Homes for future generations

Seven short essays:

in search of better homes and places

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Exec summary, English language version

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Executive summary

This project explored how new homes can meet the aspirations of the Wellbeing of Future Generations Act (WFGA) and, by implication, the United Nations Sustainable Development Goals (SDGs). Seven guiding principles relate to the seven WFGA goals:

Housing should be planned with a focus on people over vehicles, guided by appropriate assumptions about car parking and infrastructure. (Adoption of the Wales Parking Standard typically compromises space for amenity and ecology.) Development should be biodiverse. Ecologically valuable, useful, connected amenity spaces should contribute to a nature recovery network. The ownership, use and character of these spaces should be unambiguous. (see essay 1 and the Wildlife Trusts report: *Homes for People and Wildlife*)

Developments should have a clear character and a defined sense of place. (Generic house types tends to diminish these qualities.) The architectural language should be culturally informed and contextually relevant. Neighbourhoods should accommodate societies, events and cultural activities. (see essay 2 and DCfW report: *Homes and Places 2*)

Understanding the user is key to better decision-making; people should be at the centre of housing design. (Generic housing that tries to accommodate everyone equally tends not to really suit anyone.) Decent space standards, long term quality and engagement with the user should be prioritised over short-term capital cost. (see essay 3 and *The Housing Design Handbook by Levitt et. al*)

Neighbourhoods should be developed with clear connections to their context and to existing communities. Improved permeability, shared amenities and spaces for play and intergenerational activity should increase the sense of ownership, with particular focus on younger generations. (see essay 4 and Play Wales' online publication *Childhood, Play and the Playwork Principles*)

Use of locally available, low carbon and carbon sequestering materials should be maximised. Techniques employing local materials, systems or people should be prioritised. Opportunities for training and reskilling should be exploited. Together, these changes will build valuable, productive, locally based, low carbon circular economies. (see essay 5 and the *Zero Carbon Homes report by Wood Knowledge Wales*)

Homes must be comfortable to occupy and affordable to heat. They should be built of healthy materials. Views, natural light, spatial arrangements and boundary treatments should connect occupants to the outdoors and each other. Neighbourhoods should support activities that promote physical and mental health and wellbeing. (see essay 6 & BRE report *The Full Cost of Poor Housing*)

All new homes should be carbon negative and energy positive. Homes should minimise energy use through a combination of efficient fabric, heat from low carbon sources and on-site renewables. A common agenda is needed to drive behaviour change and promote better collective decision-making over personal convenience. (see essay 7 and the *London Energy Transformation Initiative*)

Anyone involved in the procurement, design and construction of public housing in Wales now has a responsibility to think longer term and adopt principles other than 'reduce capital cost' – from policy makers and landlords to site operatives and maintenance teams. The design work produced for this project describes a rich array of benefits that can be derived from better housing, if appropriate guiding principles are adopted. However, the research also revealed constraints that prevent new housing from being designed and built with a longer term perspective, or diminish the benefits that result.

The potential of public and private sector housing developments to meet WFGA aspirations is often compromised by decisions made before designers and constructors get involved. Collective responsibility for better housing must be extended to a wider group of stakeholders. This includes people who make decisions about the location and type of future housing developments, people who design, maintain, adapt and demolish our homes, and of course the people who inhabit them. Key lessons are summarised for each group overleaf.

Figure 1a: a rich array of shared spaces promoting connectedness, activity, health, wellbeing and ecology

POLICY AND PLANNING

Strategic decision-making must be improved, if housing is to meet WFGA aspirations.

The importance of location cannot be overstated. Housing supply and demand are not nearly as well correlated as housing supply and developer profit, which tends to result in the development of large parcels of land in more affluent, easy-to-reach areas. Much of Wales consists of small towns in dire need of more, better homes to sustain existing communities and allow for some growth. However, established settlement boundaries, fragmented sites and depressed property values often limit opportunities to deliver homes where they are really needed – locations that are potentially more sustainable.

Sustainable communities require well connected streets, good public transport, plentiful local amenities, abundant low carbon energy and sustainable drainage. Tight, constrained brownfield sites are more likely to meet these criteria than the large, open edge-of-settlement sites preferred by volume housebuilders. Where possible, housing should be used to bring life – and investment – back into our towns and villages, rather than pushing people out to their periphery.

The Wales Parking Standard (typically one parking space per bedroom) severely compromises the potential of housing schemes to include meaningful amenity and ecology, while meeting established targets for density. However, most of the land currently earmarked for housing is not viable unless parking is provided on site, if homes are to meet the needs of a 'typical' household. Better criteria must be used to allocate sites for housing. Housing models must be developed that suit different locations, and that balance land use, density, amenity, ecology and the car. The improvement and expansion of public transport networks must be prioritised.

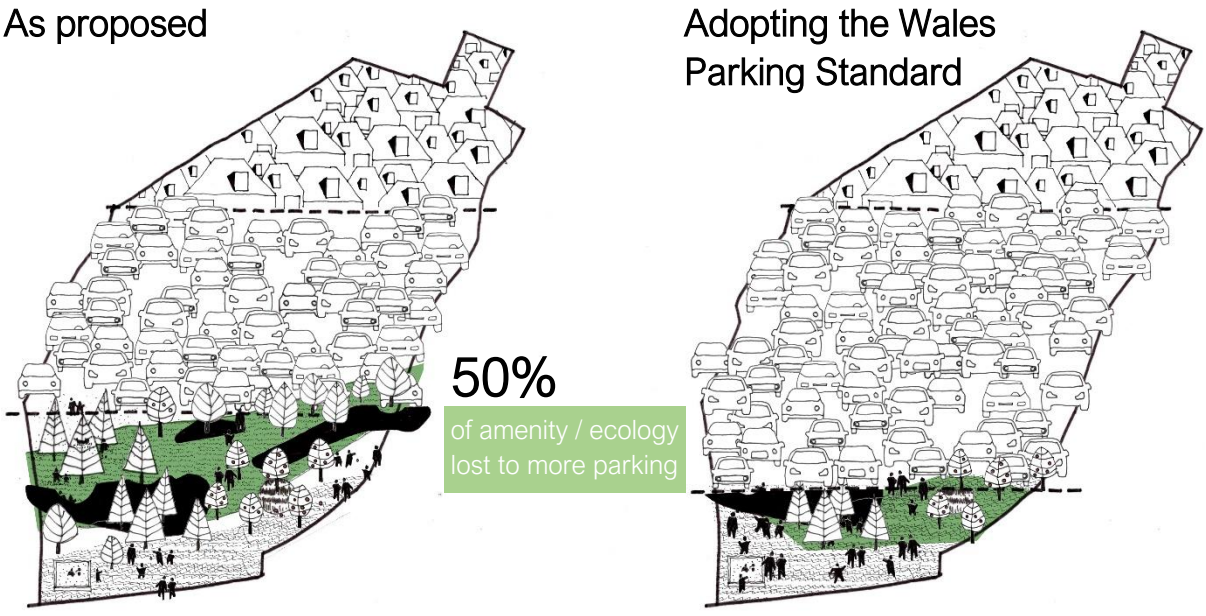

Figure 1b: By carefully planning infrastructure and parking, almost a third of the site can be freed up for amenity and ecology (as proposed, left). In contrast, compliance with the Wales Parking Standard (right) means that half of the space allocated for amenity and ecology is lost to additional parking.

The private sector cannot be expected to instigate change of this magnitude. A substantial social housing programme that builds better homes and neighbourhoods throughout Wales would provide opportunities to demonstrate the many benefits of designing and constructing better, and raise expectations within the private sector.

Retrofit of the existing housing stock and accelerated delivery of new homes are already being put forward as key components of a post-Covid economic recovery. Many of the benefits of better homes outlined in this report would add considerably to the value of carefully retrofitted existing homes or well designed and properly built new homes, but housing developers must be given tools to compare these benefits if they are to make informed decisions, for example by prioritising one benefit over another. Clear metrics should be established for measuring and comparing different benefits of better homes. These metrics should be used to account for better decision-making.

It is important to recognise that there is no single *silver bullet*, and housing models that fully realise WFGA ambitions are unlikely to appear overnight. Housing providers must adopt an aspirational approach, continually pushing best practice, until truly sustainable development becomes the new 'norm'.

DESIGN, CONSTRUCTION AND COST

There are barriers to better housing that design alone cannot overcome (see previous page). However, design has a clear remit - to ensure that housing is contextually appropriate and meets the needs of the user. (Standardised house types tend to be reductive in terms of character, contextual relevance and suitability for end users.) Homes must be designed with the user at the centre of the process. Neighbourhoods must be designed with a language that considers context and speaks of place.

Housing is not being constructed to a standard commensurate with societal goals. The climate crisis demands that we build better homes – not just for ourselves and our future generations, but for a better future globally. International decarbonisation targets demand higher levels of energy efficiency than UK Building Regulations, and most new homes underperform 'as built' due to the performance gap.

All new housing must be built to a standard that meets international targets.

It is entirely possible to build carbon negative homes today. They do not need to cost significantly more than established housing models (see section 5.3), and the potential benefits are extensive. Some benefits offer quantifiable longer term cost savings (see essays 5 and 6). Other benefits are more difficult to measure, but no less important.

Some decisions that move us away from an exclusive focus on capital cost should be easy to make, because the wider impacts are well known (e.g. reducing the amount of cement and PVC used in construction). However, in the first instance, such changes require strong leadership and top-down regulation if they are to be widespread and asting. Standards must be enforceable.

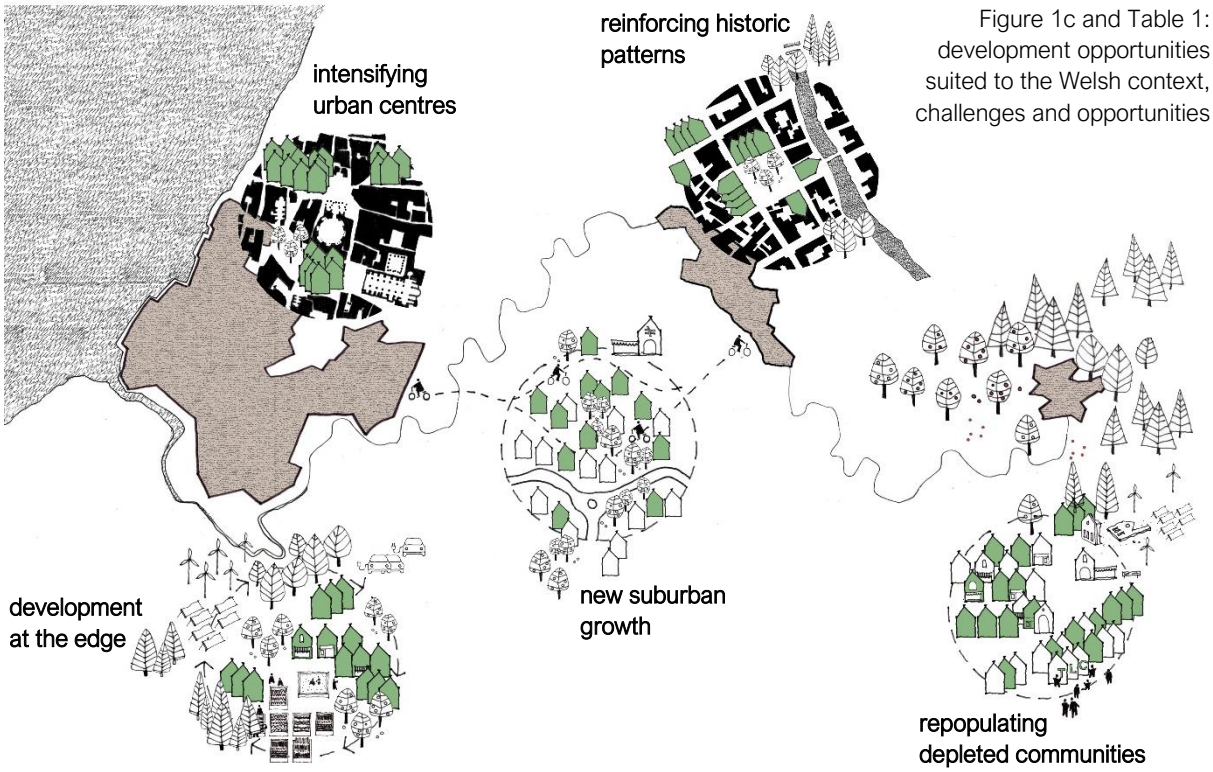

Figure 1c and Table 1: development opportunities suited to the Welsh context, challenges and opportunities

Development	location	site and density	Character	health, wellbeing	opportunity
Intensifying urban centres	Better public transport and local amenities mean that low / zero parking is needed.	Brownfield sites. Higher density puts pressure on internal and external space standards.	Characterful development can improve the wider identity of a place.	Poor air quality. Typically hard contexts with limited local ecology / biodiversity.	Investing in town and city centres to benefit the wider community.
Reinforcing historic patterns	By improving public transport and local amenities, car use can reasonably be reduced.	Older urban grain often achieves high densities but limits opportunities to improve.	Existing neighbourhoods often have an established character / sense of place.	Higher density neighbourhoods often prioritise privacy over community.	Complimenting existing housing types and development patterns.
New suburban growth	Limited public transport and local amenities. Estate roads limit growth *unless* low car use is justified.	Low density estates typically dominated by car use. Infill can increase density and variety.	Repetitive house types & materials result in a lack of character. Focus on privacy diminishes connectedness.	Low density improves air quality and provides space. 'Left over' spaces tend to be low value and sterile.	Densifying areas often characterised by inefficient land use and limited character
Repopulating depleted communities	Communities have often lost public transport connections and local amenities.	Development opportunities exist at or near the centre of smaller, older communities.	Smaller, older places often have a distinct underlying character, but may be in need of TLC.	Smaller communities have higher environmental quality and good access to outdoors.	Bringing life back to depleted communities with low market value.
Development at the edge	Public transport links are likely to be poor, and travel necessary for local amenities.	Land may be greenfield and of wider benefit. Options for autonomous (self-sufficient) housing.	Character may be suburban or rural. Different house types may be needed.	Better environmental quality generally, and good access to outdoors.	Different models for housing and living, with different benefits.

Other changes are less straightforward to make, typically because societal or environmental benefits must be balanced against disbenefits to the end user (e.g. transition to a low carbon heating system that increases fuel bills). For these changes to take place, further research, guidance and support are needed, to establish when such changes should take place, and how.

It is important to distinguish between watering down targets for improvement and providing flexibility for the right change to take place at the right time, and in the right way. Interim standards such as those outlined by UK Government's response to the Future Homes Standard consultation (MHCLG 2021) prolong persistent poor practice, delay a shift towards building better (including change that is needed in the construction industry, the wider marketplace and behaviour at home) and increase the challenge for future generations.

Housing is complex. The interrelated, sometimes conflicting, benefits of better housing make it difficult to provide clear, succinct design guidance. Case studies are one of the best ways to demonstrate how to improve quality. They can be used to drive higher standards by raising expectations, while maintaining sensitivity to context and meeting a particular housing need. Case studies also help the wider public understand what better actually means, in terms of the built environment and the resulting lived experience.

Modern methods of construction promise many benefits including better performance, less waste, increased capacity to build homes, and greater comfort for the occupant. However, they do not promise these benefits at lower capital cost (for now, at least).

Capital cost should not be used as the primary metric for making decisions about when, where and how to build new homes. Homes that perform better will inevitably cost more to build than homes designed and built with an explicit focus on capital cost. However, better homes offer a wide range of benefits in the short, medium and long term. Many benefits have direct or indirect positive financial implications. Benefits are not always easy to understand (let alone measure) but health benefits in particular provide clear financial justification for an agenda that goes beyond capital cost.

If focus shifts away from capital cost, there can be a different view of what is 'desirable'. Shared space, amenity and connectedness must be seen as beneficial, not as liabilities. Landscape and ecology should be seen as ways to connect people, not separate them. Constructors must target quality from the perspective of the occupant, not expedience. They must be incentivised to build properly, without cutting corners, or not build at all (which requires a change in procurement methods and reasonable target costs).

Building homes should not be undertaken lightly, or without appropriate guidance. It must be seen as a long-term commitment to future generations as well as existing communities, because it leaves a legacy for many years to come. Perhaps most importantly, the current poverty of ambition pervading housing delivery and the housing market must be replaced with an ambition to build, and behave, better. People involved in the design and construction of new homes should be given support, through best practice learning and expert advice, and encouraged to achieve the highest standards.

HOUSING IN USE

As users, we must raise our expectations in terms of quality. A prolonged national housing shortage and a consistently poor 'offer' from housing providers have led to the widespread acceptance of poor housing quality, in terms of design and workmanship. Homes and neighbourhoods will only meet WFGA aspirations if they are designed and built to higher quality, which in turn requires higher expectations from the end user.

We must also change ingrained behavioural patterns. We must understand that land has an intrinsic value that should not be squandered. We should anticipate the need to make lifestyle changes alongside changes to our homes that save energy, because energy is valuable, and clean energy even more so. And we should expect less convenience. We should be willing to use public transport, and walk to the shops, otherwise local shops and public transport networks will cease to exist.

If housing schemes are to foster a stronger sense of community and include shared spaces with real ecological value, attitudes towards private space must change. While privacy must be preserved, connectedness should also be sought, for all the benefits it brings. More shared places to meet or play inevitably means less private space in terms of gardens, garages and private driveways. For commercial developers to adapt their practice, there must be evidence that this is what people want.

Education is a vital part of encouraging better behaviour, so that people understand the reasons for making changes. The Carbon Literacy Project provides a valuable model for educating communities through peer-to-peer training. The most meaningful impact that education can deliver is a common agenda, which is essential if circular economy principles are to be successfully adopted.

Better decision-making today, in all aspects of housing policy, design, construction and use, will have positive impacts on existing neighbourhoods and deliver clear benefits for local communities, while contributing positively to the wellbeing of future generations.

Collectively we must rise to the challenge of behaving better today, if we are to affect positive change for future generations and transform the national agenda from 'doing less bad' to 'doing the most good'.

Links to case study presentations:

Social housing for families and individuals by Feilden Clegg Bradly Studios https://tinyurl.com/yyvmcbjn

Collaborative living for homeless people by Design Research Unit Wales https://tinyurl.com/3cbj9yzu

Affordable homes with live | work options by Emmett Russell Architects https://tinyurl.com/4ap788b7

Accessible homes for older people by Pentan Architects https://tinyurl.com/u7udnfv5

Custom built starter homes by Rural Office for Architecture https://tinyurl.com/wnn22hc9

Housing for people with acute needs by the Welsh School of Architecture https://tinyurl.com/33zjk5vk