the building through contracted arrangement with the community housing sector who then operate over the long term. In respect of ongoing management and operation, this assumption factors in tax benefits and typically smaller operating surplus 'margins' of the NFP sector.

Relatedly, the distinction in the 'for-profit' delivery model presented at the end of this report is the role of a developer, not builder. In that model, there is a profit overlay on projects, over and above the builders' margins present in all models.

# 4. Project variables




As outlined in the background section, above, the model balances project financials by calculating its 'subsidy gap'. This gap is filled with a 'concession payment', also called an availability payment or operating subsidy, depending on the specific arrangement between the government and the infrastructure providers. The concession payment is presented as an average annual payment per dwelling, paid – unless specified – across 25 years.

The baseline model, fully explored in the next section of the report, finds that a program designed to meet the identified unmet housing need across Australia has an average subsidy gap of $24.2k. That is the average annual concession payment (made for 25 years) to fund the delivery of each dwelling in a social and affordable program, to meet current and projected unmet housing needs.

This section unpacks the variables in the model that affect the feasibility of a social housing development project. It is organised around a stylised project structure (shown in the graphic above), and demonstrates the sensitivity of the model outputs to each of these different variables:

- Three sources of project income:
  - (upfront) NFP capital,
  - concession payments,
  - tenant rents (operating revenue)
- Three sources of project costs:
  - financing costs,
  - development costs,
  - operating costs
- Locations (market context)

The impact on the concession payment is modelled across a possible range of possible rates/values for each identified variable, by holding the other variables at a 'typical' constant. This enables a comparative presentation of the sensitivity of the subsidy gap to each variable.

## NFP capital

***If NFP capital goes up, the subsidy gap/concession required goes down.***

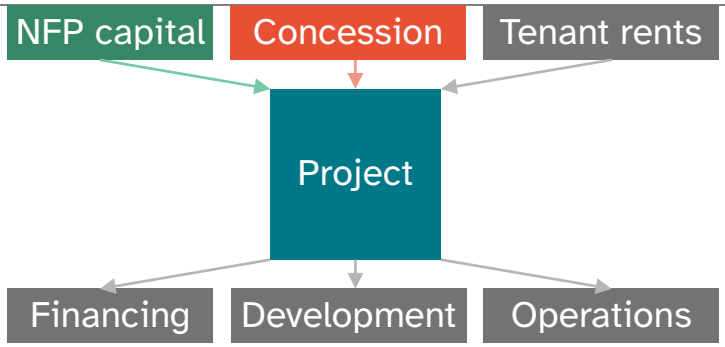
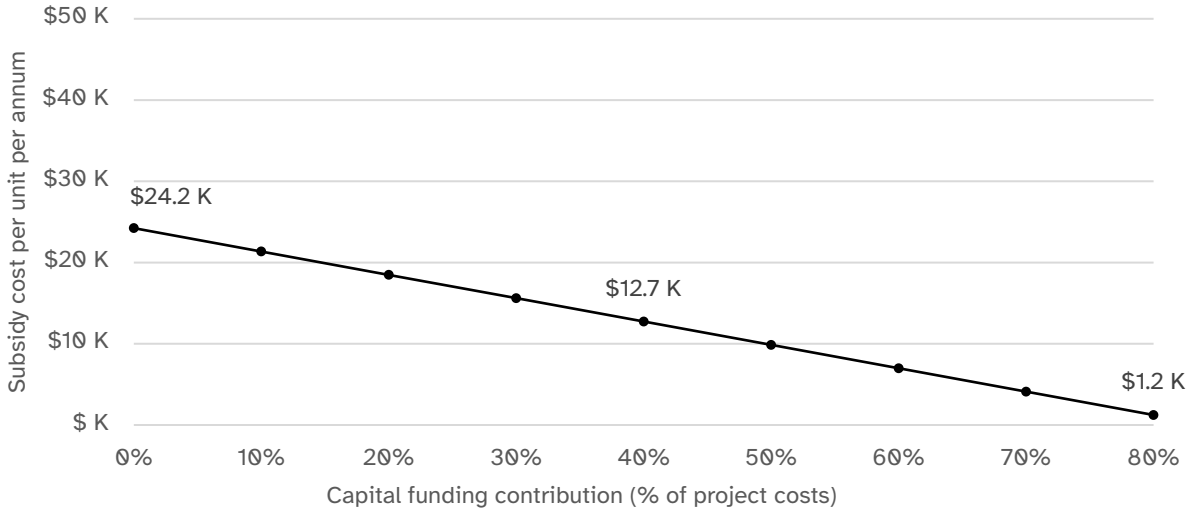



*Figure 2: Impact of capital funding on availability payment requirements*




By increasing the upfront NFP capital available for a project, the proportion of the costs that are covered by commercial capital is reduced. Unlike commercial capital – whether debt or equity – NFP capital does not require a 'return on investment'. Without debt to service (or an equivalent return on equity), a lower concession payment is needed during a project's operations.

**Grants:** Upfront cash grants, sporadically available under various state or federal government programs, represent a direct reduction in the need for commercial capital. The availability of such grants is not uniform or consistent year on year, and in most jurisdictions no grants are currently available. Tenant rents can cover operating costs and, on average, 16% of development costs. So, NFP capital of approximately 84% of development costs removes the need for a concession payment (just beyond right end of Figure 2). Where an upfront grant is provided by a government that would otherwise provide the concession, it is equivalent to a concession payment being paid out in a single year (described below).

**CHP funds:** Although not common, a CHP, through philanthropic donations or similar, is sometimes able to bring upfront capital to a project. Again, unlike commercial capital, there is no expectation of a 'return' on these funds during operations. CHPs can also raise capital by selling some dwellings in a development, similarly reducing the debt carried into operations. Separately, CHPs can raise project capital through other loans (e.g. a business loan based on operating surplus). But CHPs would then have higher operating costs, to service debt as well as to cover costs of delivering operations (also described below).

**Land:** Like cash grants, the provision of land, particularly land from all tiers of government, represents a significant capital input. It is also possible for land to be made available, without cost or expectation of return, from non-governmental sources. This includes land owned by NFPs or land allocated through planning systems (e.g. through various forms of inclusionary zoning). Providing land is calculated to reduce development costs by 40% in some markets. Excluding land costs reduces the required concession payment, on average across Australia, by about 20%.

# Tenant rents

***If tenant rents go up, the subsidy gap/concession required goes down.***

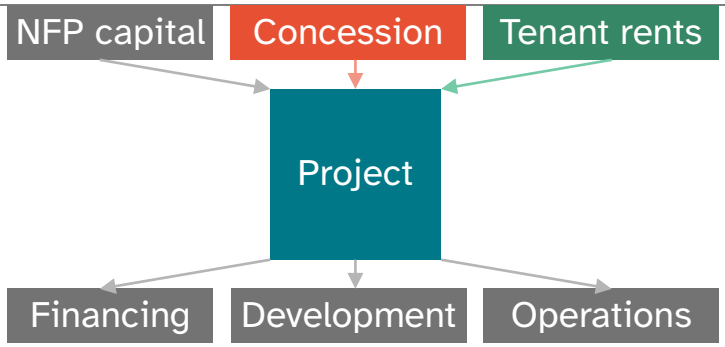
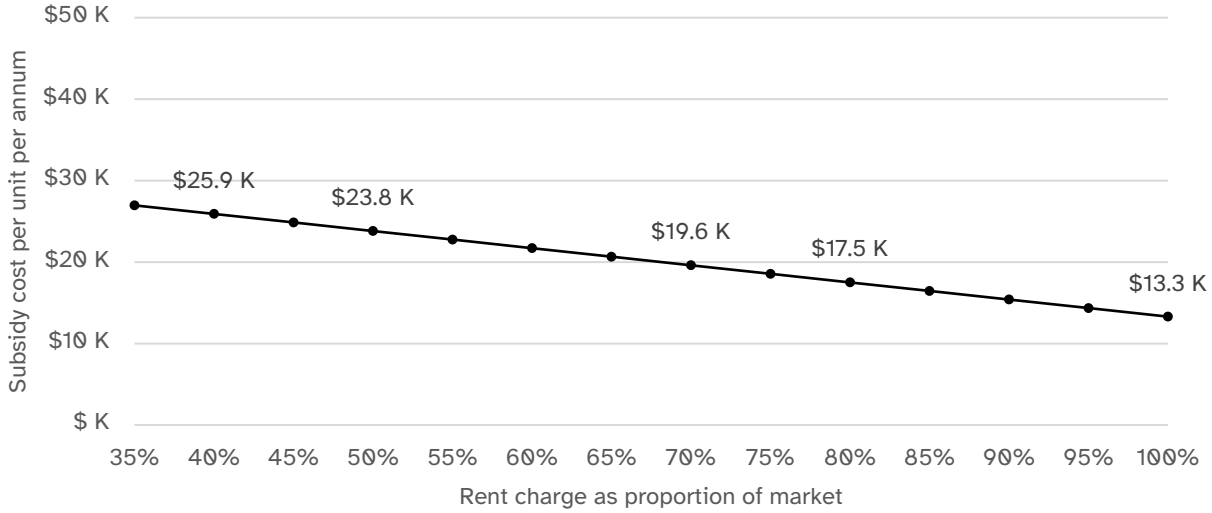



*Figure 3: Impact of tenant rental payment rates on availability payment requirements*




There are two sources of revenue during project operations: an 'end user' contribution and any concession payment. The end user is the tenant, and their contribution is the rent they pay. If more rent is payable, the end user covers a larger share of costs, and so the required concession payment is lower. Note that incomes in CHP housing often includes government support payments like CRA. Increasing CRA, when it flows through to CHP project revenue as higher tenant rents, is equivalent to increasing a concession payment.

**Targeting need:** The rent payable by tenants, in the case of social housing, is typically set at 25-30% of income. Based on 30% of tenant income, the rent payable by the population with identified unmet housing needs (from van den Nouwelant *et al* 2022) equates to revenue of 41% of market rent for the lowest quintile, 69% of market rent for the second-lowest quintile and 48% of market rent across the two quintiles combined. As a result, the required concession payment is, on average, $6k higher for developments targeting lowest quintile tenants, compared with developments targeting tenants in the second lowest quintile.

**Market-tethered:** Alternative definitions of 'affordable housing' assume that all units can generate a fixed proportion of market rent. For CHPs, this is often 75% of market rents (reflecting their charitable status). And properties rented up to 80% of market rent had access to NRAS operating subsidies. This higher rental revenue does decrease the needed concession payment, however it means only a small proportion of those in need of social housing would be able to afford the rent.

**Cross subsidy:** Projects can also increase rental income by incorporating a component rented at market rates, including social housing units that revert to market rents after a fixed period. This means, however, less social housing is provided through a project. Revenue from market sales within a CHP development, as mentioned above, are equivalent to other NFP capital. Note that limited rental yields means, on average across all markets, market-rate (build-to-rent) development would still need a subsidy to be cost neutral: it is not feasible in many markets.

# Financing costs

***If financing costs go up, the subsidy gap/concession required goes up.***

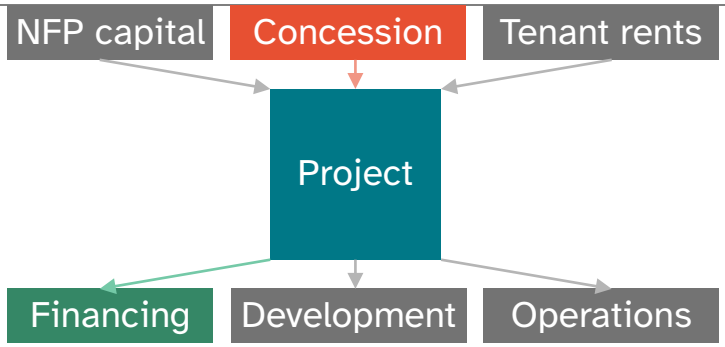
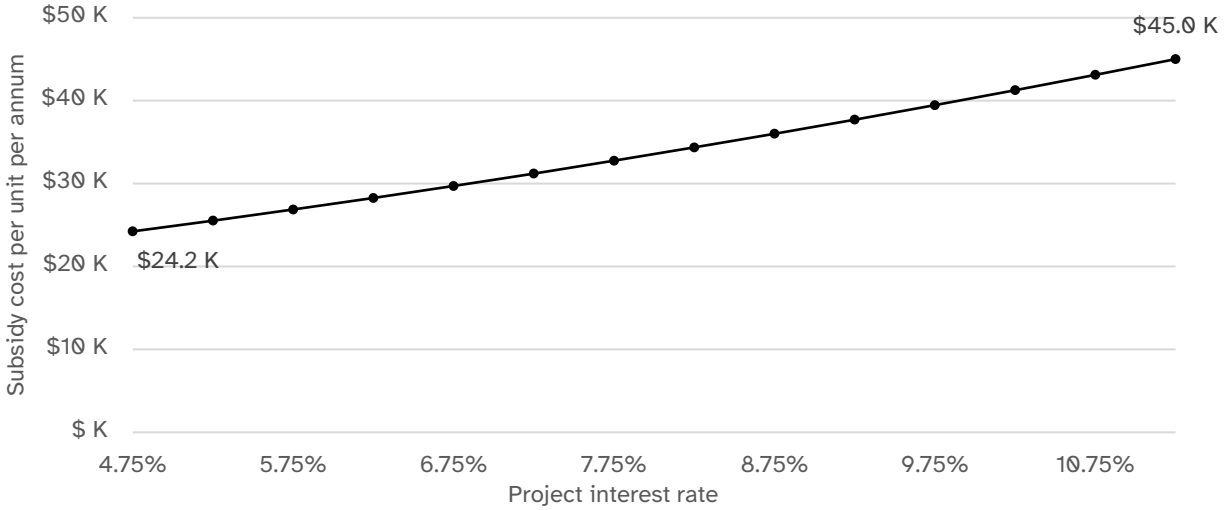



*Figure 4: Impact of interest rates on availability payment requirements*




In the absence of NFP capital, described above, projects will be financed with debt or equity. This is expected to generate a return, typically calculated as an internal rate of return (to enable comparison between different investments that generate returns over different periods).

The rate presented here, in contrast, is the 'cost of finance' for the project, expressed as percent of the value of commercial capital provided (akin to an interest rate on a loan, and described as such in the chart above). It is the net rate for a project, which is, in turn, based on different sources of finance with different expected returns made available for different proportions of project costs.

**Housing Australia:** The availability of low-cost finance, through Housing Australia (HA), is a key mechanism to reduce the cost of finance. This lower rate is made possible by HA's for-purpose lending remit, and by aggregating debt payment commitments of multiple projects into a single, lower-risk, bond, backed by government guarantee. The default rate used in the modelling – 4.75% – is based on an approximation of rates available through HA. This represents, roughly, a discount of 3-4 percentage points from typical quoted commercial rates. The concession payment required for projects financed entirely at commercial rates is about $10k, or 40%, higher than one financed entirely through HA.

**Risk:** Outside HA, cited costs of project financing varied significantly. Project-to-project, it is largely a function of risk to the investor/lender. Lower risk projects will be more highly 'geared', that is financed through debt, which costs a project less than equity or subordinate/unsecured debt. Aspects of a project's capital structure that increase risk, and so cost of capital, include project scale, construction complexity and potential delays, exposure to volatile property markets (through market sales or rents), higher loan to value ratios (less capital or equity), and lower debt service coverage ratio (higher operating costs or lower operating revenues).

**Refinancing:** Projects will typically be refinanced after seven years (or some other term less than the concession period), at which point there is also a risk of the cost of financing going up (depending on potential investment returns at that time).

# Development costs

***If development costs go up, the subsidy gap/concession required goes up.***

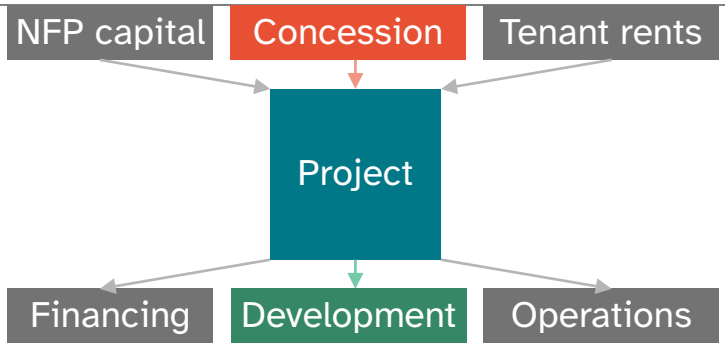
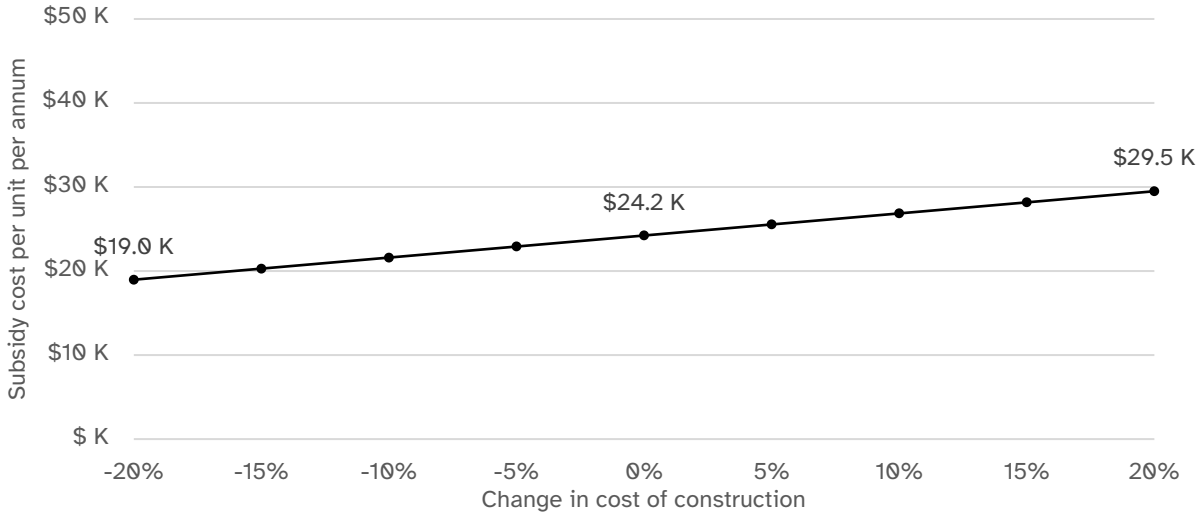



*Figure 5: Impact of change in construction costs on availability payment requirements*




Development costs comprise land costs and construction costs. Although the modelling endeavours to reflect market conditions for both these variables, a high degree of variability, and volatility, was reported in estimates for these costs.

**Location:** The cost of land purchased on the market is highly variable by location, discussed under 'market context' later in this section. Of relevance here, construction costs also differ by location, with remote areas having higher costs overall, reflecting supply chain and labour market difficulties.

**Dwelling type:** As outlined in the 'background' section above, construction costs are based on quantity surveyor estimates. The costs per dwelling differ depending on the building typology, with larger apartments in low-rise complexes costing more per dwelling and detached single dwellings costing less (see Appendix 1 for dwelling assumptions).

**Inflation:** The rate at which construction costs increase over time has proven to be particularly difficult to estimate at the time of analysis. The 20% cost loading was added to even recently published QS estimates, with CHPs reporting construction costs being around 25-30% higher than a year ago. There are also evident differences in inflation, with more complex trades associated with apartment construction escalating faster than detached dwellings.

**Funding requirements:** Another source of construction cost variability relates to meeting requirements of funding or financing providers, particularly requirements for locally sourced materials and suppliers accredited against 'social procurement obligations'. These obligations are not universal across jurisdictions, and there is ongoing discussion about future applicability.

**Supplier specifics:** Even in a given location, land and construction costs vary project to project. The chart above shows how sensitive the concession payment needed is to relative changes in construction costs, with 20% higher construction costs increasing the required payment by around $5k, or 22%.

# Operating costs

***If operating costs go up, the subsidy gap/concession required goes up.***

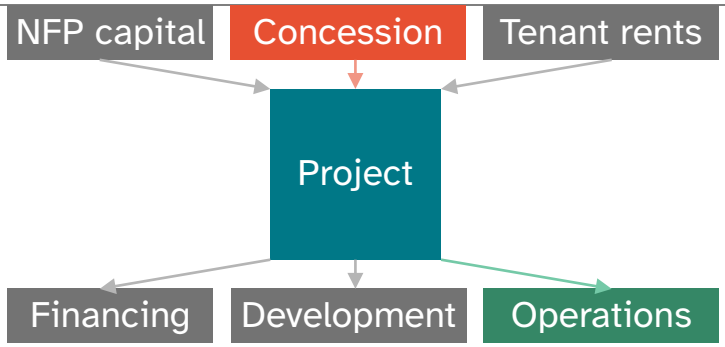
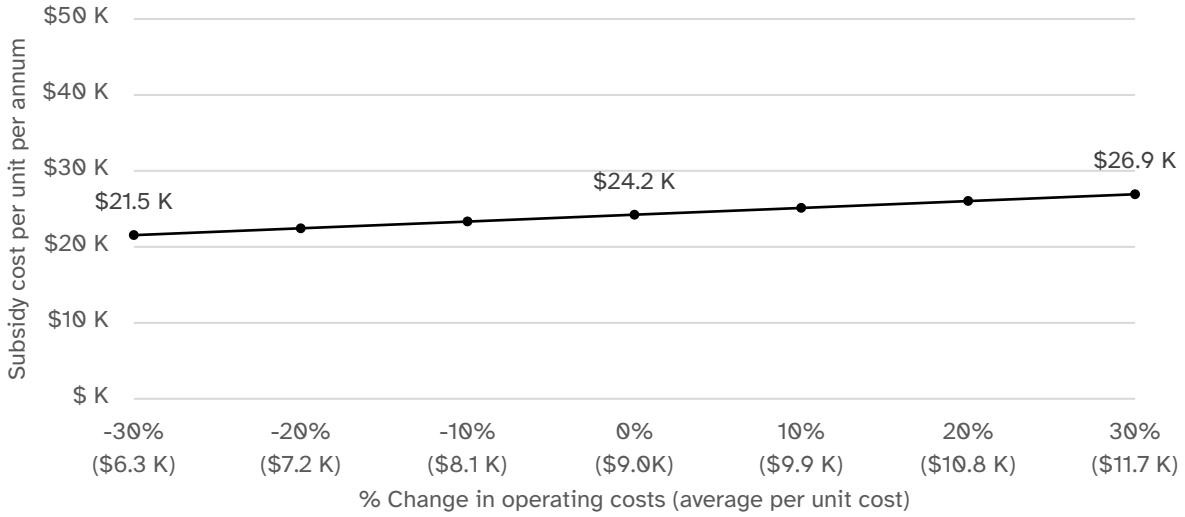



*Figure 6: Impact of operating costs changes on availability payment requirements*




Tenant and building management will often be provided by the project 'owner'. However, it is stylised here as separate cost – effectively a fee for services – to enable the impact of operating costs on the subsidy gap to be quantified. Operating costs include maintenance and repairs, bad debt and vacancy, insurances, taxes and management fees (see Appendix 1). The benchmark rate of $9k per dwelling is used in the modelling based on various estimates reported by CHPs. Of note, the subsidy gap is less sensitive to changes in operating costs – with a 30% increase in operating costs increasing the required concession payment by $2.7k, or 11%.

**NFP:** Management services provided by CHPs offer financial benefits over for-profit building and/or tenancy managers. This includes access to tax benefits available for NFPs and charities, and the absence of any profit margins on fees and services. As noted above, CHPs do sometimes borrow against their revenues, which, if passed along, could add to the project costs through higher service fees. Also, CHPs are often expected to fund a wider set of 'wraparound' services for tenants. Whilst improving the outcome of the projects, it can also increase the operating costs.

**Market risks:** Vacancy rates and bad debt are low for social and affordable housing, although in some limited circumstances delays in tenants being assigned from public wait lists can increase vacancy (NRSCH 2022). When a project incorporates market rentals, the vacancy/bad debt costs are potentially higher, and also more variable by market context (although they are modelled uniformly here.)

# Payment timing

***If payments are brought forward, the overall subsidy gap/concession required goes down.***

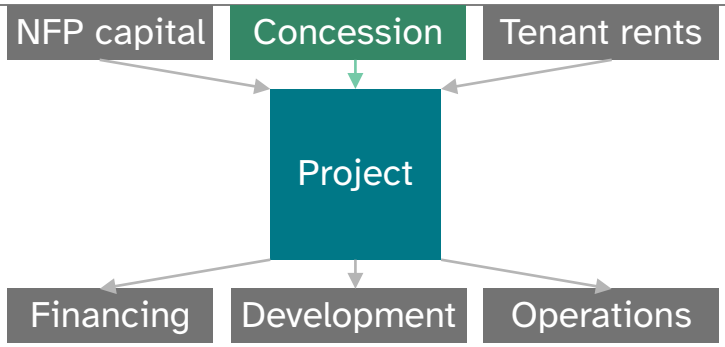
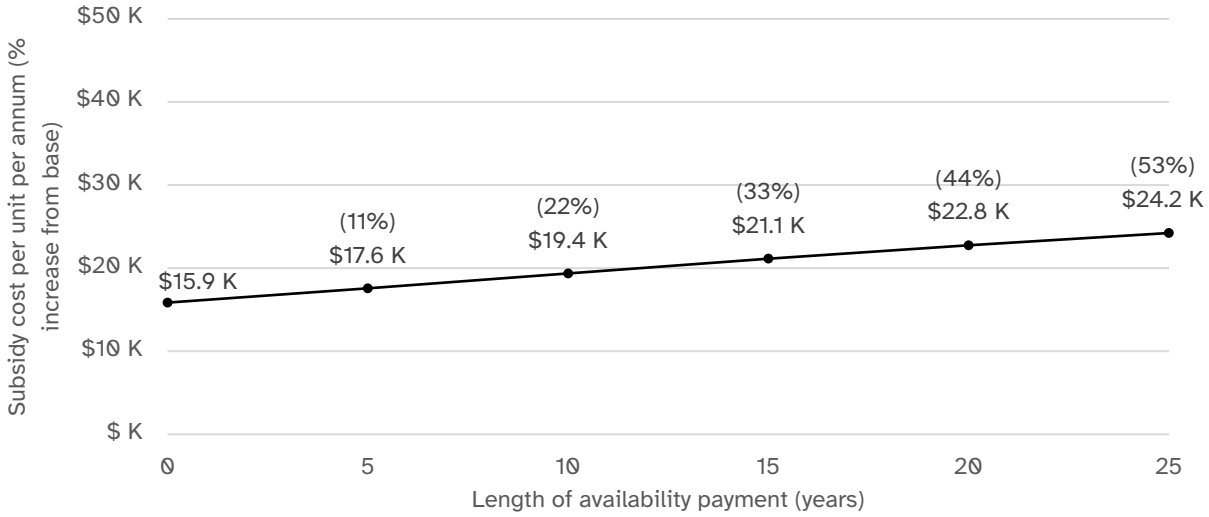



*Figure 7: Impact of time on availability payment requirements*




The modelling assumes concession payments are made over 25 years. However, bringing the timing of concession payments forwards can reduce the overall subsidy needed. This is primarily because paying down debt, or buying out equity, sooner reduces financing costs. It amounts to a significant difference in subsidy, even when lower HA financing costs are applied.

As mentioned, paying “25 years’ worth of concession” in the first year is the equivalent to a capital grant. To be clear, the capital grant is not $15.9k, but 25 times this. Compared to this, 25 payments of $24.2 is a 53% increase in subsidy required. As such, if a delivery program is based on a dwelling delivery target, capital funding is more cost-effective.

The trade-off, however, is when a delivery program is based on a fixed amount of funding. In that case, for a given spend, it takes longer to deliver dwellings: subsidising 25 dwellings over 25 years will deliver 25 dwellings in the first year. Subsidising each dwelling for one year over the 25 years means the 25$^{th}$ dwelling is only delivered in the 25$^{th}$ year. This is a basic tenet of leveraging financing, rather than direct funding – the service, despite being more expensive, can be provided before it needs to be paid for.

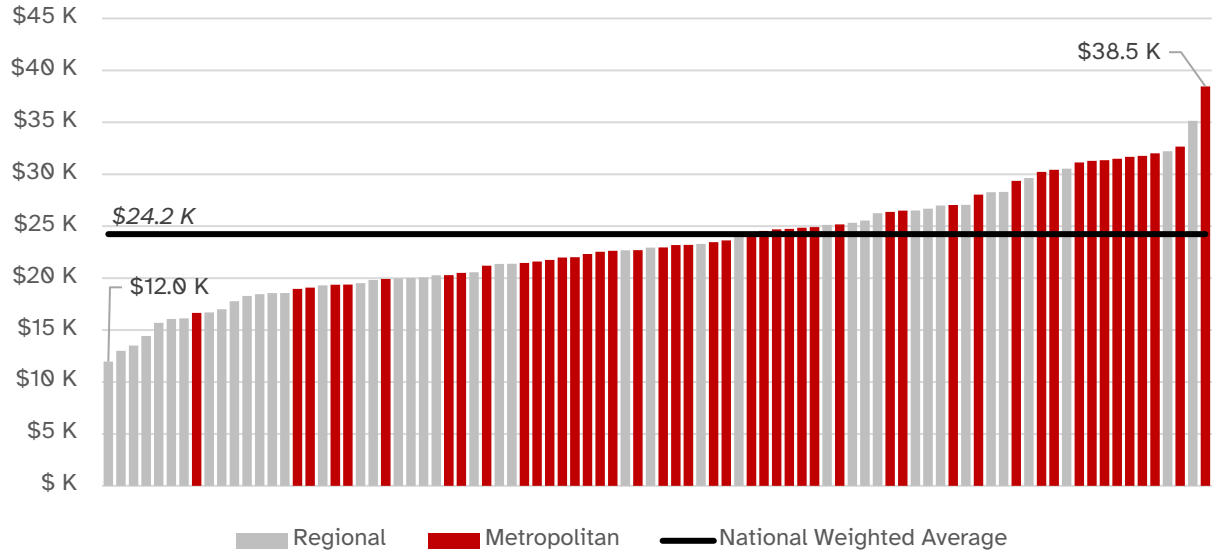
# Market context

This analysis has been based on the specific geography of need, as well as the different dwelling type cost environments across different areas of Australia. Housing provided in the inner city will have higher land costs as well as higher unit construction costs in multi-unit buildings. Similarly, construction in remote parts of the country is likely to costs significantly more because of a range of challenges introduced by the remoteness. What is relatively consistent across the country is the level of rent that could be charge as most households in the bottom income quintiles likely source the majority of their income from various government payments. Collectively this translates to an effective subsidy gap that is highly differentiated.

Figure 8 is based on the operating subsidy model above, and reveals the subsidy required to deliver feasible housing projects ranges from $12,000 per dwelling per annum to $38,000 per dwelling per annum. The highest cost area is eastern suburbs Sydney, followed closely by remote Western Australia. The next clusters of higher costs areas are predominantly made up with the remainder of Sydney. Many of these high-cost areas simply reflect some of the highest costs housing markets and therefore areas of more intense housing need. The key point here is that any policy program designed to deliver new housing ought to reflect the geographic differences in cost, as flat rates of payment will skew delivery into lower cost markets and cheaper or smaller dwelling units.

A substantial component of the different in subsidy requirement across the country is related to land costs. While there is some geographic variation in construction, with higher density dwellings costing more than detached housing, the proportional differences are much smaller compared with land. Similarly, tenant revenues and operating costs are relatively flat across the country. This suggest that there are planning and land policy interventions that could either see land provided at no costs or at substantial discount to market based residual land values, impacting the total development costs for any given project.

*Figure 8: Subsidy gap by housing market (SA4)*



# 5. Modelled programs/overall cost of delivery

The above section explored the impacts various dimensions of projects have on overall feasibilities, and ultimately the cost of government subsidy required to generate feasible outcomes. The base case was for each of these was a program of government support that would see availability payments made available over a 25-year period to support the repayment of debt used to fund delivery of the dwellings.

The following four models explore some specific configurations of funding approaches, as well as procurement methods, and are intended to exemplify the different cost of funding a program. An important note about all of these models is that government subsidy support is required, and that no model will alter either the revenue potential of projects, or the operating cost of maintaining a tenancy and dwelling upkeep. Any assumed efficiencies in this regard can be assumed applicable across any procurement or funding model.

Tenant incomes and therefore rent payable cannot change without changes to government income support payments, government housing payments, or changes to wages in lower paid occupations, all of which are outside the policy scope of this report. Not-for-profit or for-profit procurement models therefore cannot change the rent revenue generate so long as rents are tethered to incomes. The central question explored here then is not how best to ‘fill the gap’ (this can only happen through government support), but how best to reduce the ‘size the gap’ (that is which approach produces lowest cost to government).

# Model 1. Capital funding model

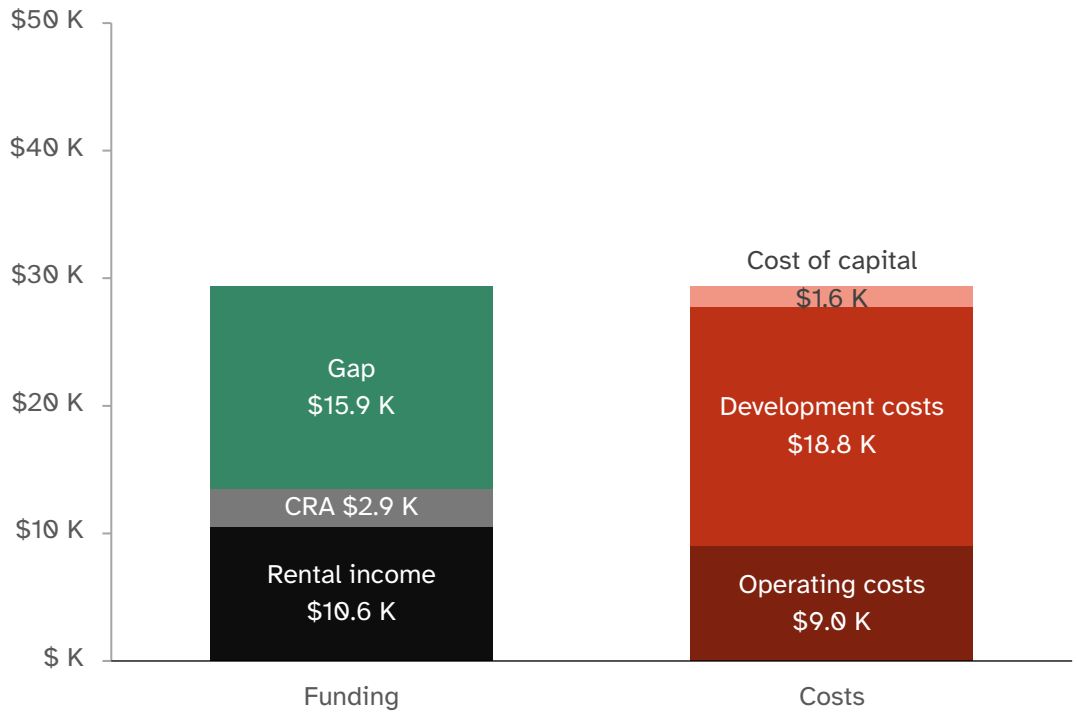
Figure 9, below, shows the average funding gap on a per dwelling per annum basis, across a 25-year project, but where the subsidy is provided (the gap is filled) as a capital grant upfront. The size of the grant is set to an amount that allows any residual debt to be serviced through operating revenues sourced from tenant rents alone.

At nearly $16,000 per annum, this represents to the lowest cost to government pathway. This model however brings forward the total spend into year one, putting some limits around how many dwellings could be funded in any given year. Depending on how a program funding package is designed, the benefits of this approach would accrue more slowly, but potentially yield more dwellings over the longer term, assuming a fixed funding package.

Model assumptions:

- Not-for-profit delivery
- Housing Australia based finance (at 4.75%)
- Upfront capital grant funding

*Figure 9: Model 1 per annum, per dwelling subsidy gap*



# Model 2. Operating subsidy model

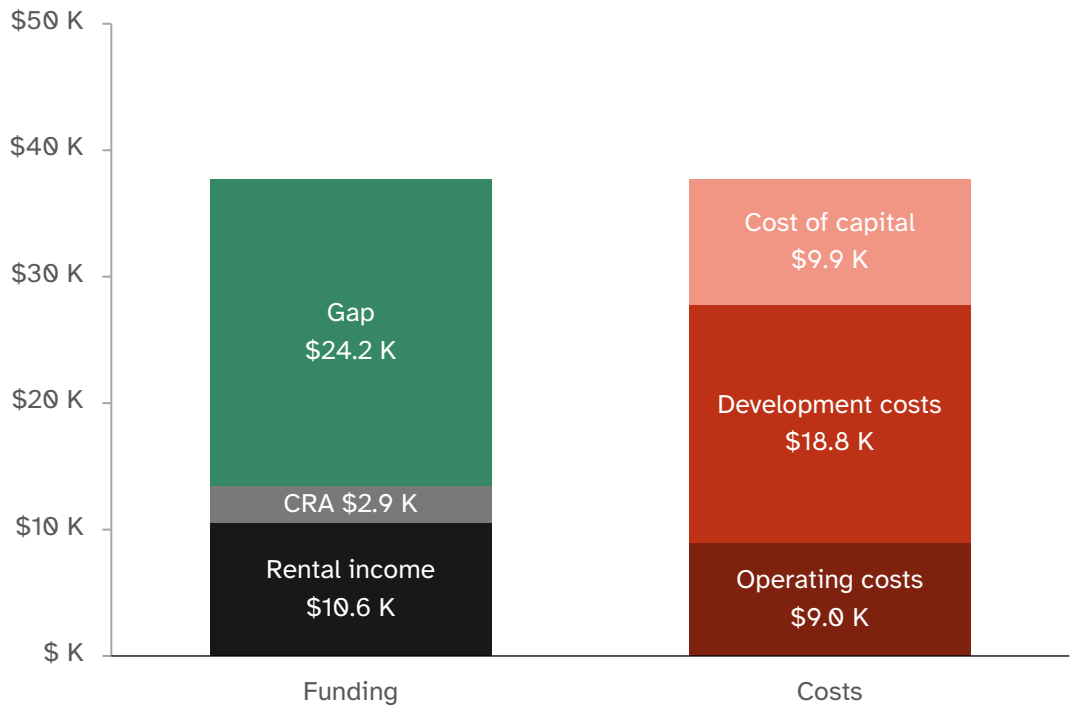
The limitation of the capital grant model is that it places greater demand on government finances up front rather than spread over a prolonged period. An alternative, as shown in Figure 10, below, is to provide smaller subsidy (availability) payments, in this case over 25 years. The effect of this on the feasibility model is that it increases the quantum of debt required to fund the capital work up front, and therefore higher interest payments against the project over the longer term. The increased size of the funding gap requirement therefore reflects the added interest cost attached to holding a larger amount of debt over the 25-year period.

This approach does represent a lower spend per unit in the first year, allowing for more units to be delivered earlier. This advantage dissipates through time as subsidy costs in the subsequent years for those dwellings already delivered also needs to be accounted for. For example, dwelling subsidies required in year three also includes dwellings delivered in years one and two. Depending on the scale of ambition, in terms of quantum of dwellings and or funding, there may be other practical limits to delivering more units sooner. This would include capacity of housing markets and construction industry to deliver dwellings in any given year.

Model assumptions:

- Not-for-profit delivery
- Housing Australia based finance (at 4.75%)
- Availability payment for 25 years, indexed to CPI (3%)

*Figure 10: Model 2 per annum, per dwelling subsidy gap*



# Model 3. Private investment model

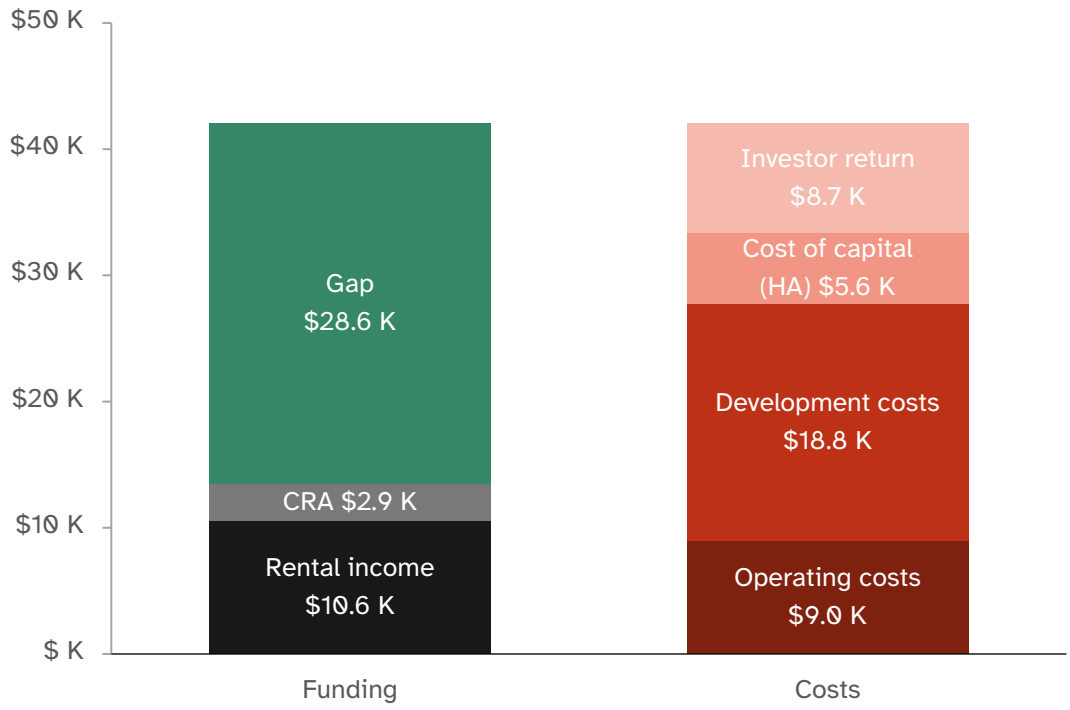
The third model explored here is a private investment model, where half the financing amount is sourced from private equity. Expected returns vary depending on context and level of risk assumed by the equity partners. Arrangements can vary from a simple commercial finance arrangement, to one where equity is input as subordinated debt.

As noted in the previous section, addressing financing costs, these arrangements can be translated into an investor return based on a simple rate of interest, where high interest reflects more risk for the investor. The model below assumes 8.5% return on 50% of the project (representing, in effect, a commercial loan), with the remaining 50% funded through a Housing Australia loan. This produces a subsidy gap requirement of $28.6K per dwelling per annum over 25 years.

Model assumptions:

- Not-for-profit delivery
- 50% Housing Australia based finance (at 4.75%)
- 50% capital funding from investor with 8.5% return
- Availability payment for 25 years, indexed to CPI (3%)

*Figure 11: Model 3 per annum, per dwelling subsidy gap*



# Model 4. For profit model

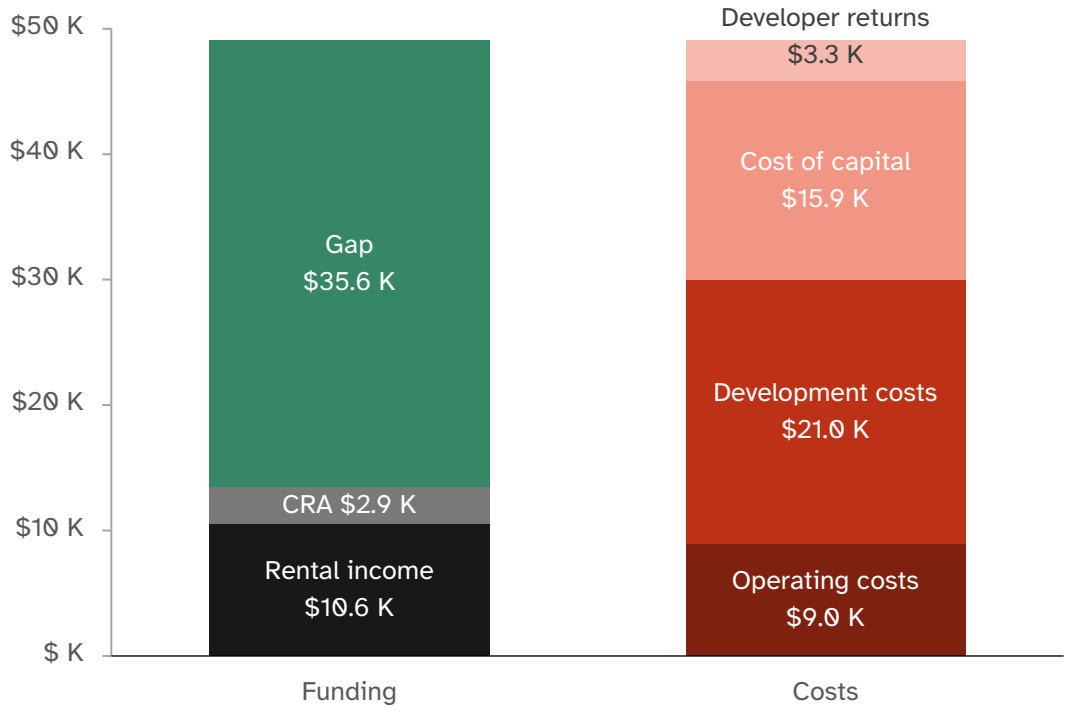
The final model explored here deviates from the first three, and assumes a for-profit delivery mechanism, as compared with not-for-profit delivery. The implications from a feasibility point of view are that tax discounts (GST, and land taxes) are no longer available, and the project itself is financed through a combination of commercial finance and developer equity, where the developer receives a 6.5% return on their equity, plus the value contained in the assets. This expected return would likely be variable depending on the risk profile of development across different markets and varying potential for capital gains. This is in effect a for-profit built to rent model.

The overall subsidy gap for this approach is $35.6 K per dwelling per annum over 25 years, and is the highest of each of the four models explored.

Model assumptions:

- For-profit developer delivery
- 70% Commercial finance (8% assumed)
- 30% developer equity, with 6.5% return
- Capital value retained by investor

*Figure 12:Model 4 per annum, per dwelling subsidy gap*



# Program level costing

The above analysis is based on the geographic distribution of housing need across different housing markets. As previously noted, the backlog of housing need is substantial and should policy ambition extend to addressing this need, then a sustained program of investment in social and affordable housing would be required. The total cost to government for such will depend on the delivery and funding approach taken. Meeting the current backlog of social and affordable housing cannot be achieved in a single year, and the approach taken here is to estimate to total need over the next 20 years. This means delivering approximately 47,000 dwellings per year, and would result in lifted the share of social and affordable housing stock from under 4% presently, to approximately 11%. This final share is still well below comparable European examples (see Pawson et al 2022).

Figure 13 shows total cost for meeting the need of the social and affordable housing need each year for 20 years, based on the four delivery models outlined above. The table also indicates the relative increase in cost to government from the least cost option.

*Figure 13: Annual program cost break down by state ($ Billion)*

| State | Dwellings per year | Capital grant model | Operating subsidy model | Private investment model | For profit development model |
|---|---|---|---|---|---|
| ACT | 540 | 0.22 | 0.34 | 0.39 | 0.50 |
| NSW | 16,035 | 7.38 | 11.29 | 13.28 | 16.48 |
| NT | 595 | 0.19 | 0.28 | 0.33 | 0.42 |
| QLD | 11,135 | 3.81 | 5.82 | 6.85 | 8.62 |
| SA | 2,535 | 0.75 | 1.15 | 1.37 | 1.71 |
| TAS | 825 | 0.34 | 0.51 | 0.60 | 0.74 |
| VIC | 11,145 | 4.42 | 6.76 | 8.03 | 9.95 |
| WA | 4,285 | 1.55 | 2.37 | 2.79 | 3.48 |
| **Australia Total** | **47,095** | **18.7** | **28.5** | **33.6** | **41.9** |
| *Costing increase from base* | | *base* | *+53%* | *+80%* | *+124%* |

# References

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# Appendix 1 – Model Assumptions

**Analysis Time Frame:** 25 years

**Interest rate assumptions**

| **Interest Rates** | |
|---|---|
| Commercial finance Interest Rate | 8.0% |
| Cash Interest Rate | 4.0% |
| **Indexation Rates** | |
| Development Cost Escalation Rate | 3.0% |
| Operating Cost Indexation (annual rate) | 3.0% |
| Revenue Indexation (annual rate) | 3.0% |
| CPI | 3.0% |

**Annual operating cost assumptions:**

| **Maintenance Costs of Dwellings** | **As a % of replacement Value** | ***Est. annual cost per dwelling*** |
|---|---|---|
| Repairs | 0.1% | *$435* |
| Operational Maintenance | 0.5% | *$2,173* |
| Replacement/Sinking Fund | 0.5% | *$2,173* |
| ***Total Maintenance Costs*** | ***1.1%*** | ***$4,781*** |
| | | |
| **Other Costs** | **As % of rental Income** | ***Est. annual cost per dwelling*** |
| Vacancy Rate (% max annual rent) | 2.0% | *$209* |
| Bad Debt Rate (% rent - vacancy losses) | 2.5% | *$256* |
| ***Total other costs*** | | ***$466*** |
| | | |
| **Fixed Charges** | | **Per dwelling** |
| Management Costs | | $1,400 |
| Water Rates | | $800 |
| Council Rates | | $800 |
| Insurance | | $800 |
| ***Total Fixed Costs per dwelling*** | | ***$3,800*** |
| | | |
| **Total Average Costs Per Dwelling Per Annum** | | **$ 9,047** |

**Dwelling size and configuration assumptions**

| **Density** | **Description** |
|---|---|
| detached | Detached 3-bed house (120sqm) with 2-car garage (medium quality materials, and including landscaping) |
| attached | Attached 3-bed house (120sqm) with 2-car garage (medium quality materials, and including landscaping) |
| low-rise | 3-bed apartment (90sqm) in walk-up block (<4 storeys) with 1.5 underground car spaces/unit (medium quality materials, and including landscaping and demolition of single dwellings) |
| high-rise | 2-bed apartment (75sqm) in lift-accessed block (>4 storeys) with 1 underground car spaces/unit (medium quality materials, and including landscaping and demolition of commercial building) |