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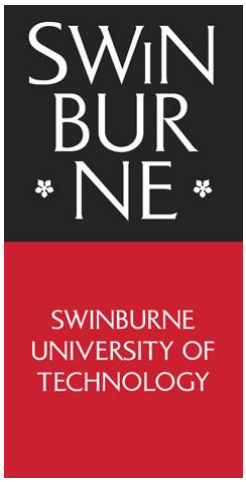

Social and Affordable Housing as Social Infrastructure

A literature review for the Community Housing Industry Association

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Executive summary

This report was commissioned by the Community Housing Industry Association (CHIA) on behalf of a consortium of not for profit housing and homelessness organisations, as an input to a submission to Infrastructure Australia for developing a case for social and affordable housing as essential social infrastructure; and inclusion on Infrastructure Australia's 2021 *Infrastructure Priority List*.

The report provides an overview of primarily Australian research on the wider social and economic benefits, including public sector cost savings, individual or household disposable income benefits, and Wellbeing Values (WV) provided by the Australian Social Values Bank.

Overall, the available evidence suggests that the attainable wider social and economic benefits can be large for individuals and society, and in some cases can equal the funding gap that currently prevails in social and affordable housing provision.

Australian and international evidence shows that the provision of social and affordable housing has a **clear potential in materially improving national productivity by addressing problems that otherwise imposes economic, social and/or environmental costs or by realising economic, social and environmental benefits**. Table 1 and Table 2 detail the cash, public sector savings and monetary wellbeing equivalents of the wider social and economic impacts that can be unlocked through investment in social and affordable housing. Evidence is presented for:

- Homelessness (Section 3.1).
- Mental health, domestic violence and alcohol/substance abuse (Section 3.2).
- Human capital accumulation and educational attainment (Section 3.2).
- Financial stress and foregone spending on food/groceries; medical and health; and family/leisure activity (Section 3.2).
- Overcrowding and family functioning (Section 3.2).
- Social and affordable housing as a platform for additional tenant support and integration of services (Section 3.3).
- Employment and productivity (Section 3.4).

In considering social and affordable housing as essential social infrastructure it is, however, critical to evaluate the causal relationship between housing circumstances and costs and each of the social and individual indicators. Evidence on causality and incidence is more limited, both in Australia and internationally and will require further research. It will also require additional data sources and/or evaluation specifically set up to identify efficacy of interventions/policies.

The findings highlights two dimensions of social and affordable housing as essential social infrastructure:

1. Social and affordable housing as an **independent effect on the wellbeing, productivity and cost-reduction** for individuals and society.
2. Social and affordable housing as a **platform for unlocking additional individual and societal wellbeing, productivity and cost-reduction** for individuals and society.

Table 1 (below) summarises estimates of the monetary (cash) value to individuals (or households) and public expenditure savings *per annum* associated with the construction of 100 affordable or social rented properties. Benefits (disposable income, consumption and cost-savings) are in each case evaluated relative to the funding gap associated with constructing affordable and social housing in middle land and rent value areas of Sydney and Melbourne. The impact ratio gives an indication of the

incidence of each of the effects. For many outcomes, the impact ratio will be a matter of allocation/access regulation.

Maximising many benefits is highly contingent institutional/allocation rules relating to any new social and affordable housing stock. The total impacts listed in Table 1 and Table 2 are therefore in part constructs of the assumed targeting or ability to target specific groups of individuals or households. In other cases, impact ratio is based on available evidence around causality and an assumption that allocations cannot easily be targeted. These typically have much lesser impact ratios.

Table 2 details the Wellbeing Values associated with the construction of 100 affordable properties. Wellbeing values are provided by the Australian Social Value Bank and provide the monetary equivalent that would be required to increase someone's wellbeing.

Sections 3.3 and 3.4 provides additional estimates of the wider social and economic benefits that can be unlocked by considering social and affordable housing construction as a platform from where to provide support and wrap-around services that directly relieve pressure on public service provision elsewhere and/or enhances the efficacy of other social infrastructure such as health and education.

Table 1 Summary of wider social and economic benefits from constructing 100 social or affordable dwelling units, per annum

Wider social or economic impact	Total (est) $ impact	Estimated $ range	Impact ratio: see Section 3.0	Subsidy ratio AHSE	Subsidy ratio SHSE	Note and/or source
Health cost savings homelessness, w/regular homelessness support	$153,000	$50,000-200,000	1.0 based on allocation policy	8%	5%	Wood et al (2016)
Health cost saving homelessness w/tenant support,	$868,000	$283,000-1,453,000	1.0 based on allocation policy	46%	30%	Various sources. Highly sensitive to target group.
Public sector total saving homelessness to social housing	$569,880	Na	0.5	30.2%	19.4%	ASVB [a]
Public sectors total saving homelessness to secure housing	$1,049,360	Na	0.5	55.5%	35.8%	ASVB [a]
Public sector total saving temporary accommodation to social housing	$262,600	Na	0.5	13.9%	8.9%	ASVB [a]
Public sector total saving temporary accommodation to secure housing	$742,040	Na	0.5	39.3%	25.3%	ASVB [a]
Affordable rent (20% market discount)	$78,600	$63,200-$94,000	1.0 based on allocation policy	4%	3%	Author's calculations
Public sector total saving from 'making ends meet'	$6,340	Na	0.25	0.3%	0.2%	ASVB [a]
Improved education/ Y12 completion, earnings increase	$37,200	$34,400-$40,000	0.1	2%	1%	Ravi and Reinhardt (2011), Applied Economics (2002)
Reduced personal spending severe depression	$58,680	Na	0.04	3%	2%	Hawthorne et al (2003)
Reduced public spending severe depression	$16,520	Na	0.04	1%	0.6%	Hawthorne et al (2003)
Reduced personal spending other depression	$27,900	Na	0.06	1.5%	1%	Hawthorne et al (2003)
Reduced public spending other depression	$7,320	Na	0.06	0.4%	0.3%	Hawthorne et al (2003)

Public sector total saving from reduced overcrowding	$3,485	Na	1.0 based on allocation policy	0.2%	0.1%	ASVB [a]
Domestic violence, service reduction	$234,500	Na	1.0 based on allocation policy	12%	8%	Fin. & Public Adm. Reference Com. (2015)
Productivity: output gain	$122,700	Na	1.0 based on allocation policy	6%	4%	Maclennan et al (2019)
Productivity: human capital accumulation	$1,986,500	Na	1.0 based on allocation policy	105%	68%	Maclennan et al (2019)

Note: See Section 3 for details. All estimates are annualised. [a] These estimates are based calculations provided by the Australian Social Value Bank, and subsequently adjusted. The values used in these calculations, provided by the Australian Social Value Bank, are owned by Alliance Social Enterprises (www.asvb.com.au). They have been produced by Simetrica, using best practice methodology for policy evaluation. These values are **used under Licence # [P8Xw5y]** with expiry date [7/11/2019].

Table 2 Summary of total Wellbeing Value from constructing 100 social or affordable dwelling units [a]

Wellbeing outcome	Total Wellbeing Value	Impact ratio	Note and/or source
Homelessness to social housing	$975,480	0.5	ASVB b
Homelessness to secure housing	$806,880	0.5	ASVB b
Temporary accommodation to social housing	$511,640	0.5	ASVB b
Temporary accommodation to secure housing	$343,080	0.5	ASVB b
Making ends meet	$98,170	0.25	ASVB b
Completing Year 12	$99,938	0.1	ASVB b
Relief from anxiety and stress	$65,586	0.06	ASVB b
Reduced parental stress	$38,360	0.06	ASVB b
Reduced overcrowding	$291,270	1.0	ASVB b

Note: See Section 3 for details. All estimates are annualised. [a] Unlike the cash values in Table 1, Wellbeing Values are only estimated for a 12-month period. [b] These estimates are based calculations provided by the Australian Social Value Bank, and subsequently adjusted. The values used in these calculations, provided by the Australian Social Value Bank, are owned by Alliance Social Enterprises (www.asvb.com.au). They have been produced by Simetrica, using best practice methodology for policy evaluation. These values are **used under Licence # [P8Xw5y]** with expiry date [7/11/2019].

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1. Introduction

In September 2019, The Community Housing Industry Association (CHIA) commissioned the Centre for Urban Transitions to conduct a literature review of key evidence on the wider social and economic returns of investing in social and affordable housing, in order to assist CHIA's submission to Infrastructure Australia in preparation for the 2021 *Infrastructure Priority List*.

Infrastructure Australia's 2019 infrastructure audit included, for the first time, social infrastructure as essential infrastructure to support economic growth and quality of life. In the audit social infrastructure is described as 'facilities, spaces and networks that support the quality of life and wellbeing of our communities[…] helps us to be happy, safe and healthy, to learn, and to enjoy life' (IA 2019b:388).

Social housing is recognised as an element of social infrastructure, but the discussion in 2019 Audit also includes other segments of the housing continuum, including affordable housing. The inclusion of social and affordable housing in the 2019 Audit provides an opportunity for public, private and not-for-profit (NfP) housing providers to develop a case for inclusion of social housing on Infrastructure Australia's *Infrastructure Priority List 2021*.

Assessment is based on the extent to which proposed projects and initiatives will mitigate and/or enable economic, social and environmental costs and benefits (IA 2018). The inclusion of social housing in the 2019 Audit marks a step-change in Infrastructure Australia's approach to assessing future infrastructure needs. The shortfall of social and affordable housing in Australia is well documented (e.g. Lawson *et al* 2018, a series of reports by Hulse et al for the Australian Housing and Urban Research Institute, latest 2015).

There is also a recognition that Australia's current housing constraint can have wider social and economic impacts that are detrimental to educational, health and wellbeing outcomes (IA 2019b). However, to be included on the *Infrastructure Priority List* the wider social and economic benefits of investment in social and affordable housing need to conform to Infrastructure Australia's *Assessment Framework*. As an indication, the 2019 *Infrastructure Priority List* applied a threshold of $30 million (in nominal terms) per annum in net benefits, with considerations also given to unquantified quality of life outcomes.

In order to assess the wider social and economic impacts from investing in social and affordable housing the report: firstly, draws on evidence of direct monetary estimates of wider and social impacts to individuals and society; secondly, uses estimates provided by the Australian Social Value Bank, to provide evidence on the monetised wellbeing values generated by social and affordable housing availability; thirdly draws on a wider set of academic and grey literature to establish reasonable estimates of the incidence of any benefits.

The remainder of this report is divided into 2 section:

Section 2: Provides detail on the research approach, methodology, benchmarks used for comparison and a brief introduction to the Australian Social Value Bank's Wellbeing Value (WV) estimates.

Section 3: Provides an overview of the estimated monetary cost-mitigating or benefit-enabling wider social and economic returns from social and affordable housing. A fundamental distinction made in this report, compared to some existing Australian work, is to focus on *reasonable* or *best available estimates* of the causal effect of investment in social and affordable housing and the wider social and economic benefits this may generate.

2. Methodology and approach

The primary aim of this report is to collect evidence on the wider social and economic impacts from providing social and affordable housing as essential social infrastructure. According to the *Infrastructure Australia Act 2008* nationally significance infrastructure is infrastructure 'in which investment or further investment will materially improve national productivity', by addressing a problem that otherwise imposes economic, social and/or environmental costs or by realising economic, social and environmental benefits (IA 2019a:7). Social infrastructure is described as 'facilities, spaces and networks that support the quality of life and wellbeing of our communities[…] helps us to be happy, safe and healthy, to learn, and to enjoy life' (IA 2019b:388).

In order to assess the extent to which investment in social and affordable housing addresses or realises social, economic and environmental costs and benefits, three elements are required:

1. What are the social, economic and environmental interactions with social and affordable housing?
2. What is the magnitude, in cash or monetary equivalents, of any cost and benefits?
3. What is the incidence of realisable costs and benefits enabled through the provision of social and affordable housing is provided (how frequently might we realise any causal relationship)?

This report provides evidence on each of these three element.

- Element 1: draws on a selection of policy and academic publications that details the association between housing affordability stress or housing instability and a range of wider social and economic outcomes such as homelessness, mental and physical health, educational and human capital outcomes, overcrowding and family functioning, and household consumption and spending implications.
- Element 2: draws on policy and academic publications that specifically attempt to identify the monetised value of a range of service deliveries, social rate of return or cost-benefit analysis of social and affordable housing development, impact of integrated service delivery to people who are homeless, and productivity impacts (agglomeration and human capital accumulation) from provision of well-located affordable housing. A number of these studies report average per person $ values for individual (household) benefits or average $ cost reductions.
- Element 3: draws on a number of intervention studies (before and after evaluations), surveys documenting new social tenants' experiences and/or econometric attempts to identify causal links or the incidence of change that may be attributed to changed housing circumstances.

Throughout the report a number of dollar figures are reported based on Element 2. These typically provide the per person or household estimate of changes in disposable income or average per person saving in public expenditure as the result of a successful change. When assessing the wider social and economic benefits from investing in social and affordable housing as essential social infrastructure it is, however, necessary to establish – or approximately establish – how often these benefits might arise as a result of social infrastructure investment.

The report therefore also provides an Impact Ratio as an estimate (in one case a guestimate) of how often the benefit might happen as a result of delivering 100 new social and affordable dwellings. The Impact Ratio allows the reader to distinguish between the value to some individuals and the overall benefit that might be expected as a result of a whole project. The total wider social and economic project benefit is thus: $ individual impact x (impact ratio x 100).

Importantly the impact ratio may be a matter of access design. For instance, the project benefits of social and affordable housing can be maximised through targeting population groups with high wider

social and economic benefits, such as people who are homeless. In practice, the impact ratio will often be determined by institutional/allocation rules for new social and affordable housing.

In other cases, the impact ratio provides an estimate of what might be expected in a random selection of low and moderate-income people with housing affordability problems. For instances, the efficacy of anxiety and depression relief associated with improved housing outcomes may *a priori* be considered unknown with respect to an individual. The project Impact Ratio is therefore an indication of what might plausibly be expected from a random draw of low and moderate-income households.

The report has benefitted from assistance from the Australian Social Value Bank (https://asvb.com.au/) that has provided estimates of Wellbeing Values (primary benefit) and public expenditure benefits (secondary benefits) for a range of project scenarios developed for this report.[1] Wellbeing Values are used in the UK and a number of other OECD countries for measuring the social impact of projects.

According to the ASVB, the Wellbeing Values methodology 'analyses existing datasets of national surveys which [...] reveal the effect of an outcome (for example, being employed) on wellbeing in a robust way. We can then value this by finding from the data the equivalent amount of money needed to increase someone's wellbeing' (ASVB 2017:12). The primary benefit calculated by the ASVB includes estimates of the Wellbeing Value as well as any additional income effect generated through, for instance, employment or education. The secondary benefits provided by the ASVB calculates 'outcomes [that] impact on government resources, such as a reduction in government expenditure or an increase in tax receipts' (ASVB 2017:13).

The ASVB adjusts for such outcomes that might have taken place also in the absence of any program delivery, referred to as *deadweight*. For instance, many children (most) will pass Year 12 whether or not their parents gain access to social or affordable housing. When reporting the Wellbeing Values (primary benefits) the estimates provided *always* includes the ASVB's deadweight measure. *In practice, this means that estimates provided are conservative and in some cases will underestimate the benefits that can be achieved through service design*. The deadweight measures thus adjusts for such incidence that might have happened with or without the project delivery.

Finally, cash or public sector expenditure savings are compared to the subsidy required for a positively geared social or affordable housing project in middle ring (medium land value/rent) areas of Sydney and Melbourne. The subsidy requirement is based on calculations Nygaard (2019), 39% for affordable housing, and the Affordable Housing Working Groups 2016 report, 60% for social housing.

3. Estimates of wider social and economic impacts of social and affordable housing

This section discusses direct cash benefits, public expenditure benefits, and Wellbeing Values associated with investment in social and affordable housing. The section is divided into 2 parts. Part 1 focuses primarily on transitioning people who are homeless to social or affordable housing. Part 2 broadens the perspective to low and moderate income households more generally, although also here there are references to homelessness.

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[1] All Wellbeing Values are based calculations provided by the Australian Social Value Bank, and subsequently adjusted. The values used in these calculations, provided by the Australian Social Value Bank, are owned by Alliance Social Enterprises (www.asvb.com.au). They have been produced by Simetrica, using best practice methodology for policy evaluation. These values are **used under Licence # [P8Xw5y]** with expiry date [7/11/2019].

3.1 Transitioning people who are homelessness to social or affordable housing

There is a large Australian and international body of literature around homelessness and housing first principles. The Housing First approach is a set of principles where access to long-term and stable housing is the starting point to engage with vulnerable people experiencing multiple and complex pathways that lead to homelessness (e.g. mental health issues and/or substance abuse problems). While research has evidenced a number of significant improvements in housing outcomes (such as sustaining tenancy) and some cost-savings related with Housing First approaches, it is also important to emphasise that the model is not a panacea for dealing with homelessness and vulnerability (Johnson et al 2012a:9-11). For instance, Prentice and Scutella (2018) find no significant impact on employment, education or self-assessed health (physical or mental) from access to social housing for homeless people in the Journey's Home dataset. They do, however, find a significantly reduced risk of homelessness (Prentice and Scutella 2018: 20-21), which itself relates with usage of some medical services/health related accommodation usage.

Housing First models, or Housing First inspired models, have been applied in a number of European countries as well as Canada, New Zealand and Australia. While the wider social and economic impacts reported below often are quite substantial it is important to note that access to housing is only one element in addressing issues of homelessness, sustaining tenancies is a second element. Some of the literature suggests that without additional and dedicated tenancy support a person entering social or affordable housing is much more likely to find themselves homeless again (Johnson *et al* 2015).

3.1.1 Health savings

A number of Housing First inspired models in Australia have tested and evaluated the wider health related impacts of providing secure housing for people who are homeless (Mission Australia 2012, Conroy *et al* 2014, Johnson and Chamberlain 2015, Johnson *et al* 2014, Johnson *et al* 2015, Wood *et al* 2016, Flatau *et al* 2018). In these models housing is the social infrastructure that enables assertive case management. Availability of social and affordable housing is typically a barrier to implementing key aspects of the Housing First model. Once housed, the Australian studies do not distinguish between the independent effect of housing viz the role of assertive case management/wrap around service. A partial exemption here is evaluation of Journey to Social Inclusion (J2SI) (Phase 1) which uses a randomised control trial to distinguish between additional wraparound service and conventional homelessness support, although also here the role of housing is not separately identified. *Social and affordable housing is in this respect therefore the infrastructure from which non-housing issues can be addressed*.

The clearest cost savings are found in the reduced usage of health and emergence services. The return to homeless individuals is most clearly found in better and more stable housing outcomes – mental health, physical health, substance abuse, labour market and community re-integration outcomes are more difficult to generalise and contingent on the nature, severity and complexity of underlying drivers and vulnerabilities; and on the resources available to engage with underlying issues.

Australian research suggests that some 73% of men and 84% of women experiencing homelessness met criteria for at least 1 mental health disorder; with 40% and 50% of men and women, respectively, meeting criteria for at least two mental disorders (O'Donnell *et al* 2014). Research by the Productivity Commission (2019:543) similarly shows that the incidence of mental health issues is particularly high amongst people who are homeless, with 16% of those diagnosed with mental illness living in unsuitable housing, including homelessness and overcrowding. Moreover, the Productivity Commission concludes that appropriate housing 'is an important contributor to preventing poor mental health and promoting

recovery for people with mental health illness' (PC 2019:542). The efficacy of social and affordable housing in addressing mental illness is also likely to interact with different pathways for homelessness and mental health. Scutella et al (2014, cited in Brackertz et al 2019) distinguish between those who were homeless before presenting with mental illness, and those who presented with mental illness before becoming homeless.

A number of Housing First inspired housing and integrated service delivery interventions in Australia show that the potential health sector public expenditure savings that arise from providing social and affordable housing is considerable. While there are additional cost associated with delivering housing and integrated services, the evidence shows that there are still significant net savings to be made (Zaretsky and Flatau 2015, PC 2019, detailed studies below).

NEW SOUTH WALES

- The Michael Project (2007-2010): Mission Australia estimates that the associated **saving** to the public purse, in the form of reduced health and justice expenditure, was **$8,222** over a 12 month period (Mission Australia 2012). The cost saving reflects *both* accommodation and assertive case management.
- MISHA (2010-2013): Estimated cost savings to the public purse after two years, in the form of reduced health expenditure (hospital and mental health facilities) was **$6,567** per person, per annum. Cost saving again reflects both accommodation and assertive case management (Conroy *et al* 2014).

VICTORIA

- Street to Home: significant improvement in physical and mental health during the first 12 months. Rate of improvement thereafter slowed (Johnson and Chamberlain 2015).
- Journey to Social Inclusion (Phase 1: 2009-2012): Over a 4 year period J2SI clients reported lower levels of stress, depression and anxiety; reduction in the number of days of general hospitalisation. Over a 4-year period the health saving is estimated at **$10,800** per person, per annum, with health benefits increasing over time (Johnson *et al* 2015). Detailed cost information on the comparison group is not provided in the study, but it observes that *average* hospital-bed occupancy over 4 years for this group declined by 1/3 (from 3 to 2) compared to the group receiving additional support.
- Journey to Social Inclusion (Phase 2: start 2016): Usage of hospital beds declined for J2SI clients, whereas this increased for a comparison group. In terms of health costs the outcome translate into a 55% reduction in health related costs for the J2SI group and a 70% increase for the comparison group (Flatau *et al* 2018).
- *The two J2SI phases highlight the enabling role of social and affordable housing, rather than the independent effect of housing. In both cases there is evidence that it is the availability of secure housing with additional support that enables wider social and economic benefits.*

WESTERN AUSTRALIA

- An indication of the benefit of social housing provision – without additional assertive case management or wrap around, i.e. social housing provision as usual – can be inferred from an evaluation of the wider social and economic benefits of those obtaining social housing in Western Australia under a National Partnership Agreement on Homelessness (NPAH) and those from the homelessness priority list obtaining social housing service "as usual". In the latter case no support is provided in 'accessing guaranteed public housing and support to sustain those tenancies' (Wood et al 2016:9).

- In monetary terms, the most significant wider social and economic impact/health related cost savings from social housing provision is related to reduction in emergency presentations, days in hospital and days in psychiatric care. Each of these areas have high per unit costs. The total per person, per annum savings for those accessing social housing from the priority waiting list in *Year 1* (i.e. without additional wrap around support) is estimated to **$1,395 ($1,530)**, with the majority ($885) of this saving arising from a reduction in the length of hospital bed occupancy; savings are based on 2012-13 IHPA data (Wood *et al* 2016:45).[2]
- For those receiving additional support through NPAH funded programs the total per person, per annum cost saving amounted to **$13,273 ($14,530)**, with the majority ($8,558) of this saving arising from a reduction in hospital bed occupancy.

The studies across NSW, VIC and WA evidence a clear health saving associated with the provision of social and affordable housing. Fairly consistently across the studies the reduction in hospital bed occupancy is evident, reduction in emergency department presentation is also often found, but not always, and impact on mental health is variable. Apart from Wood et al (2016) the sample sizes in many of these studies is small and therefore subject to greater variability.

For the purpose of estimating the wider social and economic impact of social and affordable housing the Australian studies suggests two tentative conclusions.

1. Access to social and affordable housing ***without*** additional tenant support – that is relying on services such as they are – appears to generate a reduction in health related expenditure, especially hospital bed occupancy, on its own. The health expenditure effect appears to be increasing over time (for those who sustain their tenancies). According to IHPA (2018) data the national average cost per hospital day is $2,003 (ranging from $1,791 in NSW to $2,718 in WA). Based on the available Australian evidence the *average* estimated health expenditure reduction from availability of social and affordable housing is thus assessed to range **from $500 in Year 1 to $2,000 by Year 4**. The Year 4 estimate is equivalent to approximately 10% of the per annum subsidy required to construct an **affordable housing project** in a medium land cost/medium rent area of Melbourne or Sydney.[3] A caveat is that the homeless population is not a representative sample of low and moderate-income households.
2. Access to social and affordable housing ***with*** additional tenant support provides a platform for unlocking considerable additional cost savings. Estimates here are more uncertain as those receiving support in most of the Australian studies are not necessarily a representative sample of the homeless population (or low/moderate income households). Nevertheless, the per annum health expenditure savings after initial access to social or affordable housing (years 1-4) range from **$6,570 ($7,190) to $13,270 ($14,530)**, depending on the precise group of people who are homeless or at risk of homeless that is considered. Notably the cost of delivering additional support reduces the net benefit. The housing and support impact translates to an approximate 22-47% of the annual, per property subsidy required to construct 100 **social housing project** in a medium land cost/medium rent are of Melbourne and Sydney.

In both cases it should be stressed that the cost savings in large part may reflect the reduction in usage of other services, rather than a clear – or causal – effect of access to social or affordable housing and clinical condition/experience of mental health or other health impacts in the homeless population.

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[2] Values in brackets have been scaled for CPI using the RBA's inflation calculator.

[3] Subsidy required=gross financing gap for a positively geared, 20 year horizon, affordable housing project (20% below market rent) (Nygaard 2019).

3.1.2 Total public sector saving estimates

The Australian Social Values Bank also provides estimates of total government saving (secondary benefits). Table 3 sets out an estimate of the total government expenditure saving associated with transitioning to social and secure housing. *Results have been adjusted relative to those provided by the ASVB and are below reported under license*.

Table 3 Total public sector impact from homeless transitioning to social and secure accommodation

Transition	Total societal impact (TSI)	Impact ratio	Subsidy ratio AHSE	Subsidy ratio SHSE
Homelessness to social housing	$569,880	0.5	30.2%	19.4%
Homelessness to secure housing	$1,049,360	0.5	55.5%	35.8%
Temporary accommodation to social housing	$262,600	0.5	13.9%	8.9%
Temporary accommodation to secure housing	$742,040	0.5	39.3%	25.3%

Note : These estimates are based calculations provided by the Australian Social Value Bank, and subsequently adjusted. The values used in these calculations, provided by the Australian Social Value Bank, are owned by Alliance Social Enterprises (www.asvb.com.au). They have been produced by Simetrica, using best practice methodology for policy evaluation. These values are **used under Licence # [P8Xw5y]** with expiry date [7/11/2019].

The final two columns shows the saving as a percentage of the subsidy required to construct 100 affordable properties and 100 social properties. As with the discussion under 3.1.1 it is important to note that the below estimates represent a bundle of housing and tenancy outcomes. As above housing plays a critical enabling role, that raises the potential wider social and economic returns through wrap around services and support provided by a number of social and affordable housing providers. The direct identification of the housing component is, as above, likely to be substantially lower.

Other Australian studies similarly find significant total public sector savings as a result of stable housing provision for people who are homeless. Parsell *et al* (2016) estimate that over a 12-month period the reduction in health, criminal justice and housing services of providing housing amounted to some **$13,100** per person. Thorpe (2019) based on PwC work shows that the per person saving from moving a person from extremely high disadvantage to very high disadvantage, and from moving an individual from very high disadvantage to high disadvantage is **$11,800** and **$2,830** per annum. Witte (2017) estimates that the cost saving benefits over a 20-year period arising from investment in last-resort/short-term emergency relief was approximately 2.7:1, a $1 invested resulted in **$2.70** in cost savings over 20 years. Notably, as highlighted in Section 3.2.5, a shortage of housing that enables long-term housing stability reduces the scalability of this option.

3.1.3 Wellbeing

A number of Australian studies demonstrate a link between homelessness and access to social housing in determining people who are homeless' wellbeing/feelings of empowerment (e.g. Gronda *et al* 2011, FACS 2014). The Australian Social Values Bank provides estimates of the wellbeing impact of individuals transitioning from homelessness (rough sleeping) or temporary accommodation (boarding house / rooming house / hostel, hotel, motel, crisis accommodation or refuge, health, treatment, or rehabilitation centre / facility) to social housing or secure housing. Wellbeing values in the ASVB provides monetised equivalents of transitioning to social or secure housing. Table 4 sets out the monetised value of the wellbeing impact from constructing 100 affordable properties that enable

transition from homelessness or temporary accommodation to a social housing tenancy equivalent or secure accommodation. *Results have been adjusted relative to those provided by the ASVB and are below reported under license*.

Table 4 Wellbeing impacts of transitioning to social and secure accommodation

Transition	Total person impact	Impact ratio
Homelessness to social housing	$975,480	0.5
Homelessness to secure housing	$806,880	0.5
Temporary accommodation to social housing	$511,640	0.5
Temporary accommodation to secure housing	$343,080	0.5

Note : These estimates are based calculations provided by the Australian Social Value Bank, and subsequently adjusted. The values used in these calculations, provided by the Australian Social Value Bank, are owned by Alliance Social Enterprises (www.asvb.com.au). They have been produced by Simetrica, using best practice methodology for policy evaluation. These values are **used under Licence # [P8Xw5y]** with expiry date [7/11/2019]. Wellbeing impacts are considered to last for 12 month (Fuijiwara et al 2017).

With respect to considering social and affordable housing as social infrastructure, i.e. 'facilities, spaces and networks that support the quality of life and wellbeing of our communities' (IA 2019b:388), there is thus a clear *additional* wellbeing effect from reducing homelessness and/or providing more secure housing outcomes. The Australian estimates and methodology are here consistent with approaches used internationally. For instance, the UK HACT Model estimates the wellbeing effect of transitioning from rough sleeping to secure housing equivalent to **GBP24,500** or **GBP30,000** if the person has dependent children. The wellbeing value of moving from temporary to secure housing in the UK is estimated to approximately **GBP8,000**.

3.2 Making ends meet

For most households housing expenditure – whether rented or owned – is the largest single component of their household budget. Expenditure on housing cost therefore competes with expenditure on other items such as utilities, recreational activities, food and sustenance and education. Since the 1990s the share of households' budgets allocated to housing costs has been increasing, particularly for incomes with low and moderate incomes (Daley *et al* 2018). Hulse *et al* (2015) show that nearly 4 in 5 low-income private renters are spending more than 30% of their income on rental costs, a fraction that has remained reasonably stable. However, within this group the share of those paying severely unaffordable rents (>50%) is rising.

High housing costs can result in households having to – or forced to – forgo other essentials such as medication, health visits, food, heating, housing quality, transport and recreational activities that have a direct impact on physical and mental health. High housing costs can also result in lower levels of educational investment.

3.2.1 Making ends meet, general

Affordable rental is often classified as renting at below market value. For instance, the National Rental Affordability Scheme (NRAS) required properties to be let at least 20% below market value. Additional availability affordable rental would on this basis result in an increase in the after-rent disposable income of someone renting a first quartile ($380 p/w) property in Sydney of $3,952 per annum. It is, however, less straight forward to assess what the wider social and economic impact of this additional income

might be. One the one hand, the increase in disposable income for lower income households is associated with a decrease in the revenue generated by individual or corporate landlords.[4]

On the other hand, precisely because lower income households are more likely to have to forgo other forms of spending the marginal propensity to consume is greater. In practice, this means that a $1 in the hands of low-income households is likely to have a greater multiplier effect on the economy as a whole than a $1 in the hands of a landlord. Gillitzer and Wang (2015:28) for instance estimate that the additional spending ($0.115) on passenger vehicles by a 25th percentile household is x1.43 the additional spending (ca $0.08) by a 75th percentile household as a result of $1 increased *housing wealth*. May *et al* (2019) find that *for all households* a $1 increase in *disposable income* results in an additional $0.45 increase in consumption. Based on these ratios a rent reduction for lower income households imply a *net economy wide* increase in consumption of **$632.40** per person, per annum.[5] Maclennan *et al* (2019) estimate the consumption impact to be $5,893, but this figure does not include any adjustment for income transfer. Using the same adjustment process as earlier the estimated per annum consumption increase is **$940** per person.

Forced households budget allocations has wider wellbeing impacts as well. However, the provision of affordable housing will only assist some households in making ends meet. That is, there a multiple reasons for why households may struggle to make ends meet. A key determinant is the level of income in the first place, but also other behavioural and family circumstances. AHURI research suggest that some 25% of households in housing affordability stress 'are forced into decisions that adversely affect them and that they would not make had they not been in housing stress' (Yates *et al* 2007) or Phibbs (2005) where 24% of respondents recently moving into social housing reported feeling financially more secure. A study on the association between affordability stress and consumption decisions in the ACT found that of low and moderate income households experiencing affordability stress some 19% had compromised on food and grocery purchases, 30% on health and medical treatments, and 52% on family and leisure activities (ACTCOSS 2016). Overall therefore for a sample of households experiencing housing affordability stress – some 4 out 5 lower income households (Hulse et al 2015) – the expected impact ratio would be around 0.25 (or 25%).

The ASVB provides wellbeing values for the impact of being able to make ends meet. Based on estimates provided by the ASVB the wellbeing impacts associated with constructing 100 properties social or affordable properties and letting them out to a random sample of low-income household, with an impact ratio of 0.25, would generate a primary benefit of **$98,170** in Year 1; the project would generate an estimated **$6,340** per annum in public expenditure saving.[6]

3.2.2 Educational outcomes and housing stability

Social housing and, some, affordable housing provides low-income households with greater tenure security. There is a substantial literature on the impact of instable housing outcomes and homelessness on the educational attainment of children. This literature typically finds that frequent relocation and/or

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[4] In the case of NRAS individual and corporate landlords were compensated for this revenue reduction at a rate that exceeded the rental reduction.

[5] This would in effect imply an income transfer from higher income to lower income households. If the consumption increase in $0.45 then based on the differences ratio in additional spending from Gillitzer and Wang (2015) the economy wide consumption increase for lower income would be $6,046, whereas the economy wide consumption decline for higher income households would be $5,414.

[6] These estimates are based calculations provided by the Australian Social Value Bank, and subsequently adjusted. The values used in these calculations, provided by the Australian Social Value Bank, are owned by Alliance Social Enterprises (www.asvb.com.au). They have been produced by Simetrica, using best practice methodology for policy evaluation. These values are **used under Licence # [P8Xw5y]** with expiry date [7/11/2019].

homelessness reduces children's' performance in school, particularly with respect to mathematics, is associated with greater truancy/behavioural problems and drop-out rates (Astone and McLanahan 1994, Mueller and Tighe 2007, Jelleyman and Spencer 2008, Dockery et al 2010, Cunningham et al 2010, Galvez and Luna 2014). School performance and completion is also one of the mechanisms through which housing outcomes are linked to human capital accumulation and future productivity/earnings potential (Maclennan et al 2015).

While there is broad agreement in much of the literature of the association between educational outcomes and housing instability, the causal mechanisms that ties housing situation to educational outcome is, however, less well documented. Broadly, two explanations are put forward (Taylor and Edwards 2012). Firstly, due to material hardship parents may not be able to adequately support children's' education through schoolbooks, extra tuition, clothes or health care. For the US Newman and Holupka (2014) find that housing affordability issues causes material hardship resulting in lower education attainment. Secondly, due to family stress brought on by financial hardship more families experience family instability. Australian research suggests that dropout rates following family breakup are higher (Evans et al 2009).

Both of the explanations are, however, problematic with respect to estimating the social return from investing in social and affordable housing. Material hardship may be as a result of high housing costs, but material hardship may also be the result of low income, in which case housing affordability, instability and material hardship all are the social symptoms of low income, rather than direct causes of educational attainment. While it is the case in Australia that low-income households more frequently experience housing affordability stress (Yates 2007, Hulse et al 2015) it does not follow that all households in housing affordability stress, instable housing circumstances or homelessness would achieve better educational outcome if their housing circumstance were improved or their housing costs were reduced.

There may, in other words be other factors generating the educational outcome – e.g. income, parent's own level of education, neighbourhood effects. The latter is particularly relevant with respect to investment in social and affordable housing. Evidence suggests that neighbourhood effects in lower income neighbourhoods may have negative impacts on children's educational attainment (Edwards and Bromfield 2009). The association between parental education levels and children's educational attainment in the short and in the longer-run is also well documented (e.g. Dubow et al 2009). Better housing outcomes would not affected parent's educational level. Ascribing social and economic value to investment in social and affordable housing therefore needs to be cognisant of the distinction between housing outcomes as causal and housing outcomes as another indicator of low-income status or poverty.

A recent Australian study using the Longitudinal Study of Australian Children (LSAC) examines educational and emotional/behavioural outcomes and housing transitions between 2004-2008 (Taylor and Edwards 2012). The study is limited to children aged 4-9 and test for associations between housing stress and cognitive development (receptive vocabulary). While the descriptive statistics show that children in private and social rental, the latter more so than the former, have lower receptive vocabulary scores and higher emotional and behavioural problems, the outcomes are attributed to low income status rather than housing stress. Housing affordability stress is *not* found to separately explain cognitive development or behavioural problems in young children. The Australian evidence thus appears contrary to the US evidence.

However, housing instability (proxied by frequent relocations) is found to have a statistically negative impact on the emotional and behavioural problems of children 4-5 and moving more than two times

between 2004-2008. Emotional and behavioural problems are in separate studies linked to lower educational attainment (Lamb *et al* 2015). There is some evidence that this correlation is somewhat higher in Australia than for other OECD countries (Lamb *et al* 2015).

AHURI research (Phibbs 2005) based on parent's qualitative assessment of children's school performance found that a net of 46% of parents reported an improvement in subject performance after moving into social housing.[7] A net of 35% of parents reported a higher level of motivation in their children. The research does, however, not report impacts on Year 12 completion rates or give an indication of whether the qualitative improvement resulted in Year 12 completion.

When considering social and affordable housing as social infrastructure it is therefore clear that investment in housing, *per se*, may have some positive impact on educational outcomes, but that the incidence – that is the number of children that will be positively affected by better housing outcomes directly – is much more limited. The results in Table 1 and Table 5 are for an impact ratio of 0.1, but further research is required to establish more precise estimates; and in order to maximise the wider social and economic returns from this aspect of social and affordable housing.

Where there is such an effect, however, the return per individual is significant and evident across a number of dimensions: in wellbeing terms, in earnings and employment opportunity/further studies, and in additional taxable income and forgone social security payment. For instance, Forbes *et al* (2010) find that completing Year 12 is associated with a 10-14% increase in hourly earnings for women and men in Australia, respectively. Leigh finds that Year 12 completion is associated with a 23% increase in wages (Leigh 2008). Ravi and Reinhardt (2011) estimate the additional earnings impact with Year 12 completion to **$3,016 ($3,442)**. Estimates for the Dusseldorp Skills Form by Applied Economics (2002) estimates that the additional net present value of lifetime earnings for Y12 completion, compared to Y10 completion, is **$157,640 ($239,340)** for males and **$64,000 ($97,170)** for females, or **$3,750 ($5,690)** and **$1,520 ($2,310)** per annum for males and females, respectively.

Table 5 summarises the estimated social and economic impact from completing Year 12 schooling in Australia and improved mathematics attainment. The results in row 2 and 3 are based the ASVB and total impact values from constructing 100 affordable properties for households with one child each. *Results have been adjusted relative to those provided by the ASVB and are below reported under license*.

Table 5 Wider social and economic benefits: education

Dimension	Completing Y12	Impact ratio
Total Wellbeing Value [a]	$99,940	0.10
Total government [a]	$3,590	0.10
Earnings	$3,442[b]-$4,000[c]	0.10

Note : [a] These estimates are based calculations provided by the Australian Social Value Bank, and subsequently adjusted. The values used in these calculations, provided by the Australian Social Value Bank, are owned by Alliance Social Enterprises (www.asvb.com.au). They have been produced by Simetrica, using best practice methodology for policy evaluation. These values are **used under Licence # [P8Xw5y]** with expiry date [7/11/2019]. [b] Impact based on Ravi and Reinhardt (2011) and adjusted for CPI to 2018 value. [c] Impact based on Applied Economics (2002), average of male and female, and adjusted for CPI to 2018 values.

3.2.3 Depression, anxiety and health related impacts

Section 3.1 detailed a number of health related wellbeing benefits and public policy expenditure savings from transitioning people who are homeless to social and affordable housing. In many cases health

[7] The survey research found that 53% of parents reported an improvement whereas 7% reported a worsening in performance (Phibbs 2005). The net impact is thus 46% assuming that the 7% who experience a worsening cancel out 7% of the improvement. The net figure is not part of Phibbs' study.

related circumstances are a pathway into homelessness. In this section, additional wellbeing benefits and public policy expenditure savings are discussed focusing on the impact of housing affordability stress and security of tenure.

Housing affordability and uncertainty around housing/tenure stability is often argued to adversely affect the health, mental health and wellbeing of households by reducing households' sense of ontological security and empowerment/control, as well as the added stress of frequent relocations and search for affordable housing (e.g. Phibbs 2005, Lewis 2006, Hulse and Saugeres 2011, Colic-Peisker *et al* 2014). Baker et al (2017), for instance, show that the incidence of what they term 'housing insults' strongly correlates with the incidence of clinical depression.[8] Nationally and internationally (Brennan and Galvez 2017), there is thus considerable evidence that the incidence of housing affordability and/or quality and various mental health related indicators is strong. However, the pathways in and out of depression are complex and multifaceted and reflect personal as well as socioeconomic traits and circumstances (Handley *et al* 2019).

In terms of identifying the wider social and economic benefits of investing in social and affordable housing a key question is the extent to which housing affordability and security of tenure provides a *causal* explanation for stress and mental health related outcomes; and what the incidence of any causal effects might be (how many are affected). On the issue of causal explanations a number of Australian studies find that, for private renters, a change in affordability (from affordable to unaffordable) is associated with a small decline in the Mental Health Inventory (MHI-5) measure (Bentley et al 2016) and the SF-36 Mental Component Summary (Mason et al 2013). The Australian evidence thus suggests that the experience of housing affordability and/or stability in some cases results in mental health issues that otherwise, other things being equal, would not have occurred.

Two Australian studies provide some information on what the incidence of these effects might be. Firstly, Phibbs (2005:67) finds that some 6% of respondents reported feeling less stressed/depressed as a result of moving into social housing.

Secondly, using a combination of descriptive statistics and multivariate regression analysis Yates (2007) shows that the incidence of financial stress is particularly high amongst private (31%) and public (49%) renters, but the study also finds that for public renters there is little difference between those who also experience housing affordability stress and those who do not. For private renters those who experience housing affordability stress have a 9%point higher rate of reporting high financial stress as well (Yates 2007:38). Moreover, there is a correlation between income percentile and incidence of both housing affordability and financial stress. At the broad level the study concludes that when considering *all* tenures 'the probability of being in financial stress is affected by the same risk factors that determine the likelihood that a household is in housing stress' (Yates 2007: 44). The study then goes on to attempt to identify the impact of housing affordability stress on financial stress over and beyond common risk factors and finds that when controlling for one risk factor at the time the an increase in housing affordability stress is associated with a 6-10% increase in high levels of financial stress; and 14-18% increase in some financial stress.

Taken together the Australian evidence suggests that there is an independent effect of housing affordability stress on the experience of financial stress and mental health issues, that this effect may be higher in private and public rental where it may also reflect a sense of ontological security. In the absence of causal estimates that consider causality and qualitative magnitude jointly between housing

[8] Housing Insults is a composite measure that includes housing affordability, but also a range of housing quality related indicators (Baker *et al* 2017).

affordability and depression, anxiety and other mental health experiences a guestimate of the impact is around 4-6%. Further research is, however, required to establish direct estimates.

Episodes of depression and anxiety has financial costs for both individuals and the public policy. Hawthorne et al (2003) estimate that the personal costs per annum to an individual in South Australia with severe depression is **$14,670** and **$4,130** per annum to the health sector.[9] For 'other depression' the equivalent costs are **$4,650** (individual) and **$1,220** (health sector). For an affordable housing project in a medium land and medium rent location in Melbourne and Sydney the average health cost saving per property would on these estimate amount to some 1.3% (severe) and 0.4% (other) of the required annual subsidy to meet the gross financing gap. Importantly, for some individuals with mental health issues the cost of keeping them in the community is substantially less than specialist accommodation. However, a lack of appropriate housing and support is resulting in additional cost to the public sector (PC 2019:548). Social and affordable housing can here provide a cost-effective way of managing mental health related public costs (PC 2019). However, housing and mental health services are currently not sufficiently integrated to play such as role, in part due to a lack of appropriate and available housing options (PC 2019, Brackertz et al 2019).

Both the UK HACT model and the ASVB provides wellbeing estimates for relief from anxiety and stress. The UK HACT model estimates the wellbeing impact of to be equivalent to **GBP 37,770** per person. Based on estimates provided by the ASVB the wellbeing impacts associated with constructing 100 affordable properties and letting them out to a random sample of low-income household experiencing housing affordability stress, with an impact ratio of 0.06, would be **$65,586** in Year 1.[10]

Phibbs (2005:61) finds that heavy health service users experienced an average reduction in monthly health expenditure of **$46** per person. However, the research also found an increase in monthly health expenditure by light users of health services so that the average total reduction in health expenditure was **$2** per person.

The ASVB also provides Wellbeing Values for reduced parental stress. Assessing the impact/causal relationship between access to social or affordable housing and the incidence of parental stress is, however, difficult. Based on a two-time period survey of recent social housing entrants Phibbs (2005) finds that 6% of respondents reported feeling less stressed/depressed, using government services less due to lower levels of stress. At an impact ratio of 0.06 and an affordable housing project of 100 properties would generate a total Wellbeing Value of **$38,360**.[11]

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[9] Cost estimates are in both cases CPI adjusted from their 2002 level to 2018 values.

[10] These estimates are based calculations provided by the Australian Social Value Bank, and subsequently adjusted. The values used in these calculations, provided by the Australian Social Value Bank, are owned by Alliance Social Enterprises (www.asvb.com.au). They have been produced by Simetrica, using best practice methodology for policy evaluation. These values are **used under Licence # [P8Xw5y]** with expiry date [7/11/2019].

[11] These estimates are based calculations provided by the Australian Social Value Bank, and subsequently adjusted. The values used in these calculations, provided by the Australian Social Value Bank, are owned by Alliance Social Enterprises (www.asvb.com.au). They have been produced by Simetrica, using best practice methodology for policy evaluation. These values are **used under Licence # [P8Xw5y]** with expiry date [7/11/2019].

3.2.4 Overcrowding

High housing cost and availability of suitable housing will in some instances lead to more intensive utilisation of housing assets, resulting in overcrowding. Overcrowding is particularly prevalent in a number of indigenous communities (AHIW 2014), but is also a feature of families 'doubling up' and sharing arrangements to reduce housing costs or availability of adequate housing. Overcrowding has been found to coincide with a greater risk of infectious disease and higher blood pressure (Pomeroy and Marquis-Bissonnette 2016), detrimental to mental health outcomes (Phibbs 2005, FACS 2016), and negative impact on ability to complete school work (Pomeroy and Marquis-Bissonnette 2016), learning progression (Mullins *et al* 2001) and school attendance (Chaloner *et al* 2015). There is also a growing body of research that documents the impact of housing outcomes and perceived housing outcomes (e.g. perceptions of crowding) on family functioning (Thornock *et al* 2019), punitive parenting practices (Young 2002 cited in FACS 2016) and parental stress (Bridge *et al* 2003). Chaotic home lives (noisy or overcrowded) is also found to correlate with behavioural problems, cognitive development and school attainment (Jaffee *et al* 2012).

According to the 2016 census, some 8% of indigenous households in major cities lived in overcrowded conditions, rising to nearly 25% in remote and very remote areas (AIHW 2019a). AIHW data shows that some 4% of public and community housing also is overcrowded (AIHWb); nationally overcrowding in the private rental sector is approximately 7%, rising to 11% in Sydney.[12] Between 2006 and 2016 the number of people experiencing severe overcrowding – defined by the ABS as requiring at least four more bedrooms – increased from 31,500 to 51,100.

Wellbeing values in the ASVB provides monetised equivalents of transitioning from overcrowded to not overcrowded living conditions. With respect to thinking about social and affordable housing as social infrastructure and the social return on such an investment will be determined by the allocation policy that governs access. Unlike the schooling and health effects the impact ratio is therefore predominantly a matter of choice/regulation. To maximise the social return, dwellings could exclusively be made available to households experiencing overcrowding. If this was the case then a project delivering 100 affordable properties would be associated with a Wellbeing Value (primary/person benefit) of **$291,270** and a cost saving to government **$3,485**.[13]

3.2.5 Family stability and functioning

AHURI research shows that stability of tenure enables people focus on longer-term goals, such as family relationships (Lewis 2006). A lack of affordable housing options may also mean that individuals are unable to escape violent and abusive living/family situations. Canadian research found that 1 in 3 women returned to an abusive relationship because of missing affordable housing options (Ponic cited in Thomas 2017). In Australia 42% of people assisted by specialist homelessness services in 2017-18 had experienced family and domestic violence; some 9 out of 10 people receiving crisis payment on the grounds of domestic violence had left their home (AIHW 2019c).

The drivers of family and domestic violence are highly complex and there is little evidence in the literature on direct impact of housing costs on increases or decreases in the incidence of abuse.

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[12] Private sector overcrowding in based on Survey of Income and Housing 2015-16. Author's calculation based on Housing Appropriateness measure needing 1 or more bedrooms (Canadian National Occupancy Standard).

[13] These estimates are based calculations provided by the Australian Social Value Bank, and subsequently adjusted. The values used in these calculations, provided by the Australian Social Value Bank, are owned by Alliance Social Enterprises (www.asvb.com.au). They have been produced by Simetrica, using best practice methodology for policy evaluation. These values are **used under Licence # [P8Xw5y]** with expiry date [7/11/2019].

However, a lack of social and affordable housing is also in Australia shown to exacerbate the public sector cost of dealing with family and domestic violence. Escapees from abusive relationship often end up in crisis accommodation in the first instance, but the absence of follow-on housing options results in individuals (primarily women) returning to abusive relationships and becoming repeat users of services, with some 60% of people seeking refugee or emergency accommodation turned away. One Australian submission to the parliamentary Inquiry into Domestic Violence in Australia estimates the cost difference to **$23,450** per person (Finance and Public Administration Reference Committee 2015).

Canadian research further suggests a positive association between affordable and stable housing, and family stability, due to reduce 'disruptive influences' from high housing costs (Pomeroy and Marquis-Bissonnette 2016). However, the literature is currently insufficient to say much about the causality and hence the, potential, impact ratio that provision of social and affordable housing might have in this respect. Hulse and Stone (2007) find a strong positive association between stability in housing and a number of dimensions of social connectedness, although the effect of housing change on social connectedness was found to be limited.

3.3 Social and affordable housing as a platform and social justice

The above section has attempted to separate – or at least be clear about – the wider social and economic outcomes generated by social and affordable housing as social infrastructure, as opposed to the service delivery, and the efficacy of service delivery, that is enabled through construction of social and affordable housing *and* the provision of wider social and economic services that associated with many social and affordable housing providers.

3.3.1 Platform for additional support

In this section additional social and economic wellbeing effects generated by provision of further tenant services and support are considered. As with the results throughout Sections 3.1 and 3.2, and in line with housing first principles, the combination of housing as a platform (infrastructure) for delivering additional tenant-specific services provides a considerable potential to increase the wider social and economic benefits associated with social and affordable rental.

The argument here is similar to the argument around mental health – social and affordable housing provides a platform for integration of services from which social and affordable housing providers can address individual and community health, education, jobs-readiness, networking and social capital skills that play both a preventative and an efficacy of treatment role for individuals, communities and public sector expenditure.

Table 6 (next page) reports the Wellbeing Values associated with a number of health, employment and community services frequently provided by social and community housing providers in Australia. The monetary estimates are based on the UK's HACT model and discussed in Fuijiwara 2013. Many of the values are obtainable through the Australian Social Values Bank as well.

3.3.2 Affordable housing and social justice

Not all wider social and economic outcomes associated with social and affordable housing are easily quantifiable. Work by SGS Economics and Planning details the links between housing development and the social profile of Australian cities (SGS 2013). Their overall conclusions are that (SGS 2013:8):

- Lack of affordable housing can result in locational disadvantage and social polarisation within the city.
- Lack of affordable and diverse housing can create displacement of low-income households.
- A segmented housing market can create a city, which excludes some groups.
- A mix of housing and household types is critical to achieving demographic diversity within the city.

Social and affordable housing – in relevant locations – can thus be integral to facilitating more socially just, inclusive and diverse cities.

Table 6 Housing as a platform for health, employment and community services, per annum

Transition	Wellbeing value
From unemployment to employment [a]	GBP 14,433
Participation in 1 adult learning course	GBP 745
Learning that helped people feel more confident with family and others	GBP 690
Learning that helped people become more confident parents	GBP 609
Learning that helped people to be able to help their children with school	GBP 435
Volunteering regularly	GBP 11,800
Relief from problems connected with: arms, legs, hands, feet	GBP 1,306
Relief from chest/breathing problems, asthma, bronchitis	GBP 2,230
Relief from heart/blood pressure or blood circulation problems	GBP 1,546
Relief from stomach/liver/kidneys or digestive problems	GBP 6,039
Relief from depression, anxiety	GBP 43,453
Relief from alcohol or drug related problems	GBP 24,257
Relief from migraine or frequent headaches	GBP 3,626
Relief from health problems that limit daily activities	GBP 10,220
Relief from health problems that limit amount or type of work	GBP 2,354
Participating in sport at least once per month	GBP 428
Participation in sports at least once per week for 2 months [a]	GBP4,179
Avoiding family separation	GBP 3,400
Not having to provide residential carer	GBP 830
Relief from being burdened with financial debt	GBP 2,300
Socialising on most days of the week	GBP 3,000

Note: all values taken from Fuijiwara (2013) except [a] taken from HACT model version 4.

3.4 Employment, education and productivity

Section 3.2.2 shows that the individual's return to completing Year 12 is considerable. Similarly, estimates of the return to employment are substantial (Table 6). In both cases, however, the impact of access to social housing on educational and employment outcomes *in isolation* is more uncertain, and contingent on a number of regulatory settings (Dockery et al 2008). Australian research suggests that individual characteristics (PC 2015), parents' skills and education (Applied Economics 2002), neighbourhood effects (Hughes 2006) and limited social networks (Hughes 2006) significantly determines educational attainment and employment outcomes. Although not uncontroversial (Terrill and Batrouney 2018), there is also a concern increasing housing costs is further exacerbating the separation of low-income jobs and housing options (Maclennan et al 2015, Nouwelant et al 2016); and exacerbating barriers to employment and retainment of employees in a number of low-income jobs (Nouwelant et al 2016). Employment, education and productivity outcomes are thus highly complex.

However, housing, *per se*, is one of many infrastructures that enables workers to be productive – for urban economies the supply chains of skilled and unskilled labour involves more than number of people and years of training/education (Maclennan et al 2015).

In considering social and affordable housing as social infrastructure it is clear that social and affordable housing *can* intersect with and provide a platform from where to address a number of the individual and area-based determinants employment and education outcomes:

- Provide housing at reduced costs that enables lower-income households to live closer to employment opportunities. This has a dual income (incentive) effect – more retained earnings, lower commuting costs;
- Many social and affordable housing providers provide additional employment, skills and financial literacy support to tenants;
- Provide family and parenting skills that enhance the home-learning environment;
- Engage in place-making activities that increase tenant's social networks and capital in mixed income neighbourhoods.

It should be noted that the employment and education outcomes will be highly contingent on allocation and access policies. Some social housing residents, or those on waiting lists, have multiple barriers to employment, including health, skills and various forms substance abuse. The interaction of these barriers with any housing stability and/or housing affordability effects is likely to mitigate the efficacy of housing provision alone (Cigdem-Bayram et al 2017). Social and affordable housing can here play an important *housing first* role, but it is likely that positive outcomes will be the result of housing *and* additional support (Section 3.3). For other entrants into social and affordable housing the additional residential stability may make it easier to maintain employment. Evidence by the Productivity Commission suggests that for entrants into social housing in Western Australia and South Australia there was some increase in employment when people from the waiting list obtained social housing allocation (PC 2015:44).

3.4.1 Simulating the productivity effect of well located, affordable housing

Maclennan *et al* (2019) construct a computable general equilibrium (CGE) model to estimate the wider economic impact from affordable housing construction. The model estimates the agglomeration and density effects, human capital accumulation effects, construction effects, household consumption and savings behaviour from constructing an additional 12,500 affordable properties in Sydney over 10 years, in locations that provided proximity to jobs concentrations/transport. Their model finds:

- A **$2,554** saving per annum per worker due to changing commuting costs and distance, of which **$1,227** would be output gain.

- A lifetime earnings increase of unskilled labour of $56,000 due to agglomeration effects, and an average **$19,865** per working person, per annum human capital accumulation.
- A **$5,893** per annum per household reduction in housing costs (see Section 3.2.1 for net impact estimates).

In considering the wider social and economic impacts of social and affordable housing as social infrastructure additional key insights from this work is that, like other housing construction, there are significant wider economic effects that contribute to economic output and, potentially, to productivity growth. However, a long-term program of social and affordable housing as social infrastructure will in addition have (potential) counter-cyclical benefits that benefits the economy and the construction sector through periodic downturns.

A Canadian study suggests that beyond the economic stimuli generated by any housing construction, the additional value added economic impact from constructing affordable housing ranges from 20-30%. For affordable housing that specifically targets marginalised populations the additional value added increases to some 90% (Constellation Consulting Group 2016). The additional value added is related to greater disposable income, health and wellbeing effects.

When considering the conventional productivity benefits alongside the wider social and economic benefits it is clear that the provision of well located, potentially additionally supported, social and affordable housing has the potential to deliver significant productivity gains alongside wider social and wellbeing outcomes. Based on the work of Maclennan *et al* (2019) the wider economic benefits are comparable to the financing gap for affordable housing.

4. Conclusion

The aim of this report was to conduct a literature review of key evidence on the wider social and economic returns of investing in social and affordable housing, in order to assist CHIA's submission to Infrastructure Australia in preparation for the 2021 *Infrastructure Priority List*.

Overall, the literature shows a strong association between housing affordability stress and housing instability, and a number of social and economic indicators at the individual (household) and community level.

The causal relationship between these elements is in many cases difficult to establish and likely to be small. Nevertheless, the available evidence clearly shows that the investment in social and affordable housing can unlock significant wider social and economic impacts that otherwise impose economic, social and/or environmental costs, or that realise additional economic, social and environmental benefits. In a number of cases the achievable public sector savings constitute a significant proportion of the subsidy that is required for a positively geared social and affordable housing project over a 20-year period.

This highlights two dimensions of social and affordable housing as essential social infrastructure:

1. Social and affordable housing as an independent effect on the wellbeing, productivity and cost-reducing outcomes for individuals and society.
2. Social and affordable housing as a platform for unlocking additional individual and societal wellbeing, productivity and cost-reducing outcomes for individuals and society.

In both cases the access or allocation rules will have a significant bearing on the wider social and economic benefit produced for specific investment projects with higher impacts associated with relief from homelessness and violent home life circumstances.

There is an important distinction between individual impacts from access to social and affordable housing and the wider societal benefits. The impacts presented in this report (Section 3 and summarised in Table 1 and Table 2) are in part the product of an engineered impact ratio. In practice, the impact ratio will be mitigated by institutional rules around access to new social and affordable housing and the availability of information to target allocation. However, even an income transfer – such as might take place with setting rent levels below market rates – can produce significant economic benefits on a year in, year out basis.

With respect to Infrastructure Australia's assessment framework and materially improve national productivity, by addressing a problem that otherwise imposes economic, social and/or environmental costs or by realising economic, social and environmental benefits the results in this report suggests that meeting the $30 million per annum benchmark is feasible, but will be a combination of scale and allocation policy.

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