

**ARCHITECTURAL
DESIGN**

July/August 2018
Profile No 254

HOUSING AS INTERVENTION

ARCHITECTURE
TOWARDS
SOCIAL EQUITY

Guest-edited by
KAREN KUBEY



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Neave Brown, Alexandra Road Estate, Camden, London, 1978

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Karen Kubey wishes to thank
her teachers and colleagues for
their support and encouragement
throughout her career, and dedicates
this publication to Joan Wise Kubey.



ABOUT THE
GUEST-EDITOR

KAREN KUBEY



Karen Kubey is an urbanist specialising in housing and health. Her design advocacy has contributed to more socially equitable neighbourhoods in New York and beyond. Currently practising independently, she served as the first executive director of the Institute for Public Architecture from 2012 to 2015. She co-founded the Architecture for Humanity New York chapter (now Open Architecture/New York) in 2003, and co-founded and led the New Housing New York design competition (2004 to 2006), which resulted in the lauded Bronx housing development Via Verde (2012). Her work bridges the disciplines that shape the built environment, bringing together architects, policy and finance experts and community leaders.

Trained as an architect at the University of California, Berkeley (2002) and the Columbia University Graduate School of Architecture, Planning and Preservation (2009), where she received six awards and fellowships, she began her career as a designer of below-market housing with Curtis + Ginsberg Architects. Shifting to the collaborative processes that can support good design, she has since produced and influenced ambitious, achievable projects in housing and the built environment through organising competitions, curating exhibitions and public programmes, contributing to publications, working with government organisations and teaching.

She has recently led a series of projects that address social equity through design, in partnership with the New York City Department of Health and Mental Hygiene, New York City Department for the Aging, New York City Housing Authority and New York City Public Design Commission. Among these, in 2017 she helped produce *Mental Health by Design*, a pilot programme that transformed disused high-school classrooms into spaces designed to promote mental health, developed interactive Healthy Homes training programmes for architects and building managers, and edited the award-winning *Aging in Place Guide for Building Owners* (2016).

She was the curator of 'Low Rise High Density' (2013), an exhibition and programme series at the Center for Architecture in New York on the legacies and potential futures of low-rise, high-density housing, and is currently working on a book on this topic. Her research has been supported by the Independent Projects Grant from the New York State Council on the Arts, two grants from Columbia University and the Wilder Green Fellowship at the MacDowell Colony. She contributed to *Affordable Housing in New York* (Princeton University Press, 2015), was an editorial assistant and contributor to Kenneth Frampton's *A Genealogy of Modern Architecture: Comparative Critical Analysis of Built Form* (Lars Müller, 2015), and has been published in *The Avery Review* and *Domus*. Her projects have been featured in the *New York Times*, and her work has been exhibited at the Museum of the City of New York. She is also a visiting associate professor at Pratt Institute. ▮

INTRODUCTION

KAREN KUBEY



Housing for the Common Good

Einszueins Architektur,
Wohnpark Wien (Vienna Housing Project),
Vienna,
2013



In the face of persistent social inequities worldwide, how can architects make a meaningful contribution? Housing's primary position in our lives, economies and the built environment makes it a natural site of intervention in the complex fight against systemic injustices. 'Housing First'¹ policies acknowledge that the pursuit of a healthy, fulfilling life is possible only when we have a stable home; while a growing body of research demonstrates that people with affordable, well-designed housing lead healthier, happier lives than those who are rent-burdened or ill-housed.² Beyond policies and data showing the generative value of housing, people across the world seek a sense of dignity and identity through their homes.

This issue of *Δ* examines how housing projects, and the design processes behind them, can be interventions towards greater social equity, defined here broadly as fair access to opportunities and resources for an economically stable, healthy life. Despite its potential for impact in residents' lives – and though it was Modernism's central project – 'housing' is often considered separate from 'architecture'. As architect Susanne Schindler puts it, housing is thought of as a 'socioeconomic product to be delivered at the least possible cost', while architecture is considered a 'cultural endeavour'.³ Amid regulatory constraints, bank and developer profits, community NIMBYism, and supply-chain challenges, the architecture of housing can seem less relevant than the economic or social drivers of its production. Existing housing systems leave resident needs unmet, with too few affordable options supporting current and emerging demographic shifts and types of households. The privatisation and commodification of housing have helped to drive massive gaps in income and health outcomes, providing fertile ground for alternative approaches to its design and delivery.

These factors have also largely eroded the role of the architect. While architects of the postwar period, such as the late Neave Brown, working with the London Borough of Camden, led the creation of new forms of housing serving a wide range of city dwellers, designers today have paid the price for the perceived failures of social housing and Modernism. Procurement systems that favour real-estate profits above all else, combined with design and construction processes that involve architects only in discrete ways, have further foreclosed architects' engagement with the full design and delivery process, especially in terms of collaborative interactions with potential occupants, limiting their capacity to intervene positively in residents' lives.

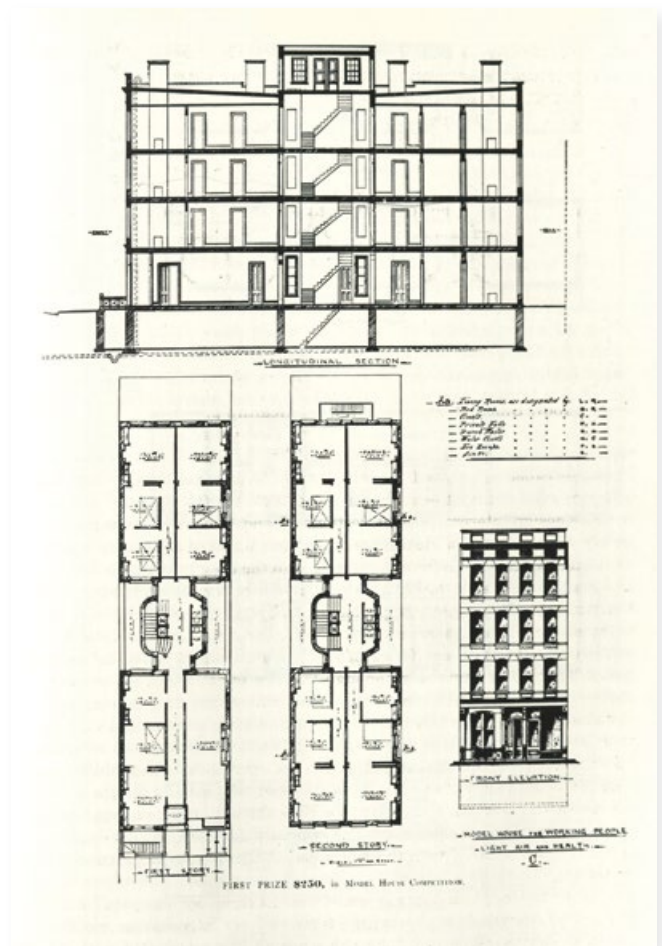
In exceptional cases like those described in this issue, however, architects around the world are bringing their unique expertise to bear on complex housing challenges, addressing them collaboratively and head on. These designers are helping to reform building regulations, offering new financing models, promoting creative solutions to community needs, and developing new typologies and materials strategies, all while creating beautiful buildings. Their housing projects do not follow the typical model that serves capital and often involves no architects at all. Helping us to envision a future with fair access to opportunities and resources, this collaborative work – in partnership with residents and allied professions – offers a way forward for more equitable housing and more meaningful roles for architects.

Architecture for Another 'Housing Crisis'

Neither urbanisation nor the 'housing crisis' are new phenomena. As German philosopher Friedrich Engels wrote in *The Housing Question* of 1872:

The so-called housing shortage ... is not something peculiar to the present; it is not even one of the sufferings peculiar to the modern proletariat in contradistinction to all earlier oppressed classes. On the contrary, all oppressed classes in all periods suffered more or less uniformly from it.⁴

Nineteenth-century housing reforms in industrialised cities like London and New York – in the form of model housing designs and building codes that increased access to light and air – were fuelled by fears of the spread of infectious diseases like tuberculosis from the crowded tenements into wealthier neighbourhoods.



James E. Ware,
Tenement house competition entry,
New York,
1878

In a time when crowded housing conditions among immigrant poor contributed to riots and the spread of infectious disease, a *Plumber and Sanitary Engineer* magazine design competition called for economical housing with improved ventilation, sanitation, light and fireproofing. A version of the health and safety features of Ware's winning 'dumbbell' apartment design was codified in the New York Tenement House Act of 1879.

Today we are experiencing unprecedented increases in urban populations, along with income inequality so extreme that the 42 richest people in the world control as much wealth as the 3.7 billion who make up the poorest 50 per cent.⁵ Globalised investment in luxury housing, combined with the withdrawal of public funding from social housing provision in Western countries and forced migration due to conflict and disaster worldwide, has led to precarious housing conditions for wide swathes of society. Severe income inequality is again making housing insecurity impossible for even the upper classes to ignore. In late 2017, a fire that started in a homeless encampment destroyed 160 hectares (400 acres), including six homes in Bel-Air, one of Los Angeles's richest neighbourhoods, while nearby San Diego experienced a hepatitis outbreak emanating from unhealthy conditions in growing homeless camps.

Beyond these extreme examples, housing has become unaffordable for middle-class residents of cities all over the world. In London the average tenant pays 49 per cent of his or her pre-tax income towards rent,⁶ while neighbourhoods in Sydney lost 10 to 20 per cent of their teachers, firefighters and other 'key workers' from 2006 to 2016 as housing prices soared and those residents moved to further-flung locales.⁷ History tells us that improvements in housing for people with lower incomes often come not from benevolence towards vulnerable populations, but out of the self-preservation of the more powerful, against the spread of disease or to prevent uprisings. Today's predicament has grown severe enough to reach those with the political capital to improve housing for the poor and middle classes, a critical shift towards the larger redistribution of resources needed to meaningfully reduce inequality, potentially bolstering efforts by and for those who are ill-housed.



CODEPINK Women for Peace,
Bailout Homeowners and Taxpayers,
Washington DC,
18 November 2008

Lingering effects of the 2008 foreclosure crisis, combined with rapid urbanisation, globalisation and the increased commodification and privatisation of housing, have resulted in growing income inequality and precarious housing conditions for members of the lower and middle classes across the globe.

Though many of the global, systemic factors that have led to our current state are well beyond the scope of architecture, the profession is implicated in inequitable forms of urban planning, including spatial segregation, that architects today must work to undo. More than access to healthcare, or even our genetics, the best predictor of our health is where we live, making housing improvements especially urgent. Introducing this Δ issue and providing a historical and economic context, Matthew Gordon Lasner argues that architects have played central roles in housing betterment since the 19th century (pp 14–21), while Robert Fishman charts how decades of neoliberal housing policies in developed countries have contributed to today's instability (pp 22–9).

The re-emergence of architects' engagement with social justice in the form of the public interest design movement, born during the recession of the early 2000s and championed by organisations including Architecture for Humanity and Public Architecture, has now been embraced by mainstream institutions. The 2014 Pritzker Prize was awarded to Shigeru Ban, an architect known for his humanitarian structures (see pp 80–81), and the 2016 Venice Architecture Biennale, curated by architect Alejandro Aravena, winner of that year's Pritzker, confronted social and environmental issues. Building on Modernist housing tenets, civil rights-era work led by community design centres, and more recent public interest or 'social impact' design, the work highlighted in this issue strives to contribute to the public good. These are not small, pro-bono design-build structures, like many early public interest design projects, but rather substantial built and speculative work primarily integrated into professional, profitable architecture practices.

This issue focuses on housing for people who are not served by the prevalent modes of shelter provided by the private market. Since terms for the range of publicly and privately funded types of housing covered differ regionally – for instance 'affordable housing' is typically defined in the US as costing no more than 30 per cent of a household's income, and in the UK as 80 per cent of market rate – terminology is defined within the articles themselves. Beyond these definitions, the question for communities facing displacement amid skyrocketing market-rate rents is 'affordable for whom?' Housing units designated as 'affordable' by governments, the product of negotiations between developers and local authorities, often remain out of reach for low-income residents.

History tells us that improvements in housing for people with lower incomes often come not from benevolence towards vulnerable populations, but out of the self-preservation of the more powerful.

Collaborative Approaches, New Forms of Housing and a New Kind of Architect

Supported by evolving research, policies, funding and collaborations, the architects featured in this Δ are working cleverly within existing housing systems while advocating to change them. Some designers are attempting to increase affordability by cutting housing development costs, often finding that the most promising strategy is not to produce cheaper housing structures, but rather to reduce or eliminate the cost of land. Marc Norman explores speculative projects adopting this approach to 'designing affordability', which create new units within existing buildings or on parking lots, and proposes policies that allow this type of development (pp 30–37). Through a decade-long obsession with accessory dwelling units, Dana Cuff, director of the University of California, Los Angeles's cityLAB, has developed design prototypes and urban analyses, and co-authored successful legislation that recently eased the way for backyard homes throughout the state. (pp 62–9).

Beyond cost-saving strategies, architects are taking on expanded roles in housing design and development processes as a means to produce more equitable project outcomes, or projects that contribute to the health and wellbeing of residents and neighbours in need. In London, Karakusevic Carson Architects has led robust resident engagement processes for its regeneration projects, ultimately creating beautifully designed social housing built with the needs of current residents in mind (pp 48–55). Stateside, Philadelphia's Interface Studio Architects (ISA), led by Brian Phillips and Deb Katz, has partnered with health researchers to develop housing designs that might better support desired health outcomes for residents, such as reduced rates of chronic disease and improved mental health (pp 56–61). Emily Schmidt and Rosalie Geneviro present the work of Architects for Social Housing (ASH), Frédéric Druot Architecture and Lacaton & Vassal, and ERA Architects/Tower Renewal Partnership, all of whom, instead of following a private developer's brief, have invented solutions to housing challenges that they have self-identified (pp 38–47). Working in Rwanda, Fatou Dieye charts the emergence of a new kind of 'architect/environmental-urbanist-planner-value-chain expert', providing a vital response to growing housing demands (pp 112–19).



Estudio Teddy Cruz + Fonna Forman,
Mecalux Retrofit,
Tijuana,
Mexico,
2015

Cruz and Forman collaborated with the Mecalux factory in Tijuana, Mexico, to create this modular housing prototype, to be used in informal settlements near the border with San Diego, California. Giving structural support to residents who typically build their own housing of recycled urban waste, a modular framework built by local factory workers would be adapted by residents to create expandable dwellings.

Architects are taking on expanded roles in housing design and development processes as a means to produce more equitable project outcomes.

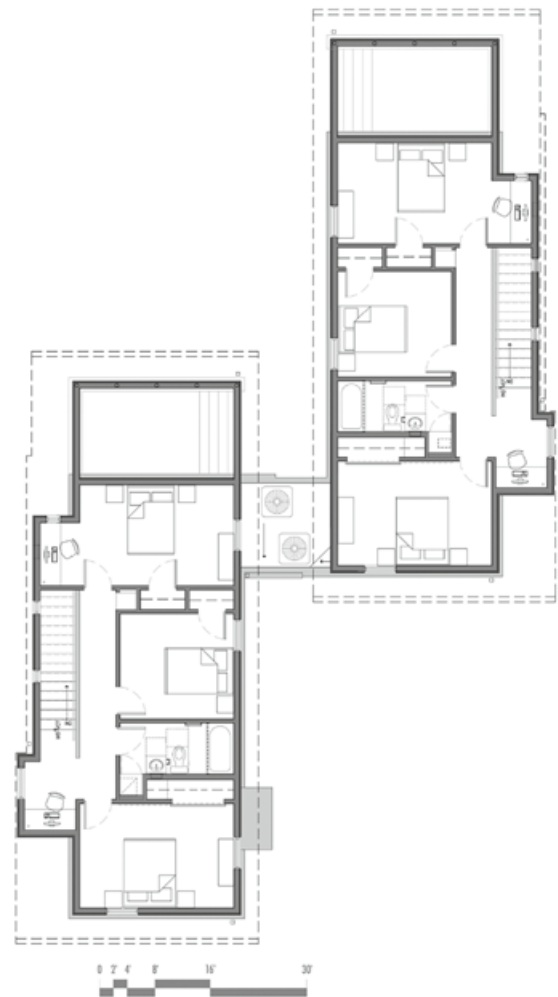
Duvall Decker Architects,
Jackson Housing Authority
Midtown Housing,
Jackson,
Mississippi,
2013

right and opposite: One of the two three-bedroom units in each of these federally funded wood-frame duplexes is pulled back from the street to create open space and increase privacy between apartments. Working in a neighbourhood with 50 per cent poverty, Duvall Decker's office comprises not only an architectural practice but also a real-estate development company and building management concern.

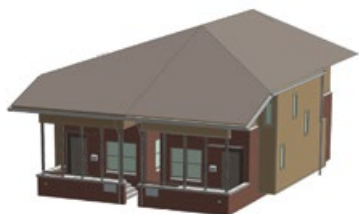




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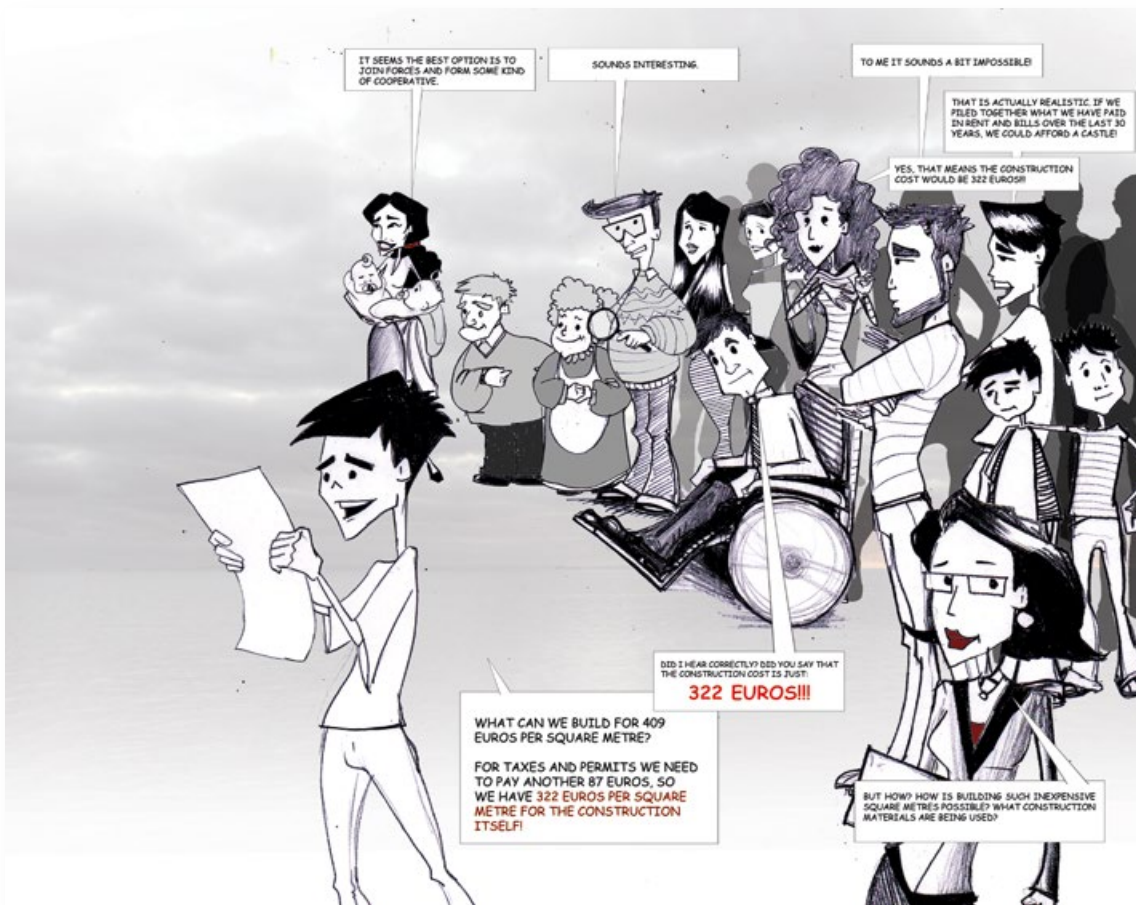
1. Typical-shared wall duplex



2. SPLIT for air and light



3. SHIFT for community space and security



STEALTH.unlimited,
Nova Moba Za Ovo Doba,
Belgrade,
Serbia,
2014

STEALTH.unlimited won the MILD Home competition for ecologically sustainable housing with this proposal for a non-profit, cooperatively owned and developed settlement of 188 units, designed to be socially and economically sustainable as well. Nova Moba's financing model, combined with its energy-efficient materials and systems, would reduce housing and utilities costs to 15 per cent or less of household income.

The search for affordable housing cannot be separated from new ways of living and the growing environmental and political challenges affecting where and how we live. Only a small percentage of households comprise the nuclear families for which much of global urban housing stock was built,⁸ while conflicts and natural disasters are reshaping the housing landscape. Neeraj Bhatia and Antje Steinmuller examine new cooperative domestic typologies, where sharing common spaces such as dining areas gives residents access to 'a form of luxury' they can afford (pp 120–27). Na Fu profiles Urbanus's work in rapidly urbanising China, which supports rural forms of community through a hybrid housing typology and urban village infrastructure (pp 70–77). As more and more people are displaced by natural disasters and conflicts, Cynthia Barton, Deborah Gans and Rosamund Palmer ask how post-disaster housing might contribute to long-term equity (pp 78–85), while Kaja Kühl and Julie Behrens present work on housing for refugees that promises to improve neighbourhoods for newcomers and long-time residents alike (pp 86–93). Meir Lobaton Corona examines celebrated low-cost housing prototypes from Mexico alongside specific housing needs in diverse locales (pp 120–11). Pollyanna Rhee looks at how architects' experiments with timber construction may go beyond environmental sustainability to support social and economic outcomes (pp 94–101). And San Francisco Bay Area housing leaders Carol Galante, Michael Pyatok and Joshua Simon (pp 128–35) give us a glimpse into their advocacy for more equitable housing systems, and offer opportunities for architects to make greater impacts in residents' lives.



Rafi Segal A+U,
View of eight-family housing cluster,
New Neighbourhood for Kibbutz Hatzor,
near Ashdod,
Israel,
2017

As this kibbutz, like many others, moves from its original cooperative, communal structure towards a privatised model, Segal's design mediates between private and public by connecting individual, expandable homes under collective roofs. Land is held in common, while individual families cover their own housing development costs.



Yasmeen Lari/Heritage Foundation of Pakistan, Green KaravanGhar, Khyber Pakhtunkhwa, Pakistan, 2010

Working closely with people displaced by disaster and creating designs simple enough to be built by them, Yasmeen Lari, Pakistan's first female architect, has led or influenced the building of 45,000 disaster-relief structures. Each of the 270 Green KaravanGhars flood-resistant, low-cost homes made of environmentally sustainable local materials was constructed by community members, artisans and volunteers in just eight days.

As the role of architects evolves, engaging in these interlinked issues has the potential to shift design practice at large, allowing designers to contribute to the common good.

As sociologist David Madden and urban planner Peter Marcuse assert: 'The built form of housing has always been seen as a tangible, visual reflection of the organization of society. It reveals the existing class structure and power relationships.'⁹ The pursuit of a more equitable society and the creation of new forms of housing have long gone hand in hand. It has never been more urgent for architects to work towards reducing economic, health and social inequities. While the long-term impacts of the projects in this issue will only reveal themselves with time and enquiry, they help us to reimagine architects as collaborative leaders, helping to improve residents' lives. More equitable housing solutions and design processes prove as diverse as the challenges they address. As the role of architects evolves, engaging in these interlinked issues has the potential to shift design practice at large, allowing designers to contribute to the common good. ▴

Notes

1. Housing First, 'an approach to quickly and successfully connect individuals and families experiencing homelessness to permanent housing without preconditions and barriers to entry, such as sobriety, treatment or service participation requirements', has been official policy of the US Department of Housing and Urban Development since 2007 and also exists in countries including France, Finland, Canada and Australia.
2. 'Health and Housing: Planning Neighbourhoods + Designing Housing', New York City Department of Housing Preservation and Development research presented by then-deputy commissioner Daniel Hernandez at the FitCity 10 conference in New York, 11 May 2015: www.aiany.org/wp-content/uploads/2018/01/DHernandez_FitCity_11may15-v3_284.pdf.
3. Susanne Schindler, 'Architecture vs Housing: The Case of Sugar Hill', Urban Omnibus, 3 September 2014: <https://urbanomnibus.net/2014/09/architecture-vs-housing-the-case-of-sugar-hill/>.
4. Frederick [sic] Engels, *The Housing Question*, ed CP Dutt, Lawrence and Wishart (London), 1936 [1872], p 17.
5. Oxfam, 'Reward Work, Not Wealth', January 2018: https://d1tn3vj7xz9fdh.cloudfront.net/s3fs-public/file_attachments/bp-reward-work-not-wealth-220118-summ-en.pdf.
6. Office for National Statistics, 'Housing Summary Measures Analysis: 2016': www.ons.gov.uk/peoplepopulationandcommunity/housing/articles/housingsummarymeasuresanalysis/2016.
7. University of Sydney Urban Housing Lab, 'Key Worker Housing Affordability in Sydney', 2018, <https://sydney.edu.au/news-opinion/news/2018/02/05/emergency-and-key-services-at-risk-due-to-property-market-boom.html>.
8. National Building Museum, 'Making Room: Housing for a Changing America', 2017: www.nbm.org/exhibition/making-room/.
9. David Madden and Peter Marcuse, *In Defense of Housing*, Verso (London and Brooklyn, NY), 2016, p 12.

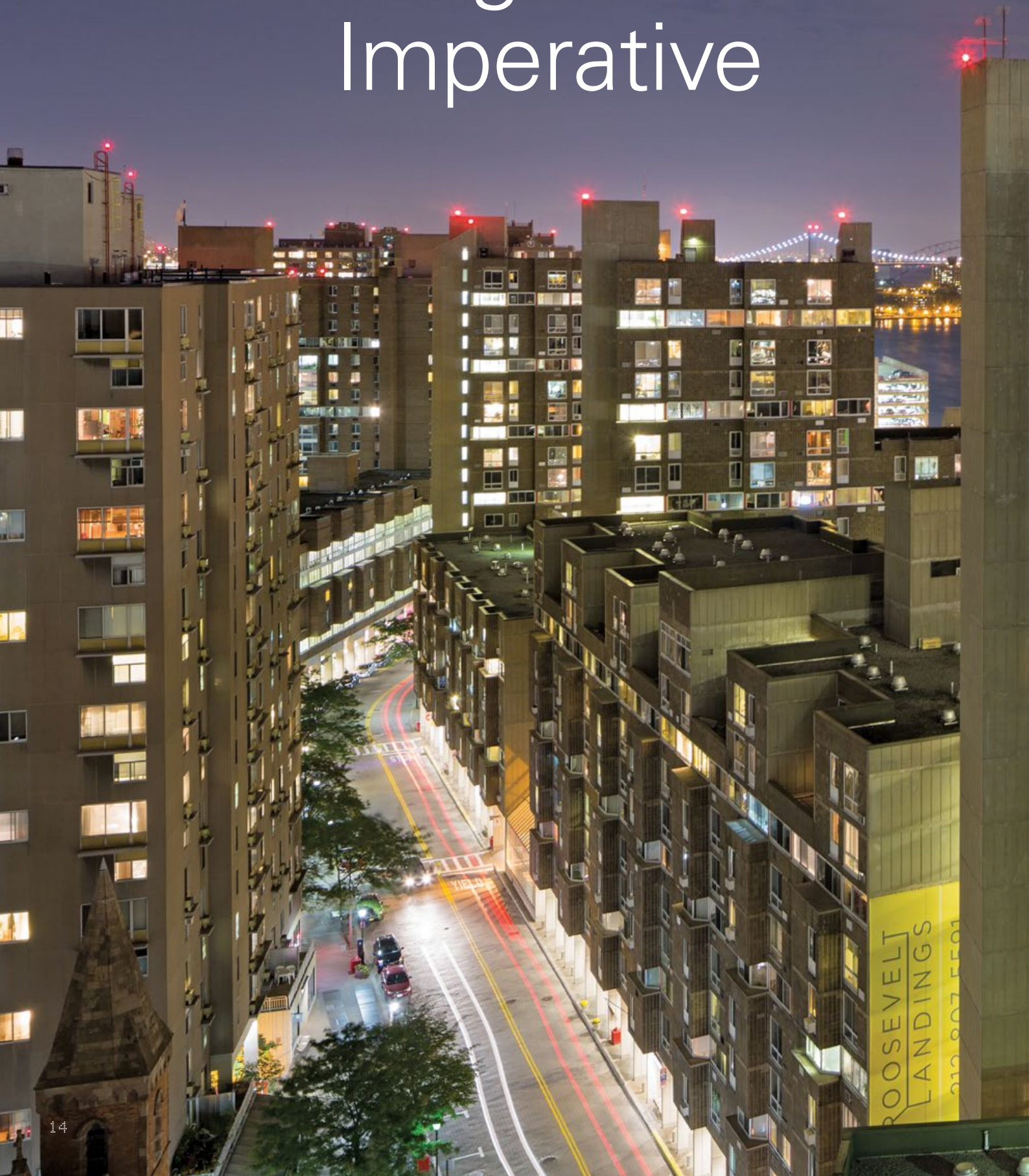


Einszueins Architektur, Wohnpark Wien (Vienna Housing Project), Vienna, 2013

Incorporating 700 square metres (7530 square feet) of communal space, Wohnpark Wien is run by a self-organising association of residents, or *Baugruppe*. The project is profiled in 'Das Wiener Model' (The Vienna Model), an internationally touring exhibition curated by Wolfgang Förster and William Menking, which catalogues housing projects from the city, where the government's procurement process favours architectural excellence, ecological and social standards, and affordability.

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Architecture's Progressive Imperative



Housing Betterment in the 19th and 20th Centuries

Sert,
Jackson and Associates,
Eastwood,
Roosevelt Island,
New York City,
1976

Although the US leader in below-market subsidised housing, by the late post-Second World War period the design of low- and middle-income complexes in New York had grown dreary and formulaic. Under planner Ed Logue, the Urban Development Corporation commissioned avant-garde designers like Josep Lluís Sert to reinvigorate the field.



History has shown that architects can act as catalysts for significant leaps forward in housing provision. Far beyond pure aesthetics and building layouts, their visions for new ways of offering affordable dwellings have driven real social change, with innovations in both the form of the domestic built environment and the methods used to construct and deliver it. **Matthew Gordon Lasner**, an associate professor of urban studies and planning at Hunter College, City University of New York (CUNY), tells the story – from the conception of planned garden suburbs and multi-family city blocks, to prefabricated postwar social housing schemes and more recent resident–architect collaborations.

The widening gap between incomes and the price of decent housing is generating turmoil in cities the world over. Housing requires more money than ever to produce. Yet for at least a generation, wages in Western Europe and North America – the primary subjects of this article – have remained flat and government subsidies have diminished. What is to be done about it? And who is to do it? As in the Gilded Age of the late 19th century, when private citizens like London philanthropist George Peabody and New York social reformer and reporter Jacob Riis first waged public battle against housing inequality, responsibility increasingly lies with small-scale actors such as non-governmental organisations (NGOs), grassroots activists and design professionals – including architects.

The idea of a central role for architects may strike some as wishful thinking. In many respects, architects have limited control, especially in such a diffuse arena as housing. Policymakers, developers and lenders tend to shape the larger contours of the system. Architects produce the best projects possible within a client's budget, but what more can they do? The premise of this issue of *Δ* is, a lot. Indeed, a survey of housing improvement in the 19th and 20th centuries suggests that architects are – and, crucially, have always been – central to the project of housing betterment, and not solely as designers. Rather, their importance lies equally in their ability to engender public support for housing intervention by translating social concerns, especially about the negative effects of modernity on family life and public health, into new physical forms that capture the public and political imaginations. In short, architects are critical in catalysing housing action.

Housing as a Professional Imperative

The imperative to bettering housing is deeply ingrained in architecture and, in fact, helps to account for the field's organisation. As millions fled rural poverty for opportunities in the endlessly proliferating cities of the early 19th century, accommodation became a commodity produced for the market: an anonymous clientele of wage labourers and salaried men and women. But to many educated observers, and to paraphrase the German philosopher Friedrich Engels, the results were disgusting and deficient.¹ The professionalisation of architecture, including the establishment of university requirements and bodies such as the Royal Institute of British Architects (RIBA) in 1834 and the American Institute of Architects (AIA) in 1857, took shape in part in response to these challenges – along with the more general rise in complexities of programme – not least to limit public exposure to practices in building seen as exploitative. (For an analogue, think of the professionalisation of medicine, which aimed to marginalise figures such as the blood-letter.)

Which is not to say progress in housing was rapid or, at first, welcome. To begin, there were no ready clients: few ordinary people could afford architectural services. More important, carpenters, speculators and landlords quickly devised economical ways to house the urban masses in new types, however inferior, such as the back-to-back house, a compact type in England with no rear yard; the purpose-built tenement, a multistorey type, mainly in Germany and the Northeast US, with multiple independent units; and the kit house, sold on a DIY basis at lumber yards and, later, through mail-order catalogues, in North America. Meanwhile, there was often public resistance to architects' expertise. Unlike in medicine, knowledge in building

was deeply contested, especially in the arenas of style, plan and interior furnishings. It did not help that early reform schemes in housing, whether initiated by architects or others, were shaped as much by elite anxieties about modernity as by the patterns of ordinary life. Over time, though, as reformers marshalled support for more, and more varied, experiments, innovation in housing gained traction.

Early Innovations: the Suburb and the Flat

Well before the possibility of government intervention in housing provision, architects were instrumental in two of the greatest advancements in urban dwelling of the industrial era. One was the planned suburb. Although most suburbanisation has always happened without the aid of architects, figures like Alexander Jackson Davis (in the US) and Richard Norman Shaw (in the UK) played a central role in shaping it. Davis began promoting the idea of 'country' living in the 1840s, urging middle-class Americans to take advantage of new rail networks to live year-round in 'rural' cottages. By the 1850s he was designing one of the first planned suburbs, Llewellyn Park (1857) in New Jersey (just outside New York). Its democratisation of the picturesque tradition made it a normative model for decades. In the UK, Shaw's Bedford Park (1877) in West London served a similar role.



Alexander Jackson Davis,
Llewellyn Park,
West Orange,
New Jersey,
1857

Architects were instrumental in giving form to the nascent impulse to decentralise in the mid-19th century. Davis designed this estate beginning in 1852, borrowing from the picturesque tradition, for pharmaceutical executive Llewellyn S Haskell and his friends seeking to leave Manhattan.

A second innovation was the purpose-built, multistorey, multifamily block, whether for rich or poor. The apartment house had been a common type for a range of families for centuries in Scotland and on the Continent, but was virtually unknown in England and the US. At least one purpose-built tenement – a modest multifamily building typically inhabited by the lower classes – had been erected, in Boston, Massachusetts, in the 1820s. But it was not until the British architect Henry Roberts took the Society for Improving the Condition of the Labouring Classes, of which he was a founding member, as a client in the 1840s that the privations being exposed by Engels and public-health reformers were proposed to be remedied through housing and, in particular, multistorey blocks. Schemes like Roberts's 1849 Model Houses for Families (also known as Parnell House) in Streatham Street, London, made a powerful argument in favour. Around the same time, architects also helped originate the middle-class apartment, or flat. In London, architect George Godwin's *The Builder*, established in 1842, regularly promoted the idea of importing the Parisian apartment as a solution to the high cost of urban housing, and within a decade a first 'mansion block', in Victoria Street, was completed (1854), on plans by Henry Ashton. Stateside, architects like Calvert Vaux led a parallel campaign and shortly after the Civil War the first 'French flats' appeared in Manhattan.

42



Henry Roberts,
Model Houses for Families
(now Parnell House),
Streatham Street, London,
1849

The 19th century saw a series of NGOs devoted to providing healthful, improving housing to worthy working families. Particular attention was given to visual simplicity, circulation of light and air, and to furnishing tenants with privacy. From Henry Roberts, *The Dwellings of the Labouring Classes*, 1850.

In London, architect George Godwin's *The Builder*, established in 1842, regularly promoted the idea of importing the Parisian apartment as a solution to the high cost of urban housing.

The Architect and Subsidised Housing

The immediacy of model dwellings – tangible, visible – relative to other kinds of social reforms yielded increasing support for housing intervention in the late 19th and early 20th centuries. This era saw no shortage of proposals to mitigate social inequality, from the abolition of private property to feminist communes such as Llano del Rio outside Los Angeles, imagined by architect Alice Constance Austin in 1916. It also saw new obstacles to housing reform, principally on the part of builders. But the achievements of non-profit organisations like the Peabody Trust, set up in London in 1862 (5,000 flats by Henry Darbishire by the late 1880s) and the City & Suburban Homes Company in New York (1898) – all managed in part by middle-class women according to the principles of London reformer Octavia Hill – prompted great confidence and, in turn, a wave of legislation gradually transferring responsibility for housing to the state and, just as crucially, to architects in its employ. This shift in power was especially marked in the UK, where production was increasingly directed by municipal architects' departments beginning in the 1890s.



Howells & Stokes,
The Hampton,
New York City,
1912

In New York, architect Isaac Newton Phelps Stokes dedicated much of his career to improving housing conditions through better design. While not his, nor City & Suburban Homes Company's, most innovative building because they worked within the confines of typical Manhattan lots, The Hampton was among his most important because it served black families, who were excluded from most quality dwellings.

The pivotal role of architects in conceptualising and earning public and political support for housing intervention in this period is perhaps best exemplified by Raymond Unwin and Clarence Stein. Unwin's writings and his 1903 design with Richard Barry Parker for Letchworth, north of London, which concretised Ebenezer Howard's radical Garden City ideas for urban decongestion and collective ownership of land, helped broadcast them. More importantly, this work brought Unwin a seat on the Tudor Walters Committee, whose recommendations ensured housing betterment a leading place in interwar UK social policy. Massive and unprecedented planned communities designed by architects and financed with state aid, such as the London County Council's Becontree Estate in Essex (1921–35) and Manchester Corporation's Wythenshawe satellite town (1927–41), along with avant-garde city-centre blocks like London's Kensal House (1937) designed by Maxwell Fry and Elizabeth Denby, were the direct result.

Stateside, many progressives remained more interested in tightening building codes and slum clearance than in constructing better housing. The real-estate lobby, meanwhile, was beginning to formulate competing ideas such as rental vouchers. Stein, who emerged as a leading voice in housing discussions during the First World War, strongly disagreed. He and an interdisciplinary group of colleagues formed the Regional Planning Association of America (1923) and spent the interwar years fighting for a system of non-market housing planned by architects and subsidised by government, while designing and developing demonstration projects such as Radburn, New Jersey (1928). In the 1930s, with associates including the critic Catherine Bauer, he drove the message home, resulting, at last, in a US system of 'public' housing – built, owned and operated by local governments, mainly with federal money – even if their vision for a broad network of garden-type complexes for working families gave way to a narrower programme of minimal slum-clearance housing for the poor.



Clarence S Stein and Henry Wright,
Radburn, Fair Lawn,
New Jersey,
1928

Following the lead of the Garden City movement, the Regional Planning Association of America developed projects designed to decongest the city while cultivating a sense of community through shared green spaces and a mixture of uses and types, including the Abbott Court Apartments (centre right) designed by Andrew Jackson Thomas, and a small shopping centre (foreground).

In many cities
on the Continent ...
interwar politics were
such that architects
gained even more
authority over
housing than
in the UK.

In many cities on the Continent, meanwhile, interwar politics were such that architects gained even more authority over housing than in the UK. This was especially true in the socialist-controlled municipalities of Germany and Austria, where designers like Ernst May and Bruno Taut not only devoted themselves to housing betterment, but as city housing officials earned free rein to devise novel systems such as Zeilenbau, which arranged buildings in parallel rows according to solar principles; expressions like at Siedlung (settlement) Römerstadt (May, 1928), a garden suburb outside Frankfurt with Neue Sachlichkeit (functionalist) industrial surfaces, fixtures, and nautical references – and, inside, standardised kitchens designed by Margarete Schütte-Lihotsky; and forms like at Hufeisensiedlung (Taut, 1931) in suburban Berlin, the horseshoe-plan main block of which wrapped around a capacious common green. May also used his position in Frankfurt to assemble and disseminate expertise in materials, construction and planning, further underscoring the value of housing intervention.



Ernst May,
Margarete Schütte-Lihotsky
and Leberecht Migge,
Siedlung Römerstadt,
Frankfurt,
1928

After the First World War, architects were awarded control of a large portion of the housing sector in Europe, including in Frankfurt, where they employed the new language of Modernism to express their progressive politics. This work inspired American reformers like Catherine Bauer, who took this snapshot while researching her 1934 book *Modern Housing*, which was instrumental in generating support for government subsidies for low-cost housing in the US.

The Architect as Welfare State Expert

In the second half of the 20th century, the role of architects in housing at once expanded and contracted. In much of Western Europe, designers consolidated control. In some countries, such as France, they shaped housing from an increasingly strong centre, directing production, now all but entirely dominated by the state, towards new forms such as the *grands ensembles*, and technologies including prefabrication. In the UK, where overall planning was highly centralised but design remained local, the result was greater variety, including many semi-detached and terraced (row) houses, but also a proliferation of avant-garde expressions. In rich countries such as the US, Australia and Belgium, by contrast, where government encouraged private development, the developer-built (and often developer-designed) detached house became the norm, diminishing architects' role. This trend was compounded by the growth of separate realms of professional expertise in housing, like real estate and urban planning, which made a sharp break from architecture towards the social sciences.

At the same time, these challenges strengthened the resolve of many architects in such regions to focus on non-market alternatives, generating new, often creative engagements. Despite meagre budgets, for instance, many US architects welcomed government commissions for low-income public housing. Others sought out urban redevelopment work – from Mies van der Rohe at Lafayette Park in Detroit (1959) to Richard Meier, Kenneth Frampton and Josep Lluís Sert on various New York State Urban Development Corporation projects in the late 1960s and early 1970s, which catered to a somewhat broader range of income groups in partnership with NGOs. Meanwhile, as the postwar baby boom came of age, housing demand shifted towards multifamily while remaining resolutely suburban, necessitating novel forms, particularly in rapidly growing areas like California, that required the attention of architects.



Donald P Reay,
Murray First Development,
East Kilbride, Scotland,
1952

Reay was instrumental in shaping post-Second World War new towns legislation and served as chief architect for East Kilbride in Scotland (1947–51) and Stevenage outside London (1951–5). Responding to critiques of interwar council estates, new towns incorporated a greater variety of types, including walk-up flats (centre) and terraces.

Hardison & DeMars and Lawrence Halprin,
Easter Hill Village,
Richmond, California,
1953

Many notable US architects took commissions for government-built public housing in the mid-20th century. While programme requirements typically constrained designs to certain formulas, Vernon DeMars, an expert in low-cost housing since the 1930s, insisted on such features as individual articulation and private yards for each unit in this racially integrated complex.



Opportunities Today

As the postwar political and economic order broke down in the 1970s, architects' role in housing transformed yet again. In the Global South, decolonisation and economic liberalisation meant new opportunities, even if in many places poverty limited architects' work to that of validating informal practices. A pioneer in this novel way of thinking about slums was the Briton John FC Turner, who worked in squatter settlements in Peru for eight years in the late 1950s and 1960s. In more recent decades, many cities, from South America to South Asia, have also seen successful implementation of sites-and-services and other DIY approaches directed by architects, such as Balkrishna Doshi's Aranya Low Cost Housing in Indore, India (1988). In much of Europe, by contrast, housing production ground to a halt, beleaguered by deindustrialisation and neoliberal critiques of the welfare state.

The foreclosing of established avenues for improvement, however, opened up new ones, underscoring the unique role of architects in generating housing imaginaries. This was especially evident in the US, where the thinner welfare state had always demanded a degree of entrepreneurialism. In the 1970s, after most federal government funding for the construction of public housing was halted, many architects took advantage of a first wave of new, smaller-scale programmes to develop smaller-scale housing schemes, often in areas avoided by developers. Others, inspired by the counterculture, relied on their own labour for construction, most famously Samuel Mockbee at the Rural Studio programme he co-founded at Auburn University in Hale County, Alabama, in 1993. By the late 1980s, a second round of programmes also opened opportunities for more conventional work, but now – in an echo of pre-Second World War systems – with NGOs as clients.

In this climate, architecture again came to serve a critical role in catalysing engagement, as suggested by the success of new design firms specialising in below-market housing in the 1980s and 1990s – including Davis & Joyce, PYATOK architecture

+ urban design (see page 126–35 of this issue) and Brooks + Scarpa, all in California, and Magnusson Architecture and Planning (MAP) in New York – and nonprofit clients dedicated to innovative design, such as Common Ground (now called Breaking Ground), founded by Rosanne Haggerty, the leading US builder and operator of 'supportive housing' – housing with integrated services – for the formerly homeless. The efforts by such organisations to efficiently provide dignified housing, often designed in collaboration with tenants, has had immeasurable positive impact on public support, including the introduction of new legislation, both local and national. Insufficient subsidy, especially in the context of extensive gentrification, remains a crushing problem. But opportunities for creative intervention abound. More than ever, it is up to the architect to exploit them. ▢

Note

1. Friedrich Engels, *The Condition of the Working Class in England* [1845], trans William O Henderson and William H Chaloner, Stanford University Press (Stanford, CA), 1968, pp 66–7.



Davis & Joyce Architects,
Tuscany Villas,
Davis, California,
1994

above:

Thanks to local legislation and federal tax credits for low-income housing, production of smaller-scale, often contextual or historicist complexes accelerated in the late 1980s in the US. Tuscany Villas grouped its 30 'family units' (with a separate adjacent section for the elderly) around two courtyards, including one programmed for active play.



Dattner Architects and Grimshaw,
Via Verde, The Bronx, New York,
2012

Concerned about the visual monotony of much recent below-market subsidised housing in New York, the local chapter of the American Institute of Architects (AIA) co-sponsored a City competition in 2006 for a site in the South Bronx. The striking terraced form, colourful elevation and rooftop gardens garnered tremendous media attention, helping to reinvigorate public support for affordable housing in New York.

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The Global Crisis of Affordable Housing

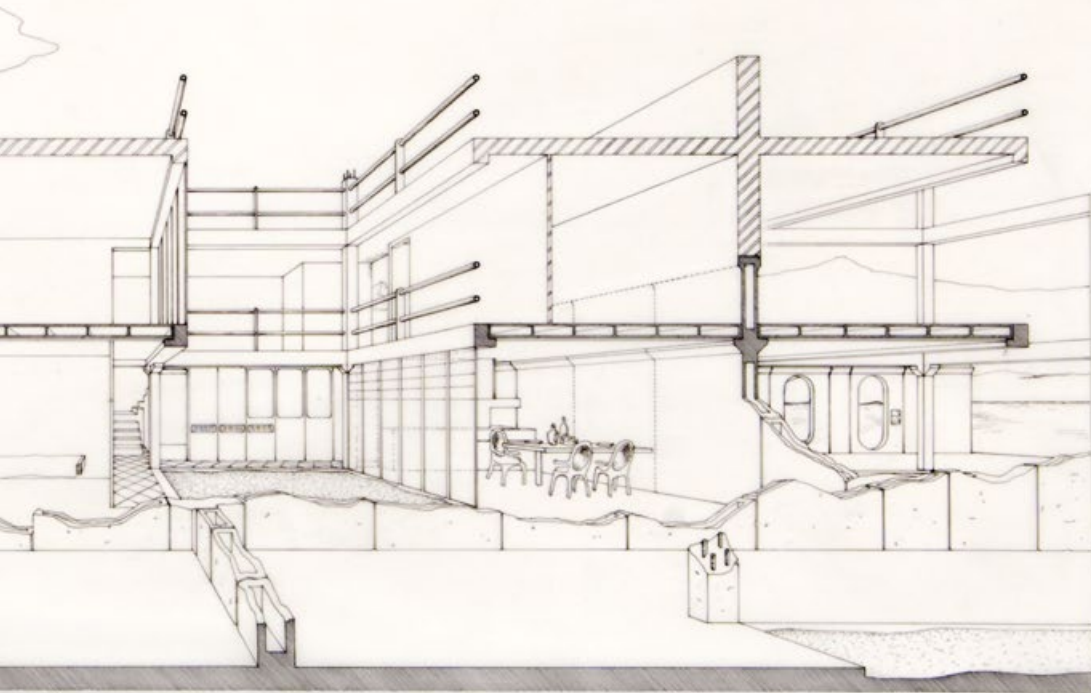


James Stirling,
PREVI housing,
Lima, Peru,
1968-73

Perspective drawing. Stirling's design epitomises the new spirit of human scale, technological innovation, community spaces and incremental building that would subsequently define the best affordable housing.

24
16"

Architecture Versus Neoliberalism



Profiteering from house prices has a lot to answer for. The treatment of housing as just another commodity – central to the neoliberalist approach – has caused untold misery for millions across the world in recent decades. **Robert Fishman**, urban historian and professor at the Taubman College of Architecture and Planning of the University of Michigan, analyses the sources of the current situation in Western countries and looks at how architects have responded to its challenges. He uncovers examples of outstanding creativity and social engagement.

This is the best of times and the worst of times for architecture's creative involvement with affordable housing. On the positive side, architects have over the last 40 years successfully partnered with community-based housing organisations to design and build landmark projects that combine human scale, outstanding design and affordability. Where the big bureaucracies that once dominated state-subsidised housing in Western countries had frequently marginalised architecture in favour of a single-minded quest to mass-produce the most units at the lowest cost, the smaller contemporary organisations have often welcomed architects as creative problem-solvers who could join them in transforming subsidised housing. Through these non-profit organisations, architects have gained the important experience of working directly with communities and developing expertise in such difficult areas as live-work facilities and housing for the formerly homeless or for people with disabilities. Affordable housing has thus emerged as one of the most creative areas of contemporary architecture, and one with the potential to redirect the profession towards more systematic social engagement.

Yet this is also the worst of times, as even the best projects have been marginalised by the massive scale of the global housing crisis. Affordable housing – usually defined in the US as decent and appropriate accommodation that costs no more than 30 per cent of a household's income – is threatened everywhere from the informal settlements of the developing world to the most advanced and prosperous global cities. What unites the housing crisis in both the developed and developing world is the global rise in inequality and the failure of governments to intervene effectively in housing markets. In the developed world the ideology of neoliberalism or 'market fundamentalism' has decimated government investment in new affordable housing construction and rolled back the supply of affordable units from the postwar 'social democratic' era. Central to neoliberalism is the assertion that housing is a commodity like any other, and that the capitalist market, if freed from regulation, can provide this commodity more efficiently than any government programme.¹

Eve Hill Flats,
Dudley,
West Midlands,
UK, demolished 1999

The spectacular demolition of this and so many other high-rise social housing towers throughout North America and Europe signalled a crisis for top-down, large-scale, fully government-financed housing projects.



Neoliberalism in housing had its defining moment in 1980 when British Prime Minister Margaret Thatcher's cleverly named 'Right to Buy' initiative took aim at Britain's remarkable postwar legacy of affordable rental housing – defined in the UK as costing 80 per cent of market rate – built and maintained by local government councils. The 'council houses' embodied the social-democratic ideal that good housing, like healthcare, was a universal right that government should take the lead in providing for the majority of citizens. Thatcher's programme not only gave council house renters the 'right to buy' their houses, thus transferring almost 1.8 million of the 3.5 million council homes to the private market; perhaps more importantly, it promoted the neoliberal panacea of homeownership as the only answer for the vast majority of 'normal' households – or those who could afford to buy their homes – while marginalising the remaining renters left in the council houses.²

Architecture or Neoliberalism

The potential strengths of architecture's response to neoliberal orthodoxy were seen as early as the 1970s. A remarkably prophetic housing development for Lima, Peru, the Proyecto Experimental de Vivienda (PREVI), shows an alternative design language taking shape. Responding to the explosive growth in informal settlements, the city (under the auspices of the United Nations) brought together outstanding architects from around the world to work with local inhabitants. The separate designs by Christopher Alexander, Candilis-Josic-Woods, Charles Correa, Fumihiko Maki/Kisho Kurokawa, James Stirling and Aldo van Eyck all rejected the tower-in-the-park typology in favour of low-rise, high-density clusters. All sought to balance household privacy with vibrant, well-defined public spaces. Perhaps most importantly, all sought to draw on the energy and imagination that marked the informal settlements by providing the structural flexibility that would allow the residents to enlarge their houses. Designed for growth and adaptation, the 1970s PREVI houses can now be seen as the direct predecessors, for example, of ELEMENTAL's 'incremental housing' in Chile forty years later. More generally, the PREVI project forecasts the union of architectural imagination with social purpose that now defines the best affordable housing.³

But PREVI, which never actually realised its radical potential due to the withdrawal of government funding, also sadly forecasted the fate of similar architectural and social initiatives that never got the chance to develop at scale because they conflicted with the increasingly dominant policy of neoliberalism and the commodification of housing, further catalysed by globalisation. The results have been sadly predictable: in almost every developed country, housing costs have risen faster than household incomes.⁴ This trend has been most visible in the 'global cities' like London, New York and San Francisco, where massive gentrification has turned even the tenement houses of Lower Manhattan or the terraced houses of East London into high-rent areas. But the crisis is in fact more widespread; as a recent report by the Harvard Joint Center for Housing Studies shows, such quiet localities as Augusta, Georgia (US) can generate an affordable housing crisis if incomes are even lower than relatively moderate housing costs.⁵ The social consequences are best described in sociologist Matthew Desmond's searing book *Evicted* (2016). Families paying rents as high as 80 per cent of their incomes are forced to scrimp on all other essentials; the high rent then leaves them vulnerable to missed payments, forced evictions, family breakup and homelessness.⁶



Jack Lynn, Ivor Smith
and John Lewis Womersley,
Park Hill Council Housing Estate,
Sheffield,
South Yorkshire,
UK,
1966

Over 2 million social housing units were built and managed by Britain's local government councils after the Second World War. Many were sold to renters in the 1980s as part of Margaret Thatcher's neoliberal quest to replace social democracy with an 'ownership society'. Park Hill is now being renovated by developers Urban Splash in a part-privatisation scheme that will include social housing, upmarket apartments, and business units.

The 'council houses' embodied the social-democratic ideal that good housing, like healthcare, was a universal right that government should take the lead in providing for the majority of citizens.

The case of the US is particularly egregious, not only for the misery that the crisis inflicts on the poorest part of this archetypal ‘affluent society’, but also for the way that market fundamentalists have simply refused to learn from the worst market crisis since the Second World War: the housing bubble of the early 2000s and the subsequent Great Recession that almost destroyed the world economy. This episode is worth reviewing in detail to fully grasp the perils of a system that treats housing, a basic human need, as a commodity.⁷ Although any commodity is subject to temporary market ‘bubbles’ that drive up prices, housing (unlike, say, potatoes or steel) is uniquely susceptible to massive ‘bubbles’ that feed on themselves by luring speculative capital from around the world to ‘hot’ markets.



Charles Correa,
Belapur Incremental Housing,
Navi Mumbai,
India,
1986

A participant in the PREVI houses for Lima and an outstanding innovator in affordable housing for the developing world, Correa here applies the PREVI principles of human scale and incrementality to this project for a new town outside Mumbai.



ELEMENTAL,
Villa Verde Housing,
Constitución,
Maule Region,
Chile,
2013

Alejandro Aravena's influential updating of the PREVI principles. The voids in this housing represent opportunities for residents to complete their houses in their own ways, thus incorporating into the design the energy and self-reliance of the community.



The Great Bubble and Affordable Housing

The Great Bubble of the early 2000s began when US banks and mortgage companies invented mortgage-backed securities which, by bundling together thousands of mortgages as specified in complicated algorithms, promised to be as safe as the safest government bonds while earning significantly higher interest. The magic algorithms were so flexible that institutional investors with a taste for still-higher returns could purchase 'tranches' of riskier mortgages called 'sub-prime' and earn maximum returns with what the banks and the ratings agencies claimed was only a slightly higher risk.

This innovation focused global speculative capital on housing and also had an unexpectedly dramatic impact on affordable housing. 'Sub-prime' borrowers included suburbanites whose income did not qualify them for 'prime', ie, low-interest mortgages, but it also included inner-city properties. Black and Latino homebuyers were now eagerly sought out by banks anxious to generate anything capable of being bundled into highly profitable and highly marketable securities. It seemed as if the millennium had truly dawned as black and Latino households secured mortgage money and home prices in many inner cities finally recovered from their lows in the 'urban crisis' years from 1970 to 2000. Yes, black and Latino homebuyers paid higher interest rates with sub-prime, but with a small down payment the new homeowners could get on what seemed to be the same endless housing escalator that white suburbanites had ridden for decades.

However, as home prices rose and fewer black, Latino and immigrant households could afford the increasing down payments and monthly payments, the mortgage industry kept mortgage volume high through so-called 'affordability products'. If the down payment or monthly payment were more than a household could manage, there were now mortgages that required minimal outlays in the first years, or none at all. 'Affordability' turned into a desperate gamble that house prices would always go up; the equity one built up when an otherwise unaffordable \$300,000 house turned into a \$600,000 house could then be used to refinance the mortgage, make up for missed payments, and perhaps even yield a cash payout.



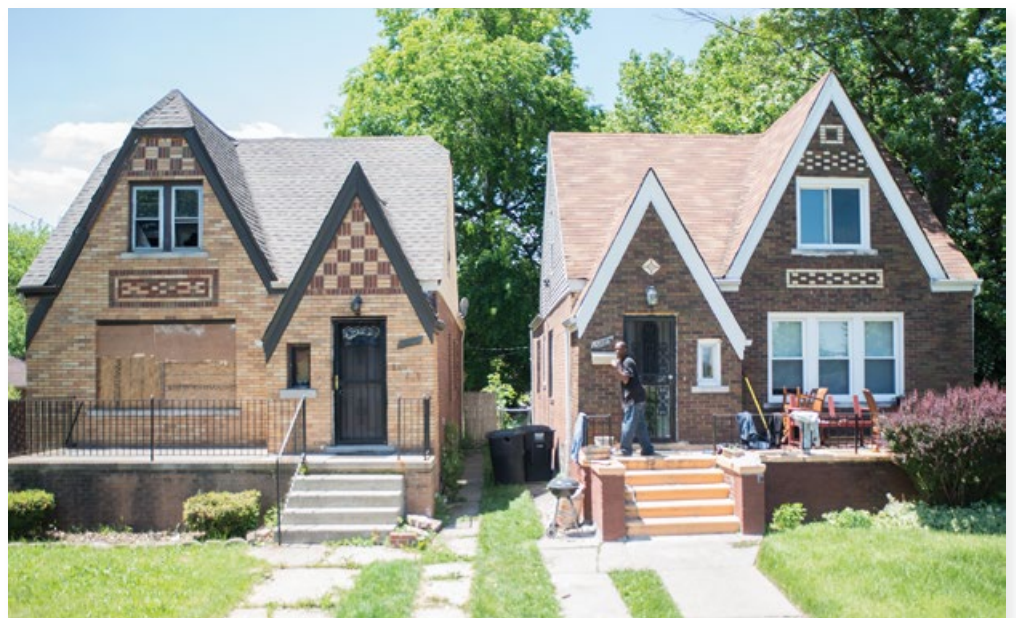
East New York neighbourhood,
Brooklyn,
New York,
2003

Old and new: the abandoned high-rise public housing tower in the background gives way to the rowhouse typology in the foreground typical of affordable housing built by non-profit community development corporations (CDCs).

The equity one built up when an otherwise unaffordable \$300,000 house turned into a \$600,000 house could then be used to refinance the mortgage, make up for missed payments, and perhaps even yield a cash payout.

Foreclosed and abandoned
in Detroit,
2012

The house on the left shows the continuing devastation caused by the foreclosure crisis and 'housing as commodity' in what had been an improving middle-class black neighbourhood.





Michael Maltzan Architecture,
Star Apartments,
Los Angeles,
2014

Built for the non-profit Skid Row Development Corporation, this award-winning building includes 102 affordable housing units for the formerly homeless as well as social and medical services for the residents and the surrounding community.

Adjaye Associates,
Sugar Hill Development,
Harlem,
New York City,
2014

An exemplary union of architect and client, the non-profit Broadway Development Corporation, this mixed-use monument to affordability and social justice includes 124 units of affordable housing, a pre-school, a children's museum and public space for the neighbourhood.



In the US, the projects are usually undertaken by relatively small-scale non-profit organisations that have learned to patiently cobble together a multitude of public and private subsidies and grants.

Of course it was not only black and Latino households who relied on this contemporary version of the early 17th-century Dutch tulip craze, though they faced foreclosure almost 50 per cent more often than white households. Of the \$1.3 trillion dollars in mortgage-based securities issued between 2000 and 2008, the vast majority went for mortgages for prosperous middle-class homebuyers who wanted McMansions even larger than the ones they could actually afford.⁸ But when the crash inevitably came in 2008, those at the bottom paid the heaviest price. The banks were bailed out, whereas low-income homeowners were ruthlessly foreclosed and evicted. Thus, market fundamentalism's radical efforts at affordability through homeownership wound up throwing tens of thousands of households into a viciously unaffordable rental market.

In this crisis context, the best recent affordable housing throughout the world stands out even more strongly for countering the seemingly inevitable neoliberal trend. In the US, the projects are usually undertaken by relatively small-scale non-profit organisations that have learned to patiently cobble together a multitude of public and private subsidies and grants. This pragmatic 'Third Sector' thus functions very differently from either the massively funded high-rise public-sector housing of the immediate postwar years or the profit-driven private sector.

The very term 'affordable housing' denotes an emphasis on achieving a socially sustainable balance between household income and housing costs, while leaving open the means by which this goal is achieved. With direct grants from the state now drastically cut back, funding might come from tax incentives to developers; low-interest mortgages from foundations; special grants to replace or rehabilitate ageing high-rise towers; or programmes to support low energy use or to house the homeless. Many cities in the Global North now insist that highly profitable new market-rate housing developments include a fixed percentage of affordable units, either as part of the project or subsidised elsewhere. Even more importantly, affordable housing might be owned as well as rented. For the housing organisations, the goal of affordability means a difficult set of choices that requires as much patience, expertise and creativity as the architecture of the projects themselves.

Potemkin Village or New Social Order

But this limited funding also means that it is virtually impossible to 'scale up' the production of affordable housing under the present system to address the true economic and social dimensions of the crisis. The danger is that the best affordable housing projects as shown in this publication will form a kind of Potemkin village of beautiful images behind which stretches the reality of a wasteland of overpriced, overcrowded, poorly maintained housing segregated by race and class. If the resurgent market fundamentalists in, for example, the Republican Party in the US or the Conservative Party in Britain have their way, these projects will remain as isolated monuments to a movement that was never allowed sufficient resources to achieve its larger goals.

But these projects also tell a potentially more hopeful story. All stem from a vital network of expertise – design, social and financial – that underlies the difficult production of affordable housing. Each project embodies in a unique way a key point of positive intersection between the best designers and housing activists and the communities that need them most. The designs not only reflect the energy of people striving against the odds to better their lives, but also represent design research and potential solutions in the vital areas of creating spaces that bring people together to overcome market-driven segregation and impoverishment. The projects in this issue thus stand as heroic efforts to oppose inhuman market trends and to build the beautiful, humane housing that the poorest among us deserve. ▢

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Charles Buek,
Astor Row,
Harlem,
New York City,
1883; renovated 1980s

Preservation and affordability: This unique set of homes from the 1880s was preserved after decades of neglect, in part through the efforts of the Abyssinian Development Corporation, a local church-affiliated non-profit that sponsored renovation for affordable apartments.

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Demapping Automotive Landscapes

Affordability as a Land Game

Norman Bel Geddes,
Futurama,
World's Fair,
Flushing Meadows,
Queens, New York,
1939

Futurama, designed for the
General Motors pavilion,
imagines the American city
in 1960.

One of the biggest challenges to affordable housing provision is the level of parking space that zoning laws demand for new developments. It makes land costs prohibitive, and pushes new dwellings out to peripheral locations. **Marc Norman** – founder of the community development consultancy Ideas and Action, and associate professor of practice at the University of Michigan's Taubman College of Architecture and Urban Planning – recently curated an exhibition at New York's Center for Architecture titled 'Designing Affordability: Quicker, Smarter, More Efficient Housing Now'. Here he presents initiatives around the world, from legislative change to clever modular architectural design, that offer ways of redressing the balance between car and community.

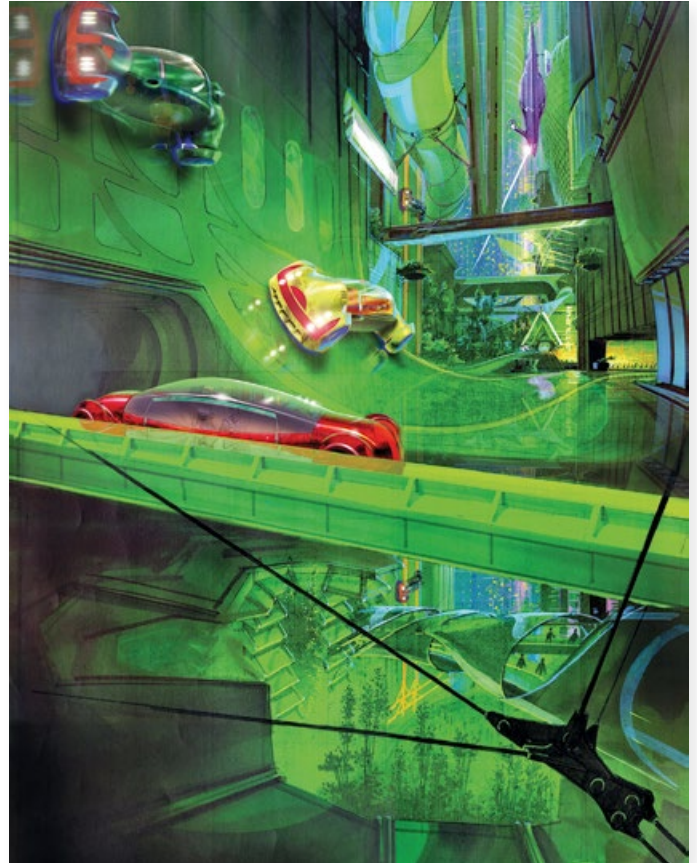


In the 2002 film *Minority Report*, the Los Angeles of the near future is walkable and connected except where it is not. While throngs of urbanites glide along Modernist skyways and treeless plazas, the majority of the landscape is dominated by autonomous vehicles flowing like a river over and through buildings, turning backwards or sideways seamlessly at 100 miles per hour. This is a vision that does not differ substantially from that of Futurama, the creation of industrial and theatre-set designer Norman Bel Geddes exhibited as a model in the Albert Kahn-designed General Motors Pavilion at the 1939 New York World's Fair. In this imagined world depicting a city design for 1960, the metropolis is separated neatly into automotive and pedestrian realms, prioritising swift and efficient movement. As in *Minority Report*, the majority of the urban landscape is automotive infrastructure. While both the 1939 and 2002 models are retro futures – theoretical and speculative – our current urban landscapes incorporate many of their conditions and claim as much, if not more, of the urban realm. These fantasy scenarios and their relevance to current debates about the built environment are directly linked to the crisis of housing affordability as we have increasingly removed the one element capable of creating opportunity and equity in our cities: developable land.

Architects are increasingly engaged in the problem of urban housing provision and the particularly intractable issue of affordability. The design of housing can have a profound impact, but the issue of land availability (where to put said housing), has proven to be an insurmountable barrier. Without available land in public transport- and job-rich locations, even the best designs cannot achieve scale or replicability, relegating affordability to generic, mass-produced domiciles on the periphery.¹

Concept art for *Minority Report*,
20th Century Fox,
2002

Science-fiction films depict future landscapes dominated by automotive infrastructure. This condition is not an unreasonable assumption given the current space taken up by automobility.



Urban sprawl,
Colorado Springs,
Colorado,
2008

In a city ranked among the most affordable in the US according to the Council for Community and Economic Research (C2ER), subdivisions proliferate, offering affordable housing options not available in the centre. The ubiquity of exurban environments is part of a phenomenon economists call 'drive until you qualify'.



Designing Affordability

In 2015–16, the 'Designing Affordability: Quicker, Smarter, More Efficient Housing Now' exhibition at the Center for Architecture in New York City highlighted the ways in which 23 architect-led developments from around the world are tackling the issue of affordability and creating the social equity that comes with well-designed, low-cost housing in connected and opportunity-rich environments. Both academics and practising architects are increasingly engaged in addressing how design can give agency to communities. Disadvantaged in neoliberal, highly capitalist systems, the broad range of projects that featured in 'Designing Affordability' demonstrated that architects can take an active role in the housing crisis and define clients more broadly to encompass not only those who commission, but those who require better shelter. In seven categories, the projects demonstrated through technology, modularity, simplicity or rethinking home life, among others, how affordability can be achieved through design interventions.

Upon reflection and further research, it has become clear that one category, 'leveraging land', stands out as the gateway to producing the required scale and scope for all of the innovative developments highlighted in the exhibition. Confronted with the fact that the price of land in many cities exceeds the costs of construction, no design solution can truly create affordability without significant reductions in land costs or taking land out of the development equation altogether. A Lincoln Land Institute study highlighted this condition in a land cost survey. In Miami, for example, land costs made up more than 60 per cent of total development costs, while in San Francisco the land exceeded 80 per cent of costs.² The 'Designing Affordability' projects reduced costs in various ways, however in those proposals where land value was rethought or taken out of the equation – for example, through increases in density on existing sites, or utilising publicly owned land – costs were reduced by over 50 per cent, a saving no design or construction technique could ever approach.



'Designing Affordability: Quicker, Smarter, More Efficient Housing Now', Center for Architecture, New York City, 2015–16

The exhibition, curated by Marc Norman, showcased the ways architects, developers and urban planners are lowering housing costs through a wide variety of methods.

No design solution can truly create affordability without significant reductions in land costs or taking land out of the development equation altogether.

Reclaiming Automotive Space

The issue of reclaiming automotive space for much-needed housing is a fight not just with history, but also with entitlement, regulation, inertia and a commodity seemingly exempt from greater market forces. In San Francisco, a city at the forefront of our current housing crisis,³ neighbourhoods thwart infill development over a perceived lack of parking, while developments on government-owned reclaimed land add freestanding parking structures for each new building. In existing residential neighbourhoods, it is taken for granted that homeowners control not only their deeded parcel, but also the adjoining sidewalk, kerb and streetscape. Other residents feel entitled to the parking around and adjacent to the private claimed streetscape.⁴ In this environment, innovative projects such as the Urban Works Agency's Urbanism From Within (2015) which give this space back to the public realm do not have a chance. In collaboration with the San Francisco Bay Area Planning and Urban Research Association (SPUR), the Urban Works Agency at the California College of the Arts examined the existing housing stock in San Francisco to investigate how density might be inserted into neighbourhoods without changing the outward appearance of the streetscape. The strategies proposed, in an exhibition at the city's SPUR Gallery, reclaim garages, attics and backyards to demonstrate the possibility of producing tens of thousands of new, affordable units while creating wealth for existing homeowners. In a city where urban land is scarce and available parcels sell for upwards of US\$300 per square foot, Urbanism From Within provides an innovative design solution that could impact affordability citywide if brought to scale.

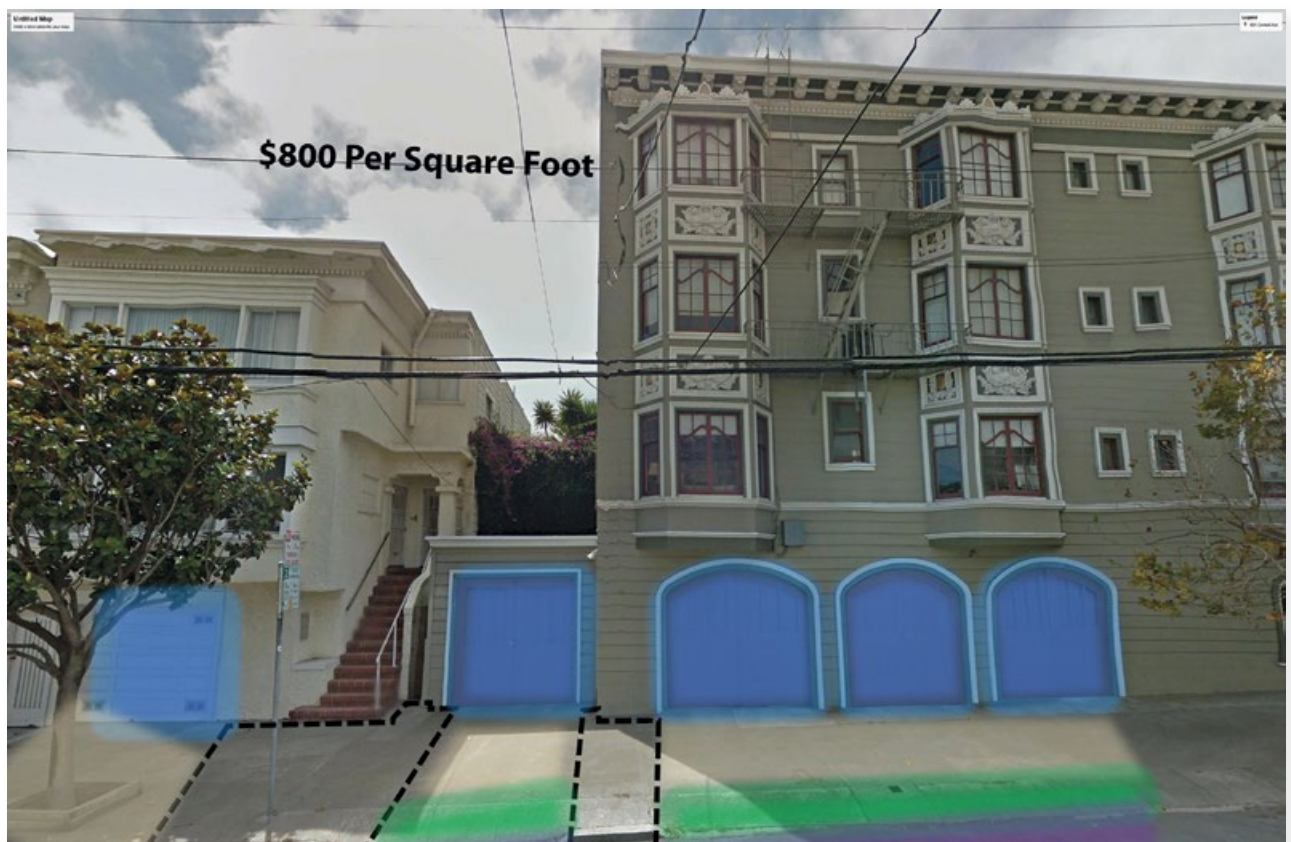


Mission Bay,
San Francisco,
California,
2016

Large-scale new developments in dense cities in many cases still contain parking ratios similar to suburban environments.

Sidewalk conditions,
San Francisco,
California,
2017

In San Francisco and many other US cities, private garages line residential streets and have an implicit claim to the adjoining sidewalk, kerb and street frontage, creating a much-diminished pedestrian realm.





Casagrande Laboratory,
Tikku micro apartment,
Helsinki,
2017

Tikku is a modular home that can fit within the footprint of a typical parking space. Shown here is a full-scale, inhabitable prototype.

There is both a lack of affordable housing in the US, meaning governmentally sponsored or incentivised units produced for lower-income households, as well as a general lack of affordability, generally defined in the US as housing, subsidised or not, in which households pay below 30 per cent of their income on housing costs. With studies showing a drop of 60 per cent in the housing stock affordable to an average US city dweller between 2010 and 2016, decisions must now be made in terms of car storage versus people storage.⁶ With consequences ranging from severe rent burdens or hazardous conditions to, at worst, homelessness, storage for vehicles that sit idle for 95 per cent of their lives and take up occupancy of precious space that is on average 60 per cent vacant, still seems to take precedent.⁷

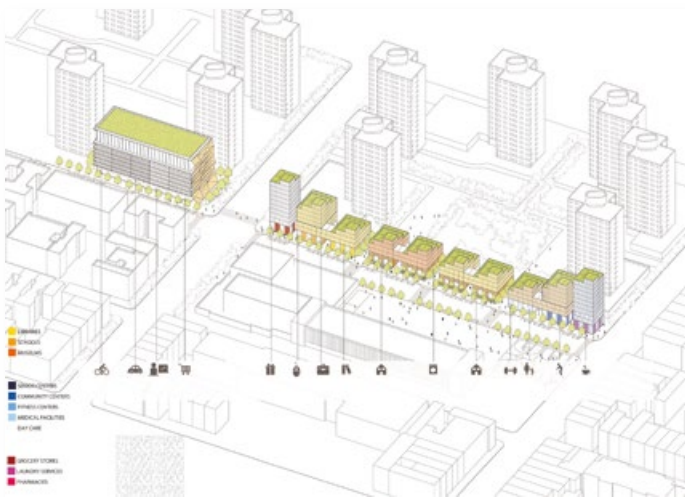
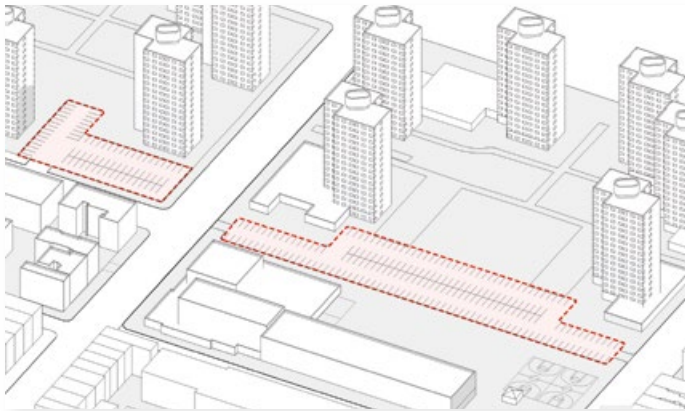
Tikku (meaning 'stick', or 'splinter' in Finnish), designed by Casagrande Laboratory, is a three-storey micro-apartment building within the footprint of one 2.5-by-5-metre (8-by-16-foot) parking spot. Assembled from cross-laminated timber, the structure stacks floor-through modules that are craned snugly into place within a day. Tikku is designed to nest and thus can expand to multiple parking spaces. Installed and exhibited during the 2017 Helsinki Design Week, it takes advantage of the disconnect between the land price for parking versus dwelling structures. With parking ranging from free of charge to US\$500 per month, the equivalent cost of leasing even the most expensive spot is more than five times less than leasing an equivalently sized apartment. The \$100,000 cost of Tikku plus the most expensive surface parking in New York would still be affordable to an individual or family making as little as \$45,000 per year. Alas, under current regulatory conditions and public perceptions, Tikku remains a prototype destined to be a Design Week novelty.

The Urban Works Agency/California College of the Arts,
Urbanism From Within,
San Francisco Bay Area Planning and Urban Research Association (SPUR),
San Francisco,
California,
2015

For the 'Urbanism From Within' exhibition at SPUR, the Urban Works Agency produced 10 housing typologies for San Francisco that showed a variety of ways to increase density without substantial changes to neighbourhood character.



The fact that the most innovative architectural proposals for housing and community development remain mostly one-off creations argues for policy solutions in addition to new construction methods, unit configurations or typologies. A visionary project by Sagi Golan and Peterson Rich Office (PRO), produced in 2015 as part of the Institute for Public Architecture's 'Total Reset' residency, attempted to marry these two principles. In their scheme '9x18' (the length and width in feet of a parking space), the team analysed the New York City zoning code and the underutilised spaces it produces through its parking mandates. Focusing specifically on existing New York City Housing Authority (NYCHA) land, they examined how the agency's combined 1,860 hectares (4,600 acres) of parking could be rethought as a resource for much-needed affordable housing. By creating a new regulatory regime in which affordability, proximity to public transport and unit type determine the level of parking, their proposal would result in freed-up urban land, a decoupling of parking from individual buildings, and density bonuses for owners opting into the system.⁸ New York City's zoning resolution update in 2016 actually put into effect parking reductions similar to those proposed by '9x18'.



Sagi Golan and Peterson Rich Office (PRO),
'9x18',
New York City,
2015

'9x18' refers to the dimensions of a parking space. In quantifying available parking on New York City Housing Authority sites, the project creates design and policy proposals for infill development.

Acknowledging Emptiness

Cities have ensconced the uninhibited flow and warehousing of vehicles into law, mandating that any place where an individual rests his or her head at night requires 0.5 to 1.5 spaces to park a vehicle that may not even exist. For commercial endeavours, every 18.5 square metres (200 square feet) of retail space must also provide 28 square metres (300 square feet) of vehicle storage.⁹ Through a strange twist of fate, a right to housing is not a fundamental truth, ensconced into law and fiercely protected, but it is a foregone conclusion that an inanimate and largely sedentary object will always have a home whether at a domicile or wherever it may roam.¹⁰ Even with the majority of parking spaces empty the majority of the time, current parking requirements are reduced only through special exceptions, community action or an overwhelming preponderance of evidence that vehicle use will not increase or cause harm for existing residents.

With ready solutions and affordable options that even include policy outlines for implementation, why are these designs stuck in the realms of exhibitions, blog posts and journal articles? Sadly, this is because parking for all intents and purposes is an entitlement. Given this state of affairs, new thinking around ways to intervene in the urban landscape, not just through design, but also through policy and finance, will be necessary for these solutions to be brought to scale and have a broad impact on our cities. This is especially important at this moment where we are seemingly on the cusp of general deployment of autonomous vehicles. Some see a utopia of small efficient pods shuttling around cities in a continuous stream. Others see a dystopia more akin to the visuals in *Minority Report*. What is clear is that technology companies are racing towards implementation with governmental entities playing catch-up.¹¹

Research that provides some promise in creating tools for communities to help in shaping an equitable future comes courtesy of Moovel Lab's What the Street! open-source data-visualisation platform¹² that maps the space taken up by automotive uses. With a growing list of mapped cities, citizens can uncover the land devoted to parking and the equivalency vis-à-vis parks, playgrounds and housing for specific geographies, empowering communities with the tools to quantify and ultimately reclaim urban space. The visualisation for Berlin, for example, calculates that on a given day 60,000 cars are moving and 1.2 million are parked, collectively occupying the equivalent of 64,000 playgrounds or four New York Central Parks. In terms of assessing negative externalities and opportunities for repurposing urban space, this software tool at a minimum can start a dialogue around priorities for urban life.

Marc Norman,
Cap and Trade Proposal,
Taubman School of Architecture and Urban Planning,
University of Michigan,
Ann Arbor,
2017

opposite: Cap-and-trade programmes currently tackle emissions reductions. Using the concept of capping and trading for parking might offer the possibility of reclaiming urban space for housing and provide funding for community development.

Pricing Negative Externalities

Another possible tool for reclaiming urban space might come via the environmental movement. In California, advocates fought for years to reduce the emissions responsible for global warming, and in 2013 their efforts resulted in the roll-out of a cap-and-trade programme. Now the fourth largest in the world, it has as its goal a 16 per cent reduction in emissions by 2020, and significant additional reductions by 2040. Treating carbon emissions as a negative externality, the programme caps emissions and creates a marketplace for businesses to trade pollution allowances through auctions, with the cap decreasing each year.¹³ To date it has not only reduced emissions, but the auctions conducted by the state have generated US\$570 million for affordable housing and sustainable communities.¹⁴

If we were to think of excess parking and our automotive landscapes as equally negative externalities, and apply a cap-and-trade regime similar to the emissions programmes in effect in California, Canada and the European Union, the possibility would arise to not only reclaim urban land, but also fund the architectural innovation that has already proven effective. With the coming onslaught of autonomous vehicles and growing market for ride hailing, car sharing and just-in-time transportation, the idea of cap-and-trade could gain traction. While a programme of this kind might not be applicable for individuals, municipalities and large institutions could be a robust test market. One example would be the University of Michigan at Ann Arbor, which manages over 27,000 parking spots in surface lots and garages.¹⁵ Singapore already has an inadvertent cap-and-trade programme whereby its Land Transport Authority treats car ownership as a commodity. The authority auctions certificates of entitlement, a supply it controls, and reduces the total year to year. As of 2017, permit costs started at over US\$40,000 with proceeds used towards mass transportation and housing.¹⁶

Winning the Land Game

Throughout the 20th century until today, the automobile seems to be winning the land game; this despite a dire housing crisis and implementable, innovative thinking in architecture, finance and policy. This begs the questions we should ask of many of the projects outlined in this article: Why can't '9x18' secure the NYCHA lots to create more options for public housing residents? Why are the typologies created by Urbanism From Within held hostage by owners who feel entitled to a garage, the sidewalk, kerb and street? And, why hasn't Tikku claimed the parking in our cities that sits empty for most of its life?

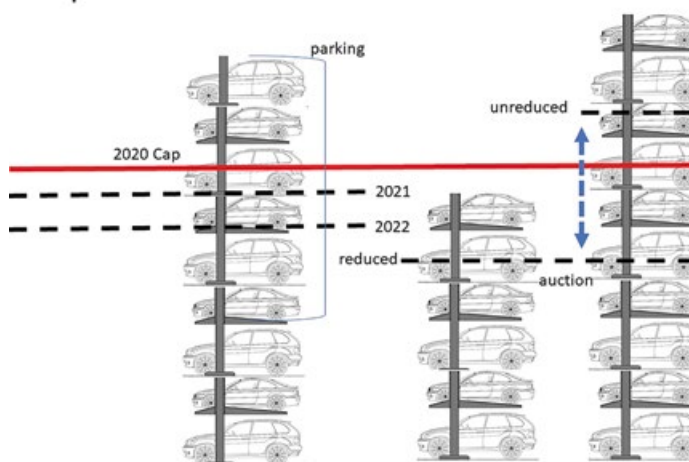
The answer lies in the marriage of urban design, architectural innovation and policy reform, which together hold the key to implementing a range of solutions to our current crises. Winning the land game and creating opportunities for sustainable, equitable housing will involve prolonged collaboration between architects policymakers and financiers. In the way that 9x18 quantifies and makes legible the possibilities of reclaiming automotive space and scored a small victory in the related zoning change, we can map a path towards increased interventions for housing equity through design, policy and finance. ▴

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Cap and Trade



Calling All New Approaches



Frédéric Druot, Anne Lacaton,
Jean-Philippe Vassal and Christophe Hutin,
'50,000 logements nouveaux' research study,
Bordeaux,
2012

Part of a research and feasibility study produced by
the architects to propose 50,000 new dwellings in the
Bordeaux metropolitan region, this map of existing
conditions shows where new housing could be built
on the grounds of social housing sites.



Some architects around the world are putting up a resistance to building. And with good reason: they have realised that demolition and new build is not necessarily the most desirable solution for outdated housing stock. **Emily Schmidt and Rosalie Genevro**, of the Architectural League of New York, interviewed three teams – in London, France and Toronto – who are thinking outside the box to find ways of giving new life to existing social and affordable housing, while minimising disruption to residents' lives and keeping costs in check. They take the architect's role beyond design, to community engagement and policy advocacy.

Architects' role in building or renovating housing typically follows a prescribed path whereby the client identifies a project and provides a brief. Generally, the scope and budget have been defined and the site, unit types and income mix determined by the time the architects are hired. But in a world where 'housing' and 'crisis' have become married – shorthand for a widespread lack of affordability and the commodification of shelter – can architects be more than passive participants in a broken system? What does operating beyond the traditional bounds of the profession look like? The three initiatives below offer examples of architects taking on expanded roles and providing solutions to problems they were not handed in briefs. Here they discuss the tactics they have employed in pursuit of alternatives to the status quo.

Architects for Social Housing (ASH)

Sitting in a housing campaign meeting in London in March 2015, architect Geraldine Denning pulled out her mobile phone, opened Facebook and started typing: 'Calling all Architects ...'. One of many Londoners concerned about the precarity of social housing in the face of waves of redevelopment and demolition, with that post Denning started a group called Architects for Social Housing (ASH). Together with writer and housing campaigner Simon Elmer, she envisioned ASH as a way for architects to offer their skills to social housing residents – people living on estates owned by local authorities or not-for-profit housing associations – who felt marginalised by their councils or feared losing their homes.

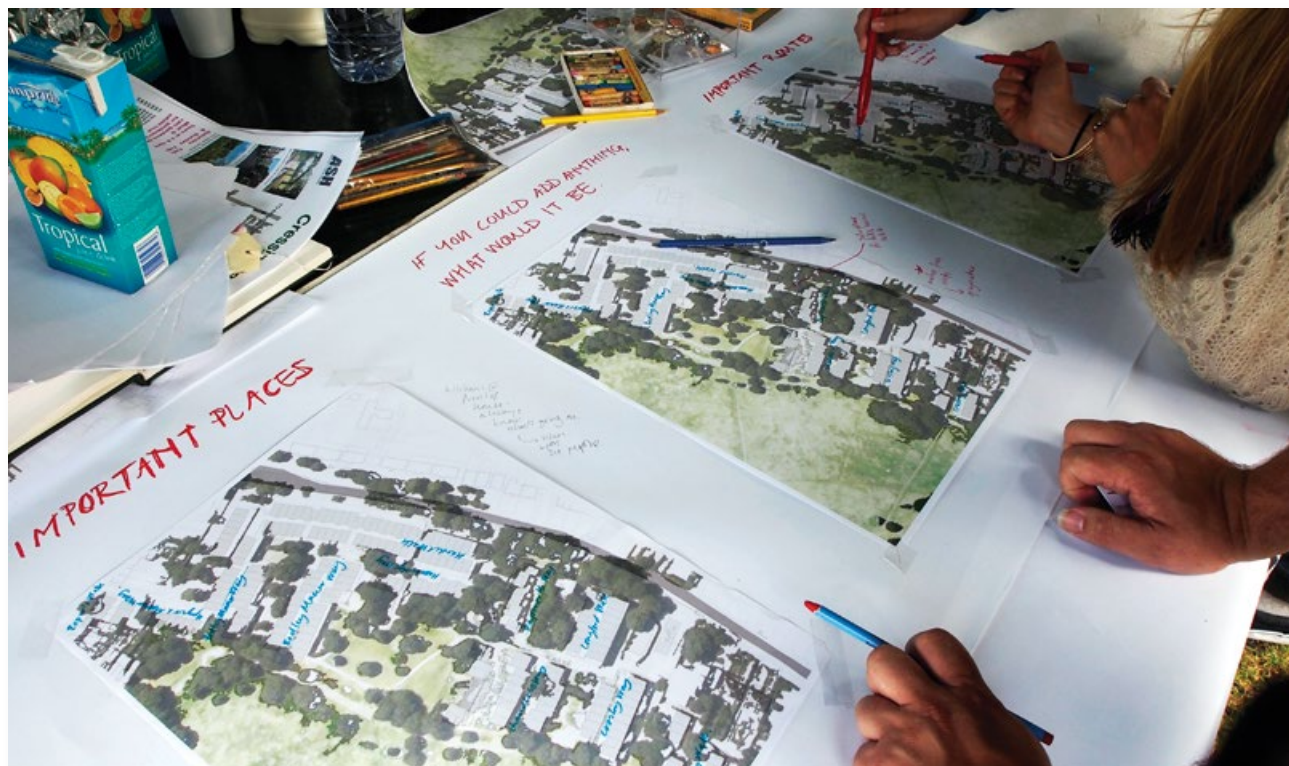
ASH was established to address 'the inadequacy of the response so far because it was merely one of opposition', explains Elmer. Residents and advocates were showing up to meetings and protests, but there was no tangible counterargument: nothing to say 'yes' to, rather than simply 'not this'. The pair identified a need and a distinctive role, providing architectural alternatives to estates threatened with demolition. 'Being able to propose an alternative sounds extraordinarily utopian, but actually is incredibly practical,' says Denning. The quality and quantity of social housing is no small matter: nearly a quarter of London's households, and about half of renters, live in social housing.¹

Despite the name, ASH is a broad collective of Londoners, from filmmakers to academics. Denning and Elmer are at its core, working with two primary kinds of contributors: regular participants who attend meetings and offer, say, ad hoc graphic design work, and architects, generally junior-level professionals, who join up for a specific project, work intensely for a few months and might not participate again. The ASH Facebook group – a scroll of news articles, event listings and requests for engineering consultations – remains active, with just over 2,000 members at the end of 2017.

Architectural alternatives are produced in tandem with mythbusting about the state, supply and quality of London's housing. ASH embraces confrontation: it targets local politicians, regeneration developers and the architects they employ, and the city's old-guard architectural institutions. An early action involved protesters outside the Stirling Prize award ceremony distributing flyers declaring 'Architecture Is Always Political'.² On the back they called on architects to stop 'accepting their current role as the funeral directors of the working class'. (One firm was 'awarded' ASH's inaugural OJ Simpson Prize for Getting Away with Murder.) These antagonistic tactics are mirrored by carefully researched case studies posted on the group's website, frequent presentations, and events such as a week-long residency at London's Institute of Contemporary Arts (ICA) and an annual weekend celebration called Open Garden Estates.

Architects for Social Housing (ASH),
Design workshop at Cressingham Gardens estate,
Lambeth, London,
2015

As part of the Open Garden Estates event weekend in June 2015, ASH held a workshop focused on the Cressingham Gardens estate's extensive green spaces. With residents and members of the Save Cressingham Gardens campaign, they identified important issues and potential improvements to the estate's open space.



Architects for Social Housing (ASH),
Residency at the Institute of Contemporary Arts (ICA),
London,
2017

ASH was invited to take up residence in the ICA's upper galleries for one week in August 2017, where they displayed two-and-a-half years of work alongside photos, videos and activist materials produced by some of their collaborators. On display here is The People's Plan for the West Kensington and Gibbs Green estates, showing where and how new housing and community facilities could be added while preserving the existing housing.

Central Hill Estate



Architects for Social Housing (ASH),
Alternative to demolition for the
Central Hill estate,
Lambeth, London,
2016

above: The 456 homes on the 1970s Central Hill estate in South London are slated to be demolished under a council-led regeneration plan. In 2015 and 2016, ASH worked with estate residents to propose an alternative to demolition, determining it feasible to preserve all the existing housing and add up to 250 additional units, the rent or sale of which would finance the renovation and new development.

ASH has repeatedly emphasised the professional duty of care and architects' responsibility not just to the client that hires them, but to residents and the wider environment.

right: At a meeting in February 2016 to discuss ASH's alternative to demolition plan for the estate, community members were asked to provide feedback on the proposal. One person left a note: 'This is the first time architects have taken a real interest in the qualities existing.'



Three years in, ASH has produced alternatives to demolition for six social housing estates facing regeneration. Typically, they are invited in by estate residents after a proposal for redevelopment is already underway. ASH begins a process of community engagement – meetings, walks, talks – before diving into the design work. While each is site-specific, common proposals include the refurbishment of existing dwellings combined with new units using roof extensions and infill housing. The group runs primarily on volunteerism – the first two years were entirely pro bono. When they have secured a little money, it has gone to paying architects, says Dening.

ASH views its success to date as galvanising support and publicising the effects of estate regeneration. In the face of moneyed interests and local politics, Dening and Elmer see slim likelihood of their early design proposals being built. ‘Success was really about the kinds of communities and things that were being generated in parallel to the actual design work,’ says Dening, including an impact on the ‘ways in which architects understand their role in estate demolition’. ASH has repeatedly emphasised the professional duty of care and architects’ responsibility not just to the client that hires them, but to residents and the wider environment.

Dening and Elmer are now reflecting on where to best apply leverage. They are concentrating on specific policy advocacy and resident-led visions for two housing cooperatives, a departure from the explicit focus on estate regeneration. ‘People are realising that the current situation, the current model of development – or addressing the “housing crisis”, or whatever you want to call it – is not sustainable,’ says Elmer. As that attitude shifts, ASH wants to be there with an alternative.

PLUS

In 1995, architect Frédéric Druot learned of the planned demolition of Cité Lumineuse, a 360-unit housing estate in Bordeaux, and launched a campaign to stop what he saw as a destructive and wasteful project.³ Only fellow architects (and friends from architecture school) Anne Lacaton and Jean-Philippe Vassal would listen, and Cité Lumineuse was demolished. However, the trio continued to develop their ideas regarding the social, economic and environmental sustainability of housing preservation, eventually catching the ear of the new national Minister of Culture, Jean-Jacques Aillagon, in 2003. Aillagon commissioned them to study the rehabilitation and transformation of social housing – in France, income-restricted, moderate-rent housing known as *habitation à loyer modéré* – as an alternative to demolition. Their research was expanded into a book, *PLUS: Large-Scale Housing Developments – An Exceptional Case* (2007), which leads with a powerful opening statement: ‘Never demolish, never remove or replace, always add, transform and reuse.’⁴

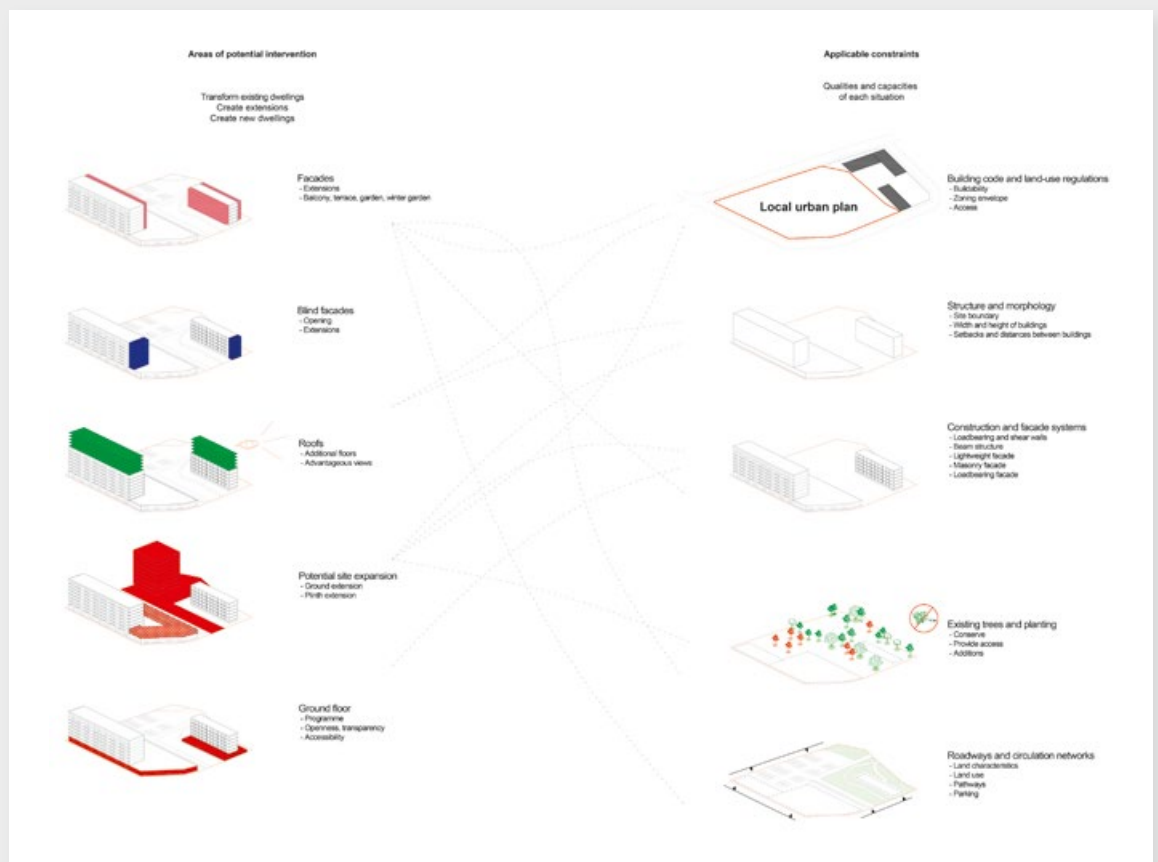
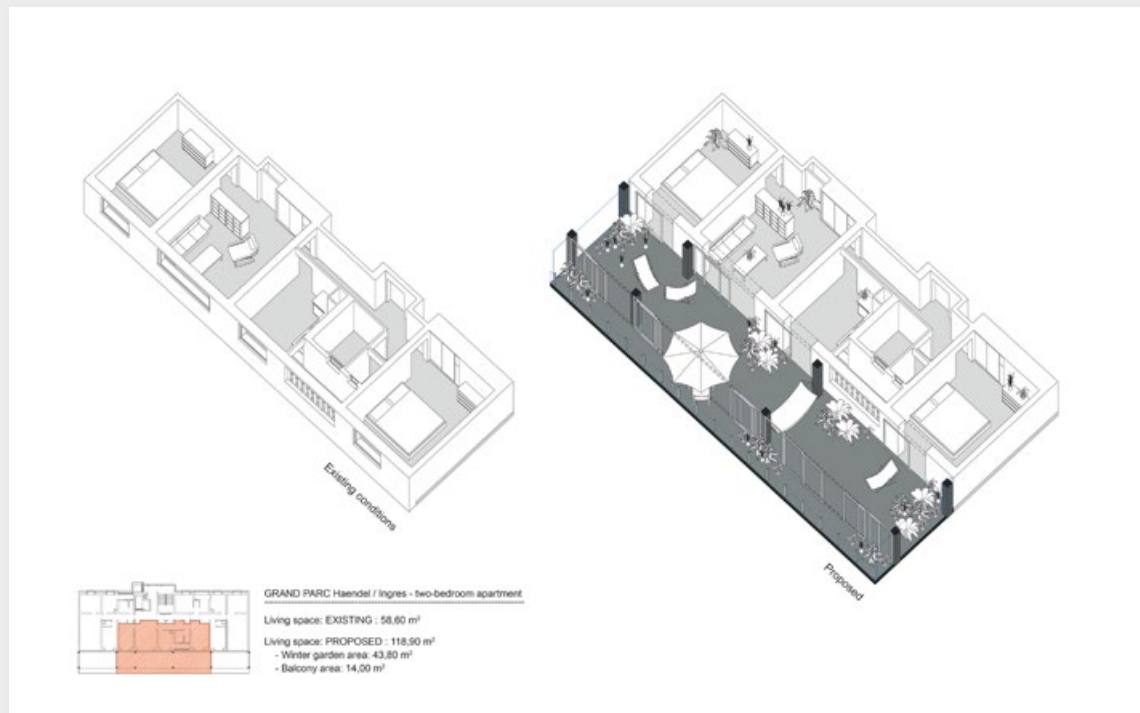
Lacaton & Vassal,
Frédéric Druot Architecture and
Christophe Hutin Architecture,
Cité du Grand Parc,
Bordeaux,
2016

The extensions to the 530 social housing units are structurally independent, which meant they could be constructed around the building and then connected to the occupied housing units by punching through the facade.



Lacaton & Vassal, Frédéric Druot Architecture
and Christophe Hutin Architecture,
Cité du Grand Parc,
Bordeaux,
2016

The addition of enclosed winter gardens and open-air balconies nearly doubled the living space and increased access to light and air in the transformation of the Cité du Grand Parc housing complex in Bordeaux.



Frédéric Druot, Anne Lacaton
and Jean-Philippe Vassal,
PLUS: Paris,
2016

This diagram of the possibilities and constraints for transforming existing housing shows, on the left, the potential methods for building expansions and additions: winter gardens and balconies, blind facades, roof extensions, construction of new buildings, and a redesign of the ground floor. The right-hand side shows the relevant constraints: building code and land-use regulations, building type and size, building structure, a desire to conserve existing plantings, and the existing ground cover and uses.

Demolition was France's prevailing attitude towards ageing, stigmatised mass housing. The *PLUS* research appeals to common sense and explores an essential contradiction: 'We need more housing,' Druot says, 'but at the same time we demolish a lot.' The architects proposed that renovation could provide larger and more energy-efficient units at lower cost. The opportunity to put their manifesto to work came after winning a 2005 competition to renovate the Tour Bois-le-Prêtre, a 1960s social housing tower at Paris's northern edge. Designing from the inside out, they focused on the quality of the living space first, developing a strategy of winter gardens, or enclosed but unheated 3-metre (10-foot) wide solarium extensions that wrap the entire building. The winter gardens reduce energy costs – a counterpoint to the typical engineering solution that closes up the facade – while providing more space, light and views. 'We can live in the winter garden, but we can't live in the insulation,' adds Druot. Most residents stayed in the building during the renovation. By interviewing every household, the architects created detailed plans to move some residents, such as families that had outgrown their apartments, between units.

Druot sees Tour Bois-le-Prêtre as 'just an example' of how better housing can be produced for less money: those 100 renovated units are a pittance compared to the thousands demolished. With Lacaton and Vassal he has since completed another, larger transformation project: 538 units at Cité du Grand Parc in Bordeaux (2016), which followed from a feasibility study called '*50,000 logements nouveaux*' and applied similar expansion and retrofitting strategies. For Druot, housing transformation is not just a project of architecture; he refers interchangeably to 'archibanisme' or 'urbatectures' to emphasise the need for an integrated practice of architecture and urbanism that embraces the attendant social, political and economic forces.

In 2008, Druot began a Paris-specific version of *PLUS*, an exhaustive inventory of collective housing built in the region from the 1950s to the 1980s. Identifying 1,648 sites, his team at Frédéric Druot Architecture – he estimates half of his studio's time is devoted to research – concluded it would be possible to renovate 450,000 existing units and build 135,000 new units of social housing. Completed in 2016, *PLUS: Paris*⁵ addressed not only the need for more and better housing, but the larger question of the 'inhabitability of the city'. The bulk of the book is dedicated to 16 feasibility studies for existing complexes that demonstrate, through site and building interventions, that the city can be densified while improving liveability and affordability. Druot presented the book to city officials, including the mayor, but so far there has been no change to local policy. He is currently working on a *PLUS*-type study in Chile.

Druot's ideas, and the architecture born from them, have received a great deal of media attention and critical praise. 'We lecture everywhere,' he says. 'Intellectually, everybody likes the story.' However, the admiration has not resulted in a sea change in France or elsewhere. 'When I was in New York, the other architects said: "It's incredible. But we can't do that here",' he says. 'It's hard to stop this kind of attitude' when it is easier to demolish and rebuild, even when building new results in smaller units, costs more and displaces residents. In reference to rehabilitation, he concludes: 'The problem is explaining to people who make money that they can make money from that.'

No matter how complex the implementation, Druot stresses a simple strategy: 'Just pay attention to what and who is already there.'

Tower Renewal

As a graduate student a decade ago, architect Graeme Stewart became fascinated by the difference between the popular conception of Toronto – a walkable city of charming Victorian homes – and the reality of where and how most residents lived. Unusually for a North American city, 'Most people live in modern slab housing by highways,' explains Stewart. 'There's this amnesia about this huge section of Toronto's history and sense of itself.' Tower-in-the-park housing, the vast majority privately owned, proliferated in the 1960s and 1970s and today accounts for nearly half of Toronto's rental housing, including many of its most affordable units.⁶

Stewart proposed an effort to preserve and rehabilitate the region's nearly 2,000 tower blocks through building improvements paired with environmental, social, economic and cultural change in the surrounding neighbourhoods. He received support from ERA Architects, where he is now a principal. Toronto's mayor at the time was looking for opportunities to integrate the outer city and suburbs with its core. Investment in tower neighbourhoods fit right into his priorities. Stewart presented his proposal to the mayor within days of his graduation and, by 2008, the city had an official Tower Renewal office.

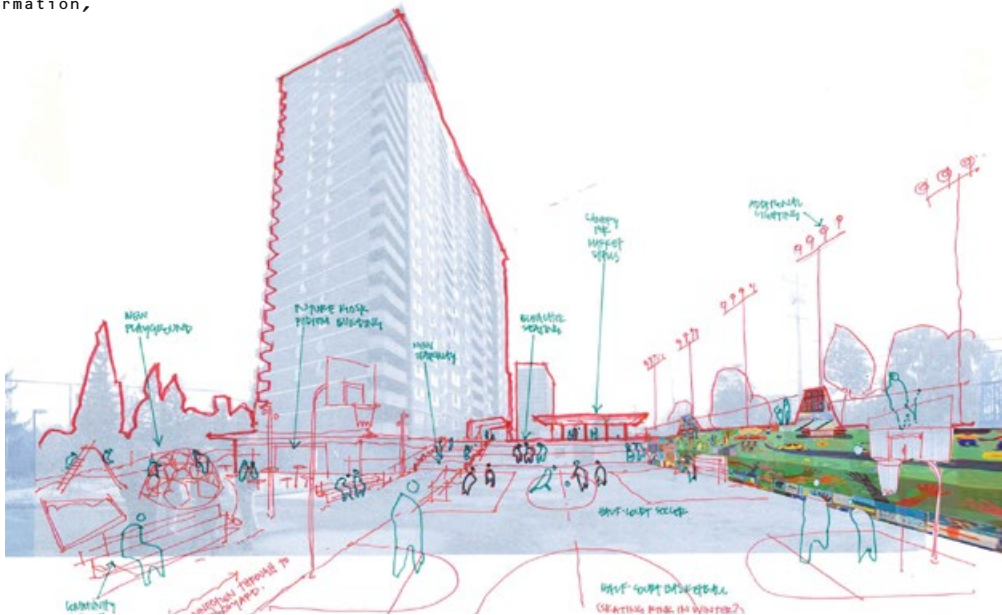
Simultaneously, ERA and some local partners set up a non-profit organisation (independent of the city department) to manage what became the Tower Renewal Partnership. The Centre for Urban Growth and Renewal (CUG+R, pronounced 'cougar') conducts and commissions research, writes case studies and best practices, advocates for policy reform, and convenes stakeholders. The work ranges from countering negative perceptions of tower neighbourhoods – through photography exhibitions, architectural walking tours, editorials and lectures – to policy and technical work. For example, CUG+R has worked with German building scientists to develop building retrofit standards and financing methods.

'We have a research arm through a non-profit [CUG+R] as well as a practice arm [ERA] where we build things,' says Stewart, calling their method a 'one-two punch' alternating between built commissions and study. 'It's those kinds of activities that are really outside the framework of a traditional practice, but are actually exploring the nuts and bolts' of land-use planning, building codes, zoning, taxation and other barriers that have made Tower Renewal effective, adds architect Ya'el Santopinto, CUG+R's research director. CUG+R is primarily grant financed, and cross-subsidised by pro-bono and reduced-rate work from ERA. 'Being a good architect is different to being a good advocate and researcher,' notes Stewart. 'We've found a way to operationalise' the research practice to support systems change.

No matter how complex the implementation, Druot stresses a simple strategy: 'Just pay attention to what and who is already there.'

ERA Architects,
Sketch for tower neighbourhood transformation,
Toronto,
2011

Toronto's Tower Renewal Partnership seeks to transform the city's tower blocks and their surrounding neighbourhoods into more sustainable, resilient and healthy places. This sketch by ERA Architects from a neighbourhood visioning event illustrates proposed changes, including new playgrounds, sports courts and market stalls, some of which were prohibited until a tower neighbourhood rezoning advocated for by the partnership was approved in 2016.



ERA Architects,
Community investment through Tower Renewal,
Toronto,
2016

Small interventions like this pop-up outdoor market are a key component of the Tower Renewal initiative to improve residents' quality of life, which will be complemented by larger transformations such as infill housing, and new transit connections and retail.



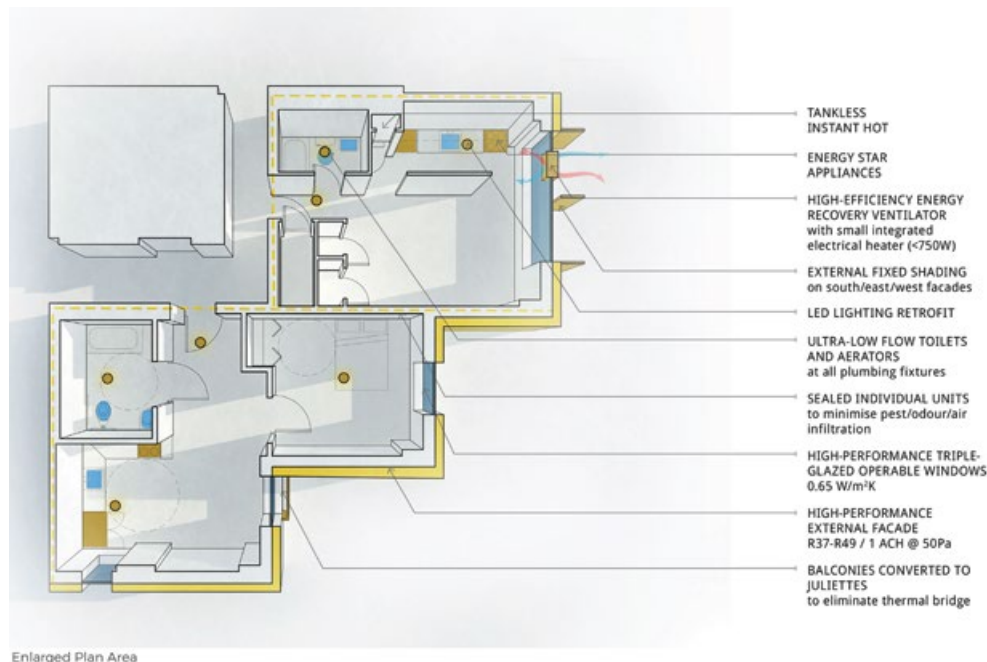
ERA Architects,
Showcase demonstrations for Tower Renewal,
Toronto,
2017

The Tower Renewal vision has three phases: energy retrofits and improvements to existing housing, the provision of new community amenities and programming, and better integration of tower neighbourhoods into the city through infill development, new recreational opportunities and improved transit connections.

The Tower Renewal Partnership has developed into a broad coalition, led by CUG+R and joined by the likes of the United Way and Toronto Public Health. After nearly a decade of refinement, the partnership has clear goals for housing, health, transit, jobs and more. CUG+R stewards the work, but does not hold it tightly, hoping that different groups can each take a piece. ‘You set the table and people come and find their way into it,’ says Stewart.

New attention and investment often stoke fears of rising rents and displacement. The key to Tower Renewal has been to find points of agreement and mutual benefit: a building retrofit that improves conditions for residents, lowers a landlord’s energy bills, and meets the city’s climate change goals, for example. ‘The do-nothing scenario is more dangerous, but we do need to tread carefully,’ explains Santopinto. ‘Traditionally, the way of thinking about the affordability of housing is in new supply. But the preservation of our existing supply, which is really at the heart of this initiative, can’t be underscored enough.’ The partnership is trying to ward off the perverse incentives of investment through restrictions such as prohibiting the rent increases that would normally accompany physical improvements to rent-controlled housing.

Stewart and Santopinto are busy with public housing renovations; feasibility studies at the unit, building and campus scales for privately owned towers; demonstration projects; policy advocacy; meeting residents and more. They have also found an audience well beyond the city and are designing a retrofit finance tool that could be used nationwide. Stewart expects to have ‘best in class’ examples of towers renewed within five years.



Enlarged Plan Area

ERA Architects,
High-rise apartment mechanical
retrofit for Tower Renewal,
Toronto,
2016

To modernise the ageing housing stock while maintaining affordability, the Tower Renewal Partnership has proposed mechanical retrofits to high-rise apartments in order to reduce natural gas, water and electricity consumption and provide in-unit environmental controls.

What are Architects For?

These examples of architects taking driving roles in challenging housing inequity differ significantly with regard to their points of intervention, types of partners and specific approaches. Yet all have put in long hours to develop deeply researched, carefully crafted principles that demonstrate a firm attitude about who and what housing is for. Their architecture, built or speculative, follows from well-established convictions: architecture can be about building less, or not building at all. Housing that already exists – even if devalued or maligned – is an asset, and rehabilitation is usually preferable to demolition. Regardless of how deeply ingrained the conventional wisdom may be, it is always possible to redefine the problem. Architecture and design are most valuable as vehicles towards achieving much broader goals for a humane city. ▢

This article is based on separate video conference interviews conducted by Emily Schmidt in October 2017 with Geraldine Denning and Simon Elmer of Architects for Social Housing (ASH), architect Frédéric Druot, and Graeme Stewart and Ya’el Santopinto of ERA Architects and the Centre for Urban Growth and Renewal (CUG+R).

Notes

1. Mayor of London, ‘Housing in London: 2017’, Greater London Authority, February 2017: <https://files.datapress.com/london/dataset/housing-london/2017-01-26T18:50:00/Housing-in-London-2017-report.pdf>.
2. Architects for Social Housing (ASH), ‘Stirling Prize Protest 2015’, 16 October 2015: <https://architectsforsocialhousing.wordpress.com/2015/10/16/riba-stirling-prize-protest>.
3. Frédéric Druot, ‘Not Tearing Down is a Strategy’, *L’Architecture d’Aujourd’hui*, 374, October/November 2009, pp 65–74: www.druot.net/AA-Druot-EN-FR.pdf.
4. Frédéric Druot, Anne Lacaton and Jean-Philippe Vassal, *PLUS: Large-Scale Housing Developments – An Exceptional Case*, Gustavo Gili (Barcelona), 2007.
5. Frédéric Druot, Anne Lacaton and Jean-Philippe Vassal, *PLUS: Paris*, Frédéric Druot Architecture (Paris), 2016.
6. ERA Architects, planningAlliance and the Cities Centre, University of Toronto, ‘Tower Neighbourhood Renewal in the Greater Golden Horseshoe: An Analysis of High-Rise Apartment Tower Neighbourhoods Developed in the Post-War Boom (1945–1984)’, Ontario Growth Secretariat, November 2010: <http://cugr.ca/tnrghh>.



Typical Floor Plan with Enlarged Plan Area Highlighted

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A New Era of Social Housing

Paul Karakusevic

Architecture
as the
Basis for
Change



The UK has an enviable track record of high-quality social housing provision, but this has been damaged by reduced or counterproductive state involvement. So argues **Paul Karakusevic**, whose London practice Karakusevic Carson Architects is among a number worldwide that are lobbying for change in how social housing is done. He cautions against one-size-fits-all approaches, advocating instead close collaborations between local authorities, architects and residents' associations. His own firm's experience designing mixed-tenure, mixed-typology models via this method shows that there is reason for optimism.

Karakusevic Carson Architects
with Maccleanor Lavington,
Dujardin Mews,
Enfield,
London,
2017

Ground-floor apartments have internal courtyards that provide extra outdoor amenity space and allow natural light and ventilation deep within the plan.

In 2017, Karakusevic Carson Architects authored a book entitled *Social Housing: Definitions and Design Exemplars*.¹ The aim was simple: bring together exemplary case studies of public and not-for-profit housing from across Europe to show those working or seeking to work in housing, design and urban regeneration that things can and should be done differently. Architects publish to promote, to encourage debate and, in the case of the *Social Housing* book, to lobby for change. Alongside 24 projects by 20 practices from six countries, it includes essays and interviews that together highlight that social housing in the UK remains hindered by a set of biased and complex processes put in place for the purposes of political and commercial expediency. Over the past 15 years, Karakusevic Carson has been trying to change this landscape, and at last there appears to be some cause for optimism.

The extent of the UK's broken housing system was exposed to devastating effect with the 2017 Grenfell Tower fire in West London. Central to the grief and shock was a simple question: 'How could this happen?' But the official answer, now subject to an inquiry, will be loaded with complexity and is unlikely to satisfy any of those who lost family and friends. What the inquiry will do, however, is expose the wasteful mechanisms embedded in the sector that frustrate housing quality and delivery. If social housing in the UK is to move forward, it is crucial that it challenges the great neoliberal experiment that has wreaked havoc on its housing system over the past 40 years

A Housing Crisis by Choice

The general thrust of the neoliberalist argument is that if the state steps back, reducing taxes and regulation, the market will flourish and innovate. In social housing this has rarely worked, and the role of charities, the state and local municipalities has proven to be crucial in maintaining supply and standards. In the 1870s it was the UK government that enabled slum clearances for philanthropic development (the Artisans' and Labourers' Dwellings Improvement Act 1875 enabled authorities to purchase land and clear it for resale to affordable housing providers) and legislated to keep suburban rail fares low. In the 1920s it was again the legislature that created 'Homes for Heroes' (the moniker given for the vast state-subsidised cottage estate programme introduced in the UK under the Housing, Town Planning, &c Act 1919) and established space standards. And it was local authorities who kept delivery of new homes high in the postwar years and advanced housing design and living standards.



The UK created the London County Council (LCC) and in doing so embarked on the one of the most sophisticated housing programmes in the world. It put people, quality and longevity above all else, and municipal governments from across Europe came to view the handsome new tenement blocks of Shoreditch and the spacious cottage estates of Old Oak.



London County Council,
Boundary Estate,
Shoreditch,
London,
1900

The Boundary Estate was one of the world's first council estates, replacing 6 hectares (15 acres) of East End slum with an entirely new neighbourhood featuring some of the best affordable housing in the city. It was the first large-scale development by the ambitious local authority's architectural team, its radial masterplan incorporating a range of uses including shops, schools, workshops, amenity space and handsome Arts and Crafts-inspired tenement blocks that provided homes for more than 5,500 people.

In the 1980s and 1990s, a market ideology replaced state provision and the UK's tradition of progressive social housing delivery and management was cut down in a shock-and-awe manner not seen in any other European country. Budgets were slashed, restrictions imposed, policy centralised and stocks decimated through hybrid private finance initiative (PFI) deals and 'Right to Buy' – an initiative introduced by Margaret Thatcher that allowed council tenants to purchase their rented homes at huge discount, thus removing them from public control without funds for replacement. During these years the number of people in the UK living in social tenure housing went from around 42 per cent in 1979 to around 18 per cent today,² and the damage these policies have caused is staggering. Nearly 40 years after the launch of this market revolution, there is a chronic crisis in supply, a network of convoluted management structures, and under-resourced local authorities in thrall to commercial developers and contractors.

It does not have to be this way. In the late 19th century when faced with the laissez-faire of the private sector, the UK created the London County Council (LCC) and in doing so embarked on one of the most sophisticated housing programmes in the world. It put people, quality and longevity above all else, and municipal governments from across Europe came to view the handsome new tenement blocks of Shoreditch and the spacious cottage estates of Old Oak to see how a revolution in housing was taking shape. In Vienna such ideas have been upheld to this day. The 'Vienna Model' is the envy of the world, with adequate supply and standards and well able to absorb emergent economic and social change.³ But in the UK, housing and regeneration is now at a crossroads and the private housing market is failing to offer any new ideas. The initiative instead is left to local authorities, housing associations, cooperatives and others. It is from these re-energised groups that the 2017 *Social Housing* book took its cue, and it is with them that the future of social housing and successful regeneration lies.

Delivering on Quality

Karakusevic Carson now counts 13 local authorities as clients. After nearly four decades they are again building. This shift is hugely significant and a reason to be optimistic. Today, local authorities are working fast to develop in-house housing and development skills that embrace a nuanced approach to delivery. While still forced to work within strict borrowing limits, they are investing in mixed financial returns models that see social and commercial rent and market sale sit together to cross-fund one another to realise the potential of their

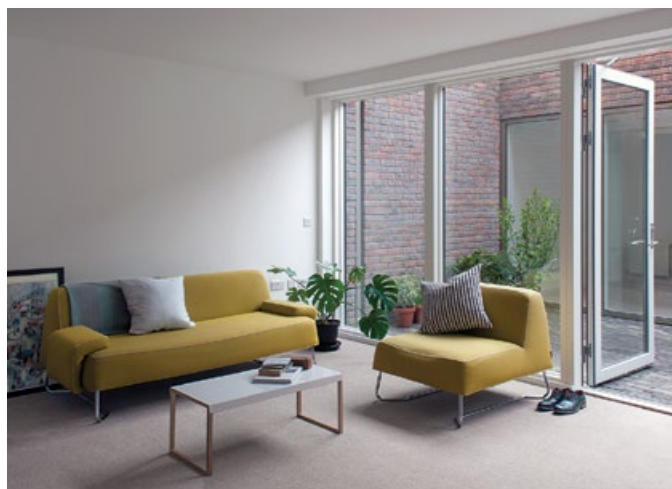
land holdings. Mixing tenures and typologies and seeking out the best design talent through competitions, local authorities are overseeing some of the highest standards of residential design anywhere in the UK.

In Enfield, North London, Karakusevic Carson's RIBA-award-winning Dujardin Mews with Maccleanor Lavington is the first council-led social housing delivered by the borough for four decades, and forms the first phase of the Ponders End district rebuilding programme. Completed in 2017, the 38-home project exemplifies the new ambition of the local authority and showcases how robust detailing, high-quality materials and elegant design can be delivered on time and on budget. Family houses, maisonettes and apartments have all been integrated, while residents' involvement in the final design details has fostered a new community and an already well-loved, well-used streetscape.

In East London, the regeneration of the Kings Crescent Estate, Hackney, is a pivotal part of an ambitious borough-wide programme. The mixed-tenure masterplan featuring a total of 750 homes, (the first phase of which was completed in September 2017), is part of a new wave of public projects that embrace the urban scale, grain and traditions of London to increase densities and intensify land use. Estate redevelopment is a unique opportunity to rethink the structure of an area. Working closely with residents from the start of the process to identify their aspirations for a new neighbourhood and to understand the issues that affected the estate in its current form, Karakusevic Carson's approach was to reintegrate Kings Crescent with the surrounding townscape by creating a series of courtyard blocks that combine existing 1960s blocks and confident new buildings that flank new streets and public spaces.

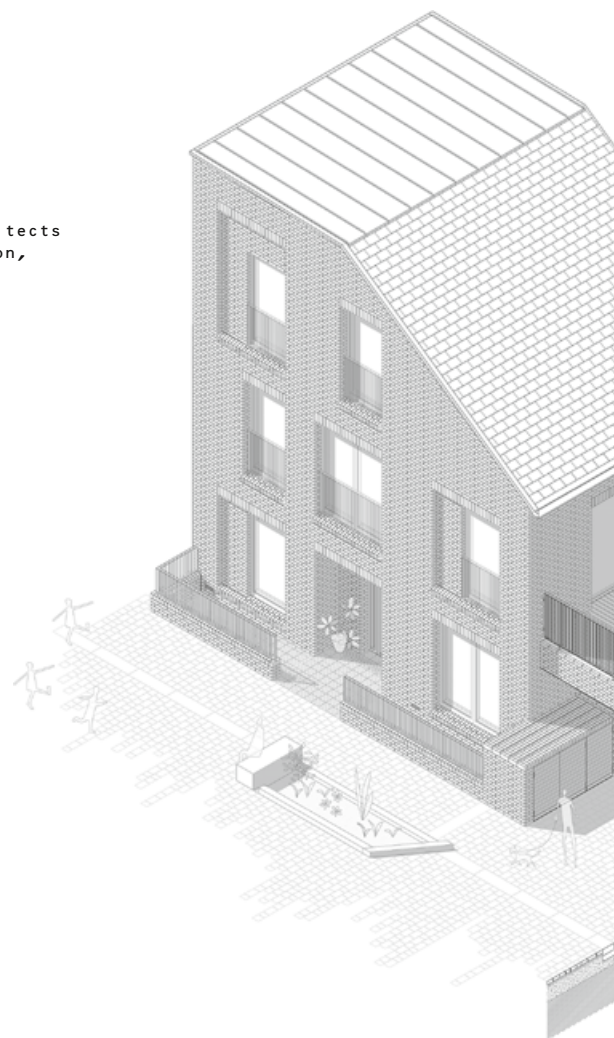
Ushering in New Processes with Residents

People must be at the heart of creating new neighbourhoods and transforming existing ones. Karakusevic Carson has a track record of forging positive relationships with the communities it works with. At Kings Crescent, by far the biggest challenge facing the London Borough of Hackney was how to bring on board a community left disillusioned and disengaged after 18 years of stalled schemes. In 2000, approximately half of the estate was demolished, leaving behind a rubble-filled wasteland. Beginning in 2013, the architects worked quickly with a newly empowered group of ambitious council officers to put the Residents Association at the centre of the design process. Through regular steering-group meetings and public-consultation events, the residents were heavily engaged throughout; from the site planning of new streets right through to the internal specifications.



Dujardin Mews provides replacement homes for the neighbouring Alma Estate. The 38-home development features a mix of one- to four-bedroom dwellings arranged in two terraces facing onto a new street on a tricky strip of land previously occupied by a gasworks. It uses the streetscape and massing of double-fronted terraced housing to establish permeability through the site, relinking pedestrian connections between north and south. The notched nature of the terraces not only creates an articulated, varied profile, but also allows additional daylight into the street.

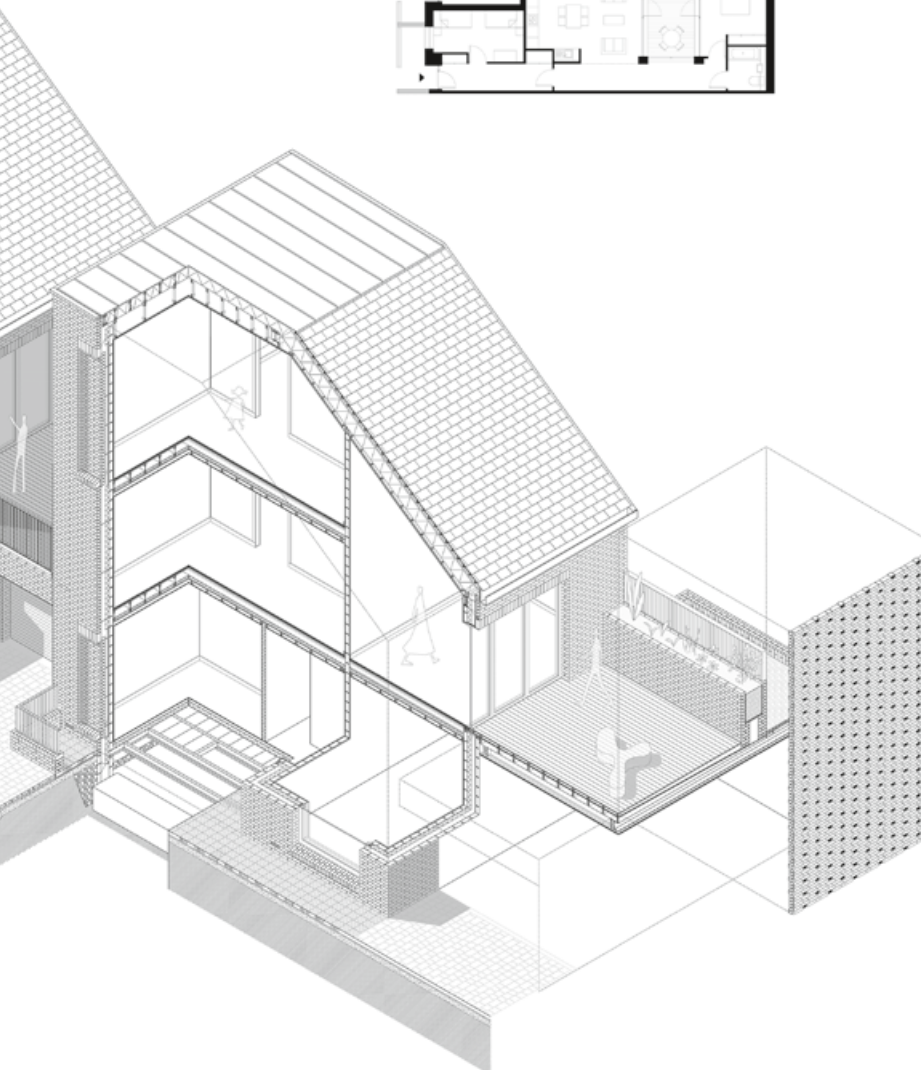
Karakusevic Carson Architects
with Maccleanor Lavington,
Dujardin Mews,
Enfield,
London,
2017





Courtyard apartment at ground floor with maisonette above. The scheme showcases how innovative typologies, robust detailing, high-quality materials and elegant design can create a domestic and intimate character both externally and internally.

Internal layouts exceed the mayor's *London Housing Design Guide* standards for new homes, with generous spaces, substantial floor-to-ceiling heights, abundant outside space, natural light and ventilation.



Attitudes to new development will not change if information is withheld or the intent of a project misrepresented. In the UK, over the past 20 years, some key urban regeneration projects have set an unfortunate precedent with regard to the treatment of residents, and a new generation of public-sector staff are tackling understandable intransigence, suspicion and accusations of social cleansing by those on both the right and left of politics. The Labour Party has recognised these concerns and has announced plans for compulsory ballots to safeguard residents subject to redevelopment. If this does eventually become a binding part of the process, both public and private sectors will need to be ready to embrace and embed it in what they do. Ushering in new processes with residents means being upfront, and for stakeholders of all kinds to be open to ideas to inform an agreed brief for both clients and residents. Redevelopment must work to rebuild trust and carve out a new narrative that does not hide behind regeneration jargon. If there are tough choices, project leaders need to have the courage to tell people what they are in terms everyone can understand. Faced with shortages, deteriorating stock and central government cuts, doing nothing is rarely an option and diversifying housing delivery is key.

Redevelopment must work to rebuild trust and carve out a new narrative that does not hide behind regeneration jargon.

Privacy is achieved on the ground floor through defensible spaces while the mix of house typologies ensures windows are offset, helping to prevent overlooking between properties.

Championing the State

The UK was only able to achieve its record annual 350,000 home completions in the late 1960s because there was a mix of providers, and so to get anywhere near that number again it must find ways to encourage variety in delivery. In Europe, most countries have a well-established diversity of social housing providers. The key to harnessing a mix and maintaining standards is an ambitious and well-informed local authority who is prepared to act, to collaborate and take decisions at the planning stage, and effectively oversee the project to ensure that quality is realised in the final outcome.

Regeneration should not mean wholesale stock transfer or asset disposal to free-up cash for short-term benefit. There are nuanced strategies and long-term options for realising new social housing on difficult sites that include rebuilding, refurbishment, partial demolition and extension, and these need to be considered together, especially where phasing is required to prevent the displacement of communities and blighting lives. The UK should be cautious of 'top-down' or one-size-fits-all approaches; in this direction lies standardisation, and the recent past is loaded with the mistakes of quick fixes that will lower standards and leave future generations with the unintended consequences. Local authorities are still coming to terms with the faults of untested system solutions of the 1960s and, in the aftermath of Grenfell, are again having to do the same with the cheap cladding systems that were promoted less than a decade ago despite the stark warnings of the possible consequences issued in the 1980s.⁴

Architects need to stand up for outstanding clients and call out the processes that undermine the quality and supply of housing in the UK. For much of the 1980s they and other professionals were scapegoated for the perceived failings of many postwar estates because politicians were not prepared to deal with the root causes of economic and social inequality. It is true that this period of intense optimism and experimentation did produce some alien landscapes and challenging aesthetics. However, much that unites the failings of estates from this time stems not from look or layout, but from their shoddy system-led construction and poor to non-existent maintenance and management regimes.

The first two phases of the masterplan involved the refurbishment of 101 homes and the creation of 269 new homes. The project forms a pivotal piece of the wider London Borough of Hackney estate-regeneration programme. The design aims to bridge the gap between strong, confident buildings fit for higher-density living, and fine-grain detailing, with attention paid to proportion, scale and elegance of the facades.



Interior of an apartment for social rent. Layouts have been designed from the inside out to ensure they are flexible and adaptable. Homes benefit from high ceilings with large, high-performance anodised windows and doors providing access to generous recessed balconies and terraces that are envisioned as an extension of the living space.

Karakusevic Carson Architects with Henley Halebrown,
Kings Crescent Estate,
Hackney, London,
2017





The project provides an exemplary method of delivering high-quality new and refurbished housing, paving the way for other London boroughs to follow. Both the refurbishment of existing buildings and development of new ones have been carried out using a combination of high-quality materials with robust, considered detailing, which allow them to sit comfortably in their varied context and age gracefully over time.

Reforming and rebalancing housing provision in the UK is vital and it is a long-term project. It is likely to be some time before new socially motivated practice, design approaches and expertise can become the normal way of doing things, but the social housing sector has taken steps towards real change and the dawning of a new era. The crisis in British social housing will not be resolved by pretending the problem does not exist, or by rushing towards any single ideology or design ethos; the solution needs to be strategic, and at the forefront of this are people and the bodies they charge with overseeing our cities in all their nuance and diversity. The right to the city is for all, and where we choose to put social housing is crucial in determining the sustainability and success of communities now and in the future. ▢

Sketch showing the new building and the refurbished 1960s block enclosing the shared garden. Lobbies and circulation ensure legible and easily navigated wayfinding, and a new community hall and fine-grain retail provide a civic focus.



Notes


1. Paul Karakusevic and Abigail Batchelor, *Social Housing: Definitions and Design Exemplars*, RIBA Publishing, 2017.
2. John Harris, 'The End of Council Housing', *The Guardian*, 4 January 2016: www.theguardian.com/society/2016/jan/04/end-of-council-housing-bill-secure-tenancies-pay-to-stay.
3. See Wolfgang Förster and Bill Menking, *The Vienna Model: Housing for the Twenty-First Century City*, Jovis Verlag (Berlin), 2016.
4. Eric Downie, Director of MacData Ltd structural engineers, interviewed in 1984 for Adam Curtis's BBC documentary 'Inquiry: The Great British Housing Disaster', warned of increased fire risk to buildings through cladding.

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An architectural rendering of a modern building complex. The buildings are white with green roofs and green accents on the facades. There are courtyards with trees and walkways. The text "Design for Impact" is overlaid in a large, dark green serif font.

Design for Impact

Tools for Reducing
Disparities in Health



Brian Phillips and Deb Katz

Our living environments can play a crucial part in our health – physical, emotional and psychological. But these impacts cannot be so easily and quickly measured or anticipated as, say, build costs or energy efficiency. How, then, can architects ensure that the housing they design will be health-enhancing? Philadelphia-based architectural practice Interface Studio Architects (ISA) has been developing tools for this purpose through a range of recent projects, public and private. The firm's principals **Brian Phillips and Deb Katz** describe the resulting strategies that are encouraging physical activity, nurturing residents' sense of wellbeing and inviting wider neighbourhood interaction for greater health equity.

Interface Studio Architects (ISA),
Healthy Urbanism,
Brooklyn, New York,
2013

This urban framework for high-density housing in Cypress Hills, East New York was designed with input from public health scientists at HealthxDesign. The resulting plan includes an inviting and physically challenging circulation loop linking building entrances, a rooftop outdoor classroom and nature lab, and an adjacent school, to encourage active lifestyles and urban connectivity.



The act of designing housing engages with questions of health equity regardless of a designer's intended impact. As the predominant built environment in most people's lives, housing sets the stage for a person's wellbeing while also playing a major role in defining social and economic opportunities whose spinoff effects further define health outcomes. What happens when housing designers look to address the remediable causes of disparities in health across populations, and to measure the impact of their designs on the occupants of a housing development as well as its surrounding context? ISA works to address this question from the standpoint that modest, small-scale, everyday projects are the biggest levers for impact and are often underappreciated by designers and owners alike. As such, housing is a crucial component of ISA's practice, and one that engages with a range of client types – public and private, for-profit and not-for-profit, affordable and market-rate.

Social and health outcomes can take time to manifest, with many opportunities for external factors to interfere with measurement. Current health disparities in Philadelphia and across the United States, where people in economically disadvantaged communities have shorter life expectancies than those in more affluent neighbourhoods and are disproportionately afflicted with preventable chronic diseases like diabetes, can be linked to decades of disinvestment and discriminatory urban policy. For typical metrics tracked through residential design and construction, conclusions are achievable within a few years after construction is complete. For instance, final build costs can be accurately reported by the contractor upon completion, and energy efficiency can be reliably monitored and matched against predictive models within the first year or two of occupancy. For health and social mobility, by contrast, it can be challenging to understand the impact of housing until decades after construction is complete and residents have experienced several housing environments. In this context, checklists and scorecards like those employed to measure costs and energy performance can be difficult tools to use. To influence health equity through design, ISA creates strategies and tactics for directing and measuring impact throughout the design process. Design and tool-making happen simultaneously to continually inform the work and produce measurable impacts on health equity.

ISA, 100K Houses, Philadelphia, 2008

above: These modest urban condominiums in Fishtown, Philadelphia were constructed for \$100 per square foot and achieved LEED Platinum energy performance ratings. The project focused resources on the building envelope to reduce energy bills, while supporting healthy contemporary lifestyles for diverse populations with flexible open plans and ample outdoor spaces.

right: Simple, open plans and inexpensive, raw finishes brought construction costs down while appealing to contemporary tastes. Online tools allowed homebuyers to choose from a series of material palettes and fixture options, creating opportunities for customisation and expression of individual identities.



Research and Design

ISA pursues health equity impacts across a range of project types. While the ambition, funding and commitment to the wellbeing of occupants and the city at large is highly variable for ISA's clients, the practice sees the different development models involved as productively informing one another. For instance, work with non-profit developers on affordable, government-subsidised housing for low-income tenants offers more opportunities to engage directly with issues of health equity than does work with private developers of market-rate housing, but it also takes longer to execute, and can be less nimble in its testing of new ideas. By contrast, work with the latter type of private developments tends to be constrained by tight budgets and timelines, but produces results quickly and has the potential to impact a broader audience.

ISA learned powerful lessons early on from a speculative development project in Philadelphia called 100K House (2008), which became known for its low cost, radical energy efficiency, and minimalist architecture appealing to a new generation of first-time urban homebuyers. 100K was foundational in its emphasis on making healthy urban living more accessible to diverse populations

through a strategic design approach focused on lowering costs while increasing building performance. The project also helped broaden the practice's definition of affordability in housing. While its design model grew out of an earlier ISA project completed for a non-profit community development corporation (CDC) in North Philadelphia that relied on Low-Income Housing Tax Credits (LIHTC) for financing, 100K was purely market-driven, proving that low-cost, socially conscious housing could have value for a private developer if those constraints were addressed throughout the design process in a strategic and integrated way.

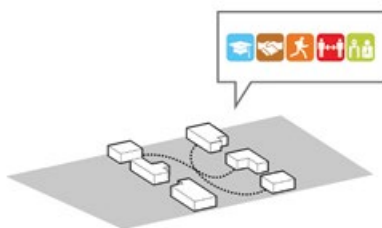
ISA's formal pursuit of health outcomes work began with a collaboration with Rupal Sanghvi, founder of HealthxDesign, a public health science consultant interested in leveraging design to improve health equity outcomes. The practices have collaborated on a series of projects, including Healthy Urbanism (2013) – an urban design framework for the Cypress Hills neighbourhood of Brooklyn, New York – and Mass Logic (2014), an invited competition to design supportive housing in Syracuse, New York for formerly incarcerated men and women. These projects have led to a set of tools that articulate population-level challenges, strategies for impact and expected outcomes for health equity: for instance, connecting design strategies for increasing physical activity with reduced rates of diabetes, or improving indoor air quality with decreased rates of childhood asthma.

ISA,
Healthy Urbanism,
Brooklyn, New York,
2013

The design team created a series of diagrams indicating how design decisions might impact health equity outcomes. These diagrams formed part of a toolkit drawing relationships between design strategies and outcomes.

Designed for a New York-based non-profit, the Healthy Urbanism project toolkit included a series of maps, diagrams and flow charts to illustrate how design can influence health equity, as well as how literature-based, scientifically established relationships can be brought to bear on design decisions. These tools were built to guide the design team as well as to benefit the client and other stakeholders in their understanding of the methodology. The project proved the power of urbanism in creating health equity opportunities – co-location of housing with key supportive programmes like daycare, clinic and food access, along with the careful calibration between new and existing housing, urban fabric and walkable health-oriented amenities, produced an urban plan that wired a new layer of the neighbourhood around resource access. In the largest housing cluster, a welcoming pedestrian circulation loop aligned with building entries to encourage residents to be physically active and initiate social connections.

In the largest housing cluster, a welcoming pedestrian circulation loop aligned with building entries to encourage residents to be physically active and initiate social connections.



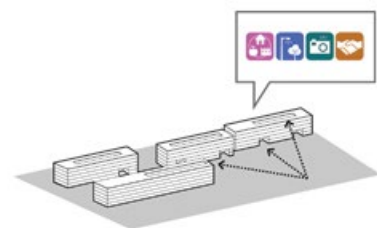
CONNECT SOCIALLY

Create human-centred spaces that encourage interaction.



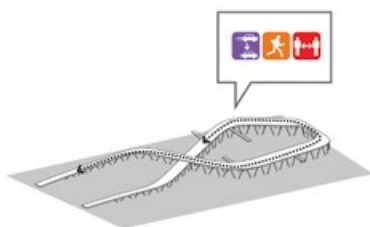
MIX PROGRAMME

Overlap and combine activities in novel, efficient ways.



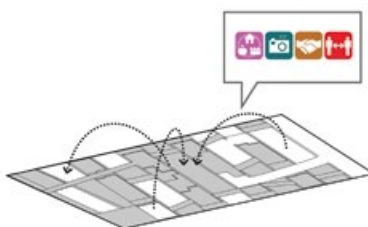
MAKE VISIBLE

Encourage transparency between people and place.



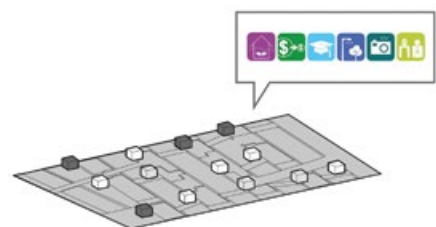
ENCOURAGE MOVEMENT

Provide opportunities for physical activity everywhere.



INVITE OTHERS

Promote a diverse community.



PROVIDE RESOURCES

Fill the gaps in existing community amenities that promote health.

For the Mass Logic project for supportive housing in Syracuse, ISA collaborated again with HealthxDesign to develop a series of literature-backed health prompts to frame design direction, for instance highlighting the demonstrated connection between exposure to natural light and reduced levels of psychological stress. Planning for these experiential moments became a way to fold science into the design process with mutually shared goals. The result was a building consisting of two courtyards: one interior and fully defined, the other partially opened to the adjacent public street. The interior courtyard was a place of comfort and predictability for residents, whereas the more public courtyard provided opportunities for tenants to engage with the neighbourhood while blending the building with the urban fabric. This configuration encouraged psychological comfort for a re-entrant population to find their own paths for re-engagement with civilian life.

Powerhouse (2014), in Philadelphia’s Francisville neighbourhood, was designed concurrently with ISA’s collaborative work with HealthxDesign. A 31-unit development with a diversity of unit types and radically high-performance energy design, the project served to maximise access to healthy urban living by offering an alternative to typical upper-market development with modestly scaled and priced yet super-green apartments and houses on a mixed urban block. While the project was market-rate, it represented a model for private investment addressing a broader bandwidth of incomes and demographics, with relatively low-cost new-construction one-bedroom condominiums starting at \$200K and single-family houses at \$400K, all designed to integrate seamlessly with the existing urban fabric. A strong urban edge and design for a ‘super stoop’ amplified the typical Philadelphia entry porch into a generous sidewalk zone that manages stormwater while encouraging social interaction among residents and the broader neighbourhood.

ISA’s latest collaboration with HealthxDesign is for a project with the Philadelphia Housing Authority (PHA), begun in 2017, to replace an obsolete 70-unit public housing scheme. The design team identified as a key project driver the fact that the majority of household heads in the existing housing were women. This led the concept design to focus on a series of women-centred strategies

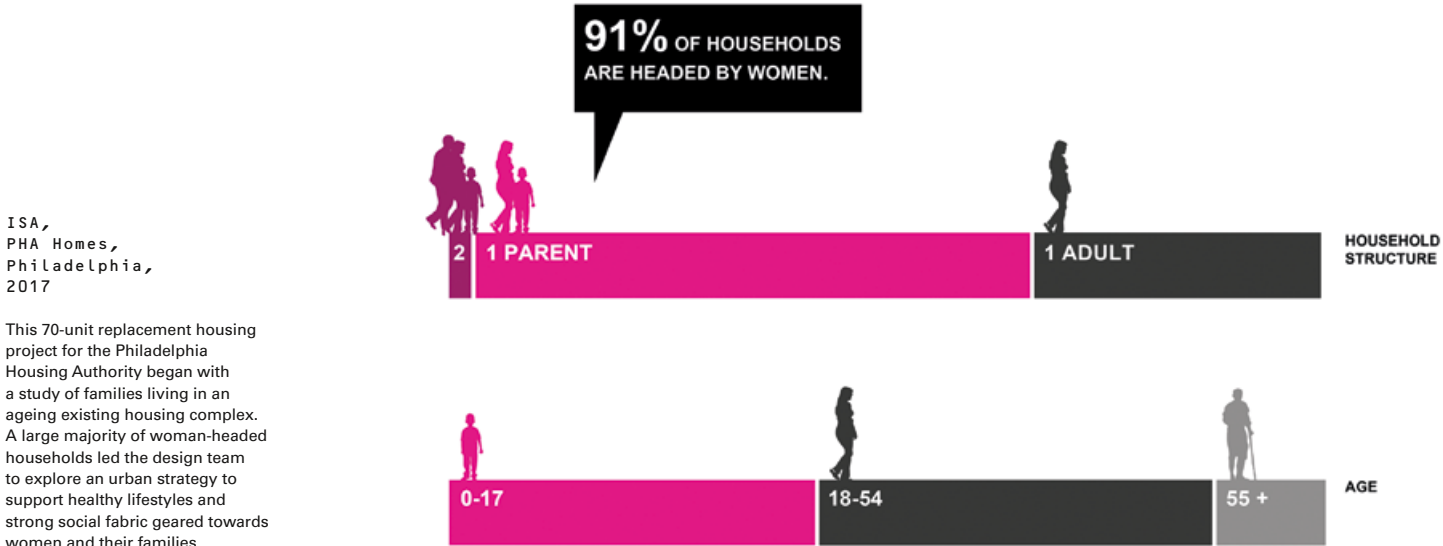


ISA,
Mass Logic,
Syracuse,
New York,
2014

This supportive housing project for formerly incarcerated individuals includes a private courtyard designed for residents’ comfort. The building’s interiors provide social corridors, flexible classroom areas and greenhouses to create healthy exposure to natural light and vegetation and winter warmth, while also helping residents to build skills to increase their economic stability.

for health, safety and wellbeing, including interior playspaces and exterior porch relationships that allow for social engagement within and beyond the public housing community. ISA’s goal is to work with existing residents to understand how these spaces can best be designed to mitigate the effects of childhood obesity, domestic violence and psychological stress, while creating environments that encourage after-school physical activity, ageing in place, and job training for working parents.

ISA’s speculative, conceptual work on outcomes-based design has created a sandbox for thinking that helped form the studio’s methodology for intentionally shaping health equity impacts. ISA sees the undertaking of both of these strands of housing simultaneously as a mutually supportive inquiry with many opportunities for cross-pollination of ideas. Projects with more room for research and inquiry often seed thinking in projects that must move quickly and lack additional funding sources. Although they have yet to lead directly to built work, health equity tools have shaped ISA’s design process, leading the practice to ask more provocative questions and embed strategies for healthy living in design work for public, affordable and unsubsidised housing.



below bottom: Thirty-one housing units of various types meet the street with a series of 'super stoops' in this project sited on an urban block in Francisville, Philadelphia. The scheme carefully fits units between existing infill housing, and the 'super stoops' and street furniture encourage social engagement among neighbours and passers-by.

below: Curb-edge landscaping and green roofs are designed to manage stormwater. LEED Platinum levels of energy efficiency combined with these stormwater management strategies together minimise the negative effects of the development on the shared infrastructure of the city.



Tools and Conversations

ISA sees engagement with health equity impacts as a work in progress. While numerous recent initiatives claim to have cracked the code of health outcomes through a checklist system of thinking similar to what LEED offered for sustainable design, ISA advocates an approach that is at once broader and more precise than a simple checklist, including continued collaborations with experts outside of architecture, relentless attention to context and urbanism, and a playful engagement with programme and space through design.

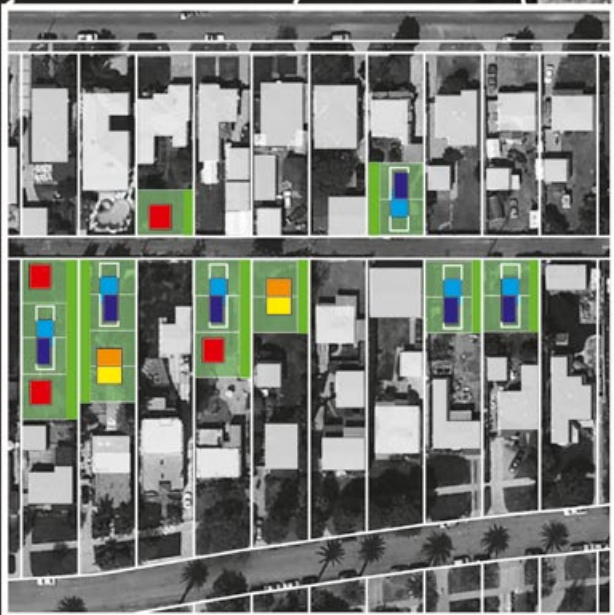
The tools that ISA creates are ways to make the science and literature of health equity transparent and useful to designers of the built environment as well as their clients and other project stakeholders. The innovation is not in the realisation and measurement of detrimental causal relationships in the built environment, but in how design actions can mitigate or otherwise transform them.

Using research, design thinking, interdisciplinary conversations and tools tailored to specific problems, ISA is committed to the role of design in engaging with complex issues – not in distilling or simplifying them, but rather embracing the full breadth of possibilities through experimentation, iteration and retooling approaches through a process of reflective refinement. ISA sees the greatest opportunity for designers to make an impact on health equity through interdisciplinary collaboration focused on everyday projects that make up the majority of the built environment. ▴

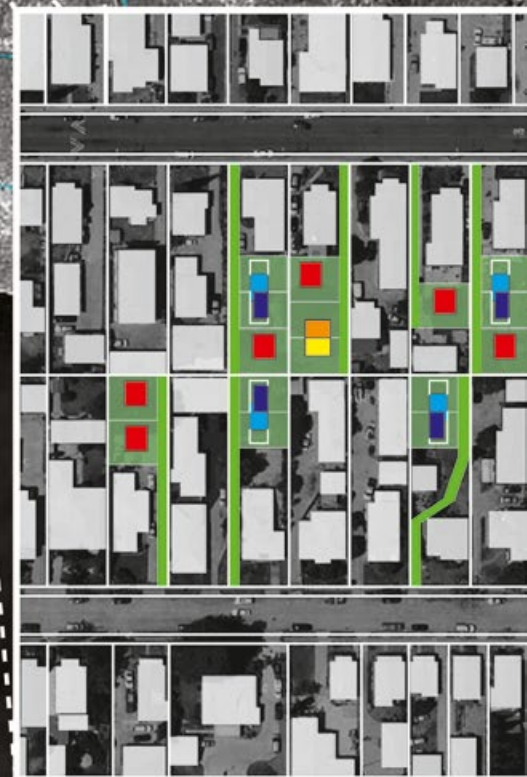
The Architect's Lot

Backyard Homes Policy and Design

Dana Cuff



Backyard Homes, Mar Vista



Backyard Homes, Cudahy

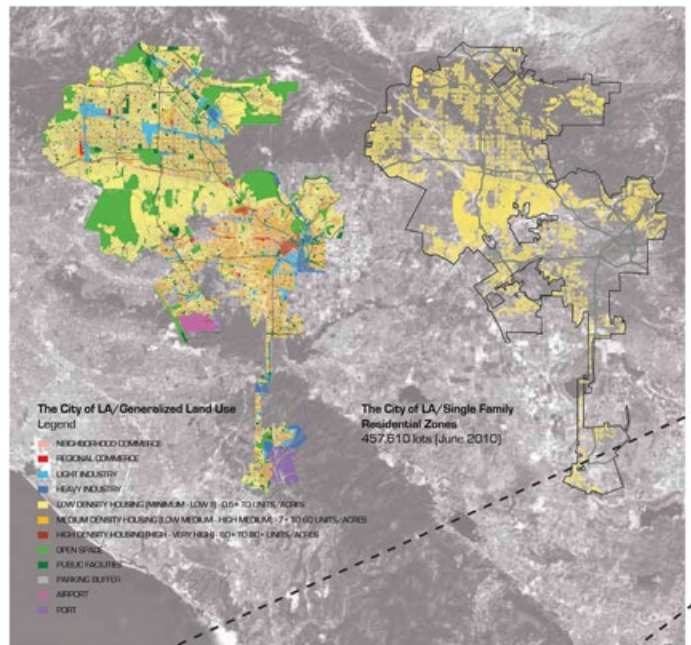


A new California law is bringing about a sea change in how the state's neighbourhoods are evolving.

Dana Cuff, architectural professor and director of the cityLAB think tank at the University of California, Los Angeles, outlines how cityLAB's in-depth research, their development of a 'backyard home' prototype and their policy-writing have contributed to the establishment of the bill that enables the legal addition of a rental unit to all single-family homes. Its impact has been immediate, increasing affordable housing options in existing neighbourhoods.

cityLAB,
Backyard Homes from the City to the Lot,
University of California,
Los Angeles (UCLA),
2010

Zooming in on the map of Los Angeles (top left), all single-family properties are shown in yellow. The aerial view of a single block (top right) shows backyard land open for infill housing, as well as all the visible unpermitted infill housing that already exists. Below are a single lot (indicated in the larger aerial view by the linking dashed lines) and its street elevation from El Dorado Avenue.



On 1 January 2017, California Assembly Bill 2299 (Bloom) became law, enabling every one of the state's 8,044,831 single-family homes to add a rental unit on its property.¹ This radical legislation in support of 'backyard homes' was the culminating achievement of cityLAB, the research and architectural design centre based at the University of California, Los Angeles (UCLA), in collaboration with partners in Northern California. Both policy-writing teams were comprised entirely of women architects and planners. Working under the auspices of Congressman Richard Bloom in Southern California (and Senator Bob Wieckowski in the north), in one fell swoop the American Dream took a decisive turn in the nation's most populous state.

Complementing a suite of additional policies intended to ease the housing crisis, the Accessory Dwelling Unit (ADU) or Backyard Homes law disrupts the very DNA of postwar housing. First, the standard home mortgage, devised for a single breadwinner's biological family, is legislatively redefined. With the household in demographic transformation, homeownership in decline nationwide, rents and housing prices rising precipitously in California, and homelessness also increasing, this is an important strategy for affordability and building wealth.² In addition, residential property 'ownership' itself is restructured. The single-family

house, historically associated with privacy and the nuclear family, is now encouraged to share its homestead with another household. The rental 'granny flat' can serve multiple purposes, from sheltering extended family and caregivers, to mortgage relief. Another disruption stems from modelling state legislation on the indigenous practices of homeowners who have long reduced structural housing problems by building their own backyard homes. Now legal, newly built ADUs will not only assist with mortgage payments, but increase property values. Also, for the first time since the Second World War, housing people is prioritised over housing cars since lots within a half-mile (0.8 kilometre) of transit (defined broadly) can build without adding new parking spaces. Even in a city like Los Angeles, not known as transit-rich, the lion's share of properties meets this criterion. Finally, a measure of neighbourhood development control is returned to residents. Protests against large-scale housing complexes said to destroy neighbourhood character are quieted when new units are distributed across individual backyards (or within homes that can carve out an apartment). And all that 'free' land reduces overall housing costs, so that more units are likely to be built with lower rents.

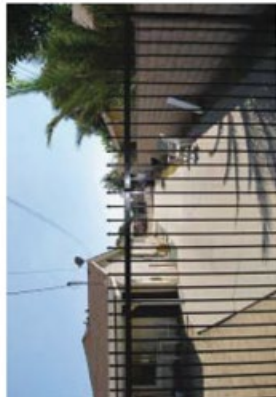
Backyard homes are 'affordable housing' not because of subsidies, but because they economise in various ways that cityLAB has studied: new units have a lower combined cost for land and construction than do new single-family houses; property owners who can no longer afford their mortgage can remain in place with additional rental income; and many tenants will be related to the primary household (extended family, caregivers) rather than those able to pay the highest rent. Affordable housing means more here than the monthly payment on an individual unit; it implies the more stable, less conventional economic ecology of two interconnected households. Such productive, destabilising effects place Backyard Homes in line with housing historian Dolores Hayden's analysis about redesigning the American Dream and feminist domestic revolutions.³

Architecture's Embodiment of Regulation

The Backyard Homes legislation is reshaping the postsuburban landscape, but is it architecture? To put it in the Tina Turner form: What's architecture got to do with it? When cityLAB began its investigation of secondary units in 2008, architecture's contribution to the solution was less obvious than soon became apparent. At the outset, common wisdom held to the existence of a 'standard lot' (supposedly 50 by 150 feet (15 by 45 metres)). Instead, research showed each home, backyard and property to be unique with no standard dimensions, differing topography, easements and so on, thus requiring some degree of customisation of design solutions. The study of various districts within Los Angeles uncovered collections of very small lots and extra-large lots, houses with footprints covering all the land available regardless of lot size, and narrow driveways that led to garages sitting on rear and side property lines. Though it should have been simple to convert the garages on alleyways, like so many other 'opportunities', some small artefact of earlier legislation stood in the way. These barriers only became apparent in the architectural tests cityLAB undertook to design liveable units under a range of site conditions. There are at least four



10447 EL DORADO, PACOIMA



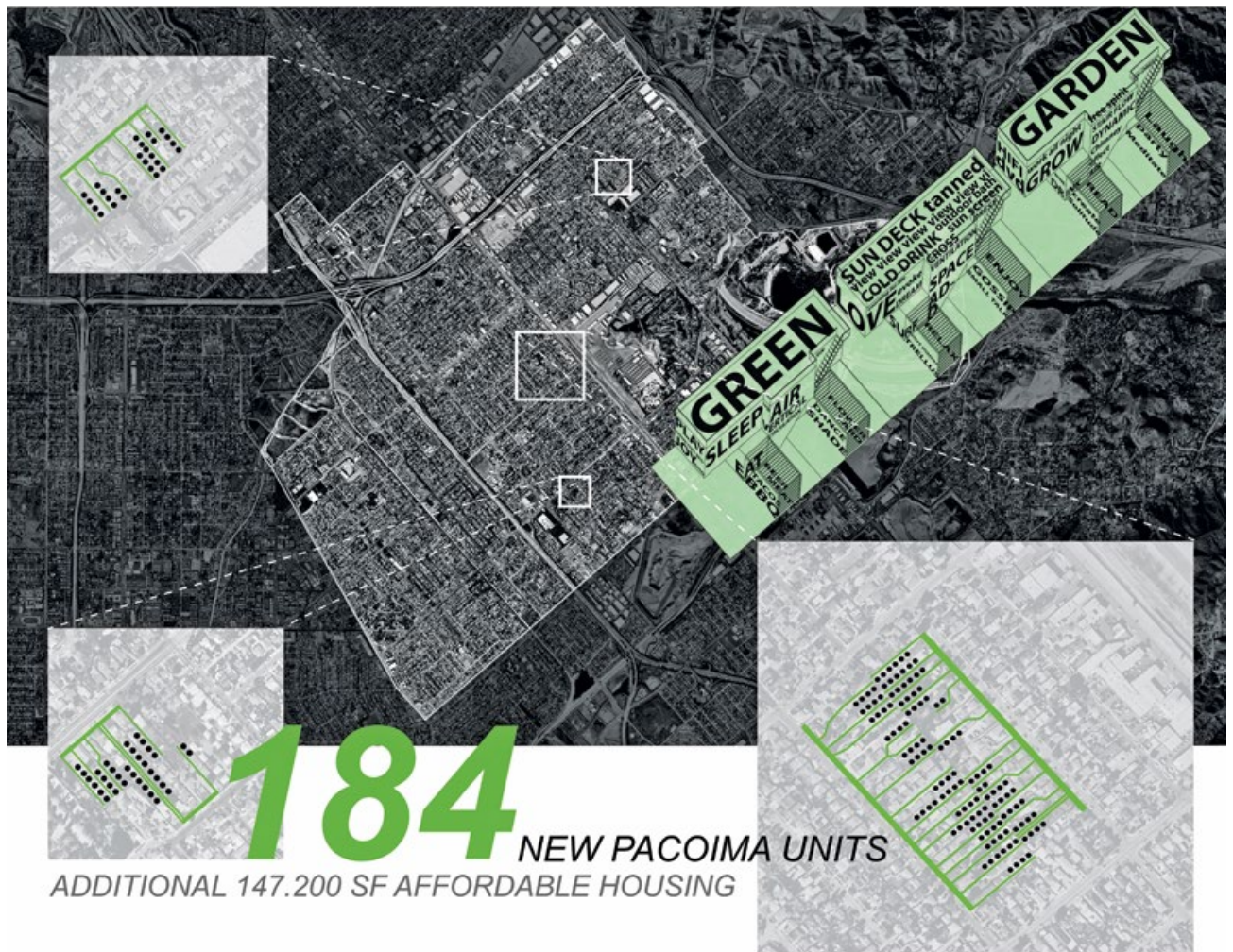
Numerous architectural researchers working at cityLAB visualised the design possibilities in different districts, the environmental implications of infill residential development, and the way increases of secondary units would impact neighbourhoods.

cityLAB, Backyard Homes Potential, University of California, Los Angeles (UCLA), 2010

The community of Pacoima, in northeast Los Angeles, has deep lots where multiple backyard homes can be accommodated, utilising sustainable building practices.

common types of backyard homes (detached unit, garage conversion, addition to existing structure, and partial home conversion), yet few architects have considered any of these an architectural problem. Now, with the potential to design and build hundreds of thousands of small housing units, young architects in particular are offered new proving grounds.

To write the new legislation, the author along with planner and cityLAB Fellow Jane Blumenfeld went 'into the weeds' of the regulations to untangle the barriers that were preventing legal backyard homes. Numerous architectural researchers working at cityLAB visualised the design possibilities in different districts, the environmental implications of infill residential development, and the way increases of secondary units would impact neighbourhoods. Fieldwork in a variety of LA neighbourhoods revealed many lots already had self-built secondary, if illegal, units. Partnering with Kevin Daly Architects and a dozen graduate students from the Department of Architecture and Urban Design at UCLA, over six months in 2015 cityLAB designed

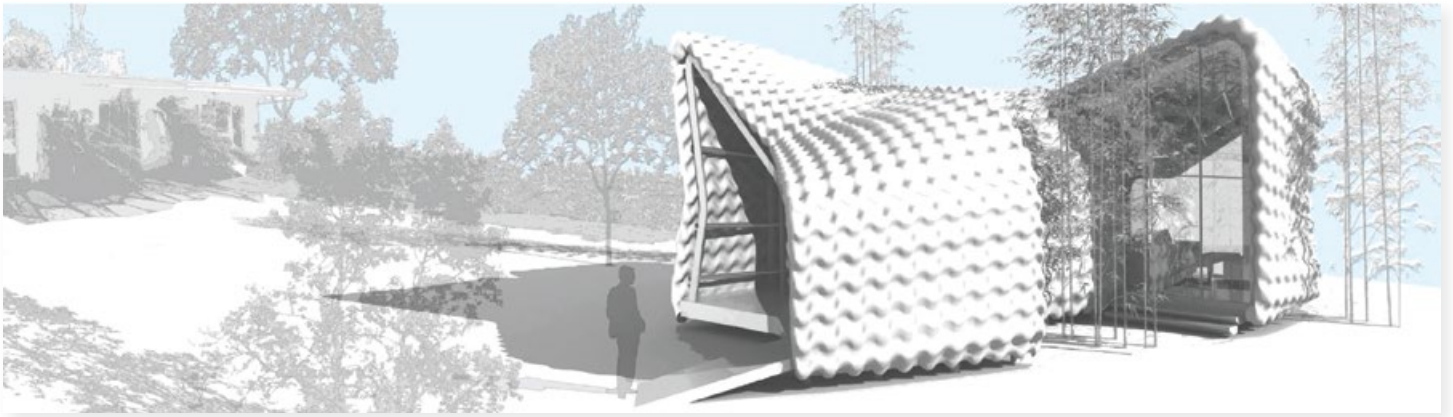


and fabricated a demonstration Backyard Home, called the BIHOME, that occupied the same 400 square feet (37 square metres) as a two-car garage, and proposed to significantly reduce the environmental impacts of housing construction.⁴ The BIHOME is a transformative project, not just because of its environmental genius (lightweight, sustainable, recyclable, easy to assemble and dismount), but because it dares to imagine that not all grannies are nostalgic and that environmentalists recognise the need for new ideas about urban nature. To this point, the images and story of the magical little BIHOME were picked up by over a dozen news outlets worldwide. Kevin Daly and the UCLA architecture students had demonstrated how complicated the sources for architectural innovation can be: Could a building be designed to fit down a 5-foot (1.5-metre) wide setback, be carried by two people, use low-skill labour, and be made entirely recyclable? Could a backyard home be produced more like a car, where the buyer dials in a few options, gets a loan on the spot, and in a relatively short period of time, a backyard home is delivered?

Kevin Daly Architects for cityLAB,
Regreening the Neighborhood,
2009

An early test of prefabricated backyard homes on alleyways, showing their potential to improve individual properties as well as the neighbourhood through 'regreening'.





Kevin Daly Architects for cityLAB,
Concept for BIHOME,
2010

Shown at the Venice Architecture Biennale. Among numerous design concepts, this first version of the BIHOME continued through schematics, and eventually – in 2015 – a prototype was fabricated. Working with cityLAB, Kevin Daly Architects invented a lightweight, sustainable, recyclable prototype with an inflated skin.

An Architect's (Domestic) Work is Never Done

The process took ten years for Backyard Homes to move from observation of existing construction tactics, to a larger urban goal of doubling the density of the suburbs, to extensive research and design demonstrations, upon which comprehensive legislation could be based, and then move back to construction implementation.

A flawed ADU bill that passed in 2003 had produced only a trickle of units, averaging 120 per year, but in 2017, the first full year with the new law in place, Los Angeles was on course to issue 1,300 ADU permits.⁵ In a city with almost half a million residential properties, Backyard Homes construction is just beginning. The Backyard Homes bill represents a remarkable change in the Californian psyche about the American Dream, a dream that has been growing further out of reach since homeownership hit its apex in 1960. Other states will watch how the Left Coast adapts to this transformation, and will tailor their own legislation accordingly. The success of Backyard Homes has made myriad related problems more apparent, many of which would benefit from design thinking. At the outset, it was noted that Backyard Homes undermined the foundational thinking of American home mortgages. This is corroborated by lenders struggling to find ways to finance secondary rental units. This problem could have a design component (for example, if units could be designed to be dismantled and rebuilt so that they could serve as collateral to secure a loan). Affordable, environmentally sound backyard homes are an important design challenge that requires multiple prototypes, from modular and prefabricated solutions to adaptive structural systems.



Kevin Daly Architects,
cityLAB and the UCLA Department
of Architecture and Urban Design,
BIHOME,
Los Angeles,
2015

above: The BIHOME prototype was fabricated over a two-week period by a team of UCLA architecture students and faculty.

right: The BIHOME prototype demonstrates that a compact studio residence can house two people in the same space as a two-car garage.



It is not surprising that this fundamentally disruptive direction in residential architecture arises now. The housing crisis which afflicts major cities worldwide is only one part of the context. Cultural and political upheaval tied to crises in global migration or critical environmental issues implicate who lives where, as well as how our cities will adapt. Yet there is also something frighteningly familiar when we consider the current rise of populist nationalism with its parallels to prior fascist regimes. Given the scale of the problems and their heterogeneous ubiquity, architects find themselves caught between a sense of helplessness and illusions of potency. But even if no single profession, group of activists or locale can effectively address the problems, let alone step outside the logics of neoliberalism that frame all these issues, Backyard Homes argues for a clear form of agency for architects. Such 'radical increments' offer the tactical means by which buildings produce effects extending beyond their individual properties. The potential of radical increments lies in particular forms of architecture deployed in service of larger urban, political-economic goals.⁶ A radical increment is both a solution to a design problem and a model that can proliferate to other sites under similar conditions, and that aims for systemic change. Neither a bespoke masterplan nor a fragment of some whole, transformation via radical increments is viral. A project is a prototype or demonstration that can take hold in and adapt to new circumstances. For architects today, a potent agency is available through the design of housing, particularly affordable housing.



To design and plan our way through cultural, political upheaval is not new in the history of architecture, where we can find precursors of the radical increment. In the interwar years, Ernst May's New Frankfurt public housing programme (1925–30) created pioneering standards for daily life and urbanism; Buckminster Fuller's domes (patented 1954) were a calculated way to use fewer of the earth's limited resources to do more; Ant Farm's inflatable structures (1968–78) were critiques of consumerism; and *Arts & Architecture* magazine's Case Study House Program built liveable modernism for postwar middle-class suburbanites primarily in Los Angeles between 1945 and 1966. Each was a demonstration of generative design, of a project suited to multiple sites. Activism by research centres like cityLAB and non-traditional design firms does not limit the potency of all the architects who are ardent proponents of affordable housing, environmental sustainability, everyday architecture and solutions to homelessness. Through a degree of engagement with policy and regulation, and through the design of projects that operate as radical increments, the architect's lot is not just about site boundaries, but about political agency. ▢

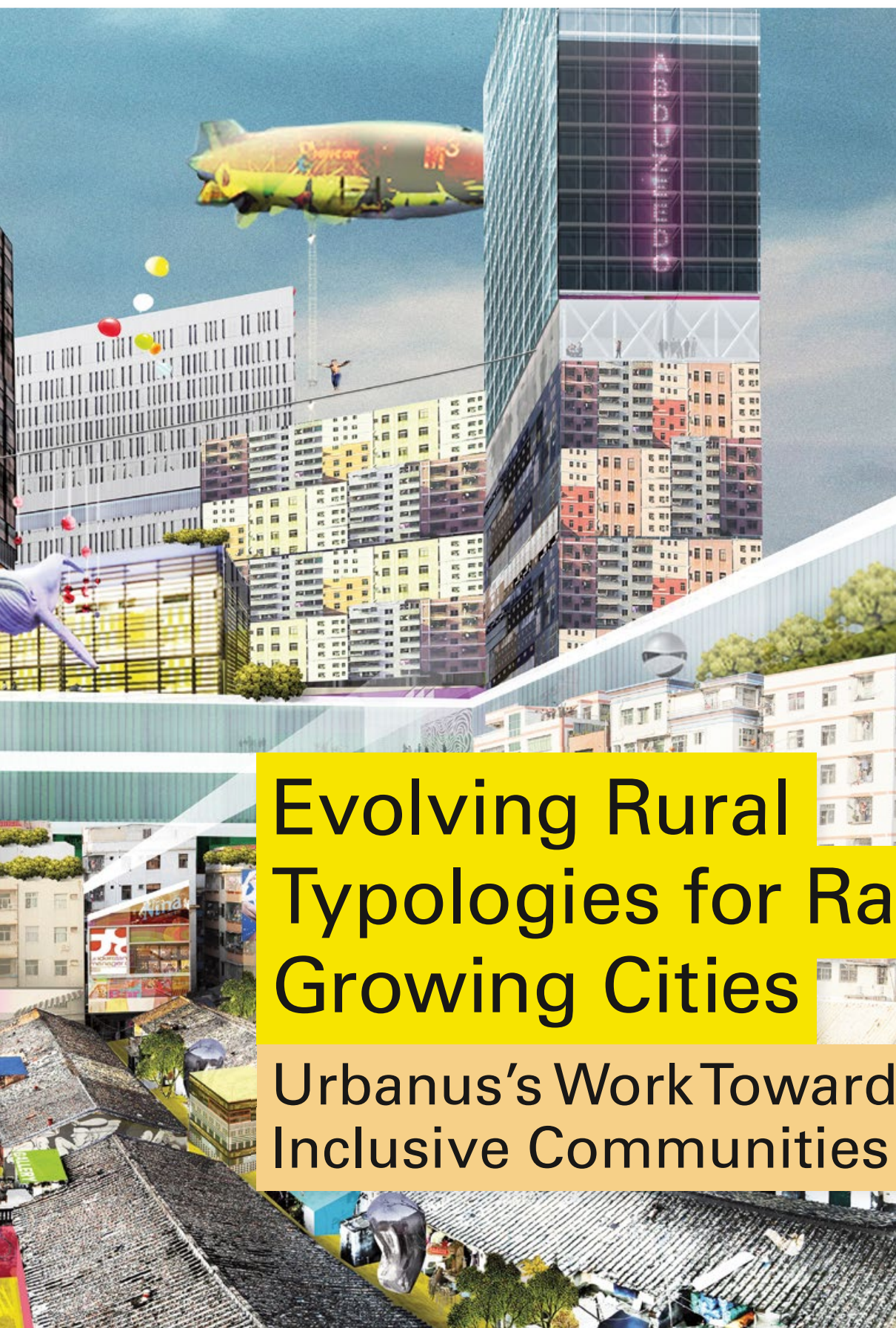
Notes

1. For the complete text of AB 2299, see https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=201520160AB2299. For data for California single-family properties, see The American Community Survey (2011–15) of the US Census Bureau: <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>.
2. Regarding the California housing crisis, see Adam Nagourney and Conor Dougherty, 'The Cost of a Hot Economy in California: A Severe Housing Crisis', *New York Times*, 17 July 2017, www.nytimes.com/2017/07/17/us/california-housing-crisis.html?_r=0.
3. Dolores Hayden, *Redesigning the American Dream*, WW Norton (New York), 2002; *The Grand Domestic Revolution*, MIT Press (Cambridge, MA), 1981.
4. Michael Webb, 'Backyard BI(h)OME', *The Architectural Review*, 10 August 2015, www.architectural-review.com/rethink/could-the-bihome-solve-las-housing-crisis/8686346.article.
5. Jason Neville, unpublished research; data from LA Department of Building and Safety.
6. Dana Cuff and Roger Sherman (eds), *Fast Forward Urbanism*, Princeton Architectural Press (New York), 2011.

The BIHOME prototype is illuminated from within the double layer of plastic, shrink-wrapped over a bent-metal tube frame and cylindrical cardboard matrix.

Text © 2018 John Wiley & Sons Ltd. Images: pp 62–6 Images by Per-Johan Dahl for cityLAB-UCLA. Base map sources: NASA and Google Earth; pp 67, 68(t) © Kevin Daly Architects for cityLAB-UCLA. Base map sources: NASA and Google Earth; p 68(c) © Photo Dana Cuff; p 68(b), 69 © Nico Marques/Photekt for Kevin Daly Architects





Evolving Rural Typologies for Rapidly Growing Cities

Urbanus's Work Towards Inclusive Communities

How can an inclusive community be created that provides for the lower-income populations migrating to China's ever-expanding cities? And how can traditional community relationships be nurtured in these settings? These are challenging questions that demand collaboration between designers, policymakers, developers and the general public. The Shenzhen-based practice Urbanus has carried out extensive research in this field, leading to some promising solutions. Urban transformation researcher **Na Fu**, who worked at Urbanus between 2010 and 2012, outlines some of their built and speculative contributions to date.

Traditional Fujian *tulou*,
Nanjing County,
China,
17th century

The closed form of the *tulou* is traditionally used to protect families from external forces. Internally, the space is fully open and shared equally among all family members.



The Chinese government is projecting that 370,000 people will migrate from its rural regions to its urban areas every day for the next five years.¹ This dramatic migration began after the initiation of Chinese communist leader Deng Xiaoping's open-door policy in 1978, coinciding with China's opening to international trade, which gave rural peasants the opportunity to seek a better life in the city.² The urban population rose from 18 per cent of the total population in 1979 to 50 per cent in 2012.³ Though urbanisation and migration, encouraged by governmental policy, has contributed to China's massive economic growth over the last four decades, it has also resulted in great disparities in wealth and spatial segregation in urban settlements.

The challenge to the city in this climate of high-volume migration and high-speed urbanisation is to provide social services, housing and jobs for all people. A range of categories are used to describe different types of population: local citizens (*hukou*), who benefit from the full support of city services; registered citizens, who are migrants with public service support but not recognised as local citizens; and the floating population, who are migrants without access to services. The concept of home is reformed by migration, shifting from the extended-family culture with courtyard housing of rural areas to the single-family apartment style of the city. During the 1980s, the trading of housing as property on the market became authorised, and at the same time the gated superblock community typology was introduced.⁴ This came to dominate the residential housing market from the 1990s onwards. Since then, rural migration to the city has created high demand for housing, which has triggered dramatic increases in property prices, limiting access to housing for lower-income migrants. The exclusion of these lower-income residents from the housing market has caused extensive spatial and social segregation between different economic classes. City dwellers with more money typically reside in high-rise towers organised in gated superblocks, while poorer residents live in low-rise, more informal settlements, such as urban villages. Amidst pressures to develop super-dense housing on valuable urban land, designers, policymakers and developers are challenged to creatively accommodate increasing urban populations in ways that address spatial segregation and support traditional forms of community.

New Forms of Affordability

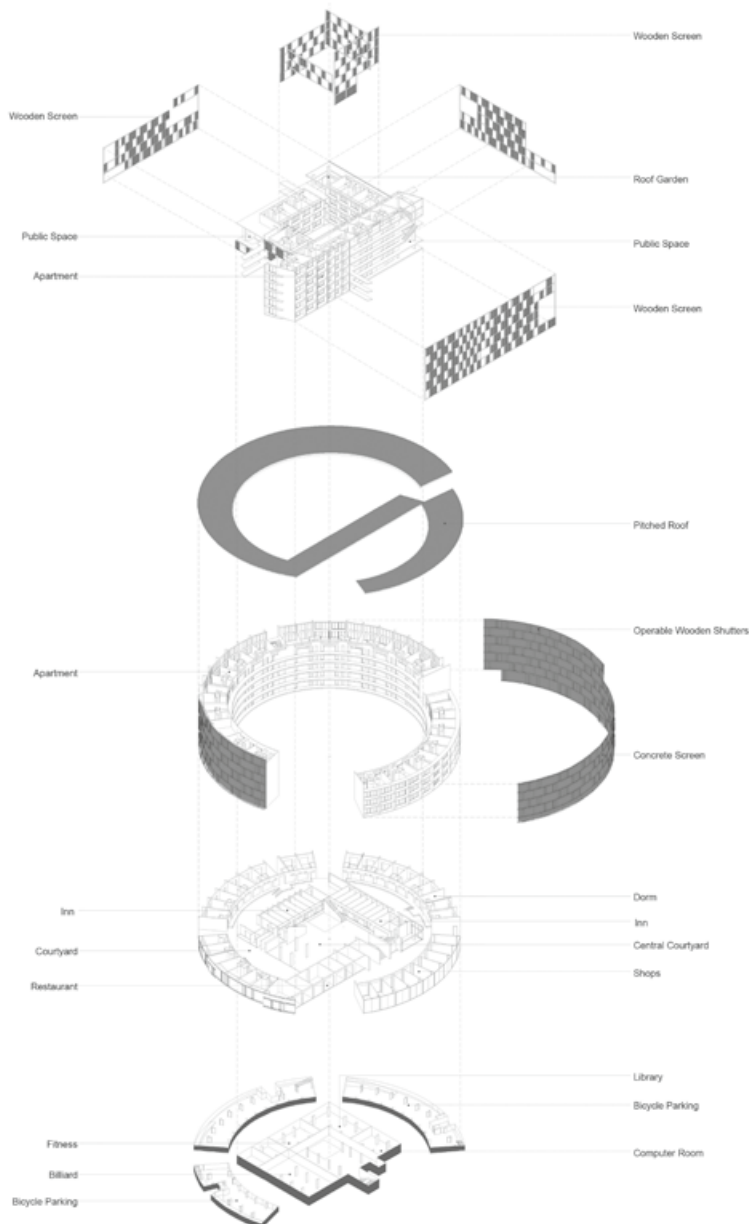
Urbanus – led by principals Yan Meng, Xiaodu Liu and Hui Wang, who were educated both in China and the US – is one of China's architecture and design firms that take serious account of research into issues of social segregation and class discrimination. The practice has been developing the argument for social inclusivity in housing since the early 1990s through two major implementation and research projects: the Urban Tulou in Nanhai, near Guangzhou in Guangdong province, and Baishizhou Urban Village in Shenzhen.

The *tulou* typology is based on the traditional housing form known as 'Hakka *tulou*', which refers to earthen buildings from the mountainous regions in Fujian province. The Hakka *tulou* resulted from the Hakka culture of migration between the 12th and 20th centuries. The typical typological



Urbanus,
Urban Tulou collective housing,
Nanhai,
Guangdong,
2005

The modern *tulou* copies the traditional *tulou* shape, but intentionally increases interactions between the building and its environment through operable wooden shutters. The gate and the area around the building are closed off, but internally the space sets out to create an inherently inward-facing typology, instead of appearing defensive like traditional *tulous*.



There is shared space for residents' use on every floor, and the basement and ground level contain a library, bicycle parking, computer room, fitness area, restaurant and shops. There are no parking lots in the design, to encourage use of public transport. The open courtyard space and bridges connect the residential areas together, and the roof garden is often used as a hangout space by children and the elderly.

The *tulou* typology is based on the traditional housing form known as 'Hakka *tulou*', which refers to earthen buildings from the mountainous regions in Fujian province.

variation from O-shaped to E-shaped or C-shaped provides flexibility for adaptation in the new form of design. Urbanus's UrbanTulou (2005) is a six-storey-high building that contains 287 units for families and for single workers, accommodating a maximum of 1,300 residents. The design intentionally encourages activity in communal areas by limiting private space and by creating linkages between spaces through central corridors and bridges.

The UrbanTulou collective housing was designed and implemented by Urbanus in collaboration with Vanke, the biggest privately owned development company in China, which acted as developer and investor for the project. The agenda for both Vanke and Urbanus was to take on the social responsibility of developing a new affordable residential building typology in order to challenge the customised high-end superblock style of living. A community-oriented lifestyle is brought into the urban context through architectural design and housing management to create a sense of Chinese community that challenges Western models of urbanisation.

In early 2012, Urbanus had the opportunity of conducting research into both rural *tulous* and their urban version, their aim being to understand how life is transforming between these two sorts of locations within the *tulou* typology. Interviews with some residents revealed remarkable stories of how the collective housing is transforming into a place of home and creating a sense of belonging within the community. So many families have formed, and so many babies have been born, in the UrbanTulou, where neighbours know each other and often help each other out with their daily needs. The community organises monthly gatherings, and regular discussions within the residents' group are often hosted on a social media platform online. 'For the holidays or the weekends, we arrange soccer games,' said one resident; 'in the winter, we have hotpots or barbecues together.' Every day, the playground area is occupied by groups of youngsters after school and by more elderly residents in the early morning. The *tulou* form creates a unique living experience compared to the superblock community.

In the UrbanTulou, community responsibility is a written rule which is overseen by a community management committee. In signing a contract with the management office, residents are agreeing to participate in the collective living style. In the contract, everyone is required to take care of the open space, recycle waste and share responsibility for public events. This lifestyle connects the residents together. Some people said that they feel at home and prefer living in the UrbanTulou – although others said they wanted to move out to live in high-rise gated communities because they think the *tulou* is a symbol of lower-income communities. The unique architectural form of the UrbanTulou does make it easily identifiable within its context, but this is because of its being the only affordable housing in the area: the city needs to provide more social housing and mixed-income housing to prevent such social segregation.



Urbanus,
Urban Tulou collective housing,
Nanhai,
Guangdong,
2005

Inside the UrbanTulou's apartments, space is distributed into a service area, a living space and a high-ceilinged (one-and-a-half-floor) bedroom area. The design intention is to create different space orientations for a large family to use.

In the Urban Tulou, community responsibility is a written rule which is overseen by a community management committee. In signing a contract with the management office, residents are agreeing to participate in the collective living style.

Corridors connect the zones together, from individual apartments to the central area, where gathering is encouraged by providing open space with chairs. This space becomes a playground for children when they come home from school.





From Class Segregation to Inclusive Community

One thing that the Urban Tulou has in common with urban villages is that both are results of urbanisation. Urban villages have developed as low-income rental housing for migrants over the past 30 years. The Urban Tulou represents an action taken by the private sector, while urban villages are collective housing run by cooperatives of local villagers and developed into very dense housing plots for rental. The urban village in Shenzhen houses 50 per cent of the city's total population (20 million) and is now scheduled for renewal, meaning that it will be demolished and replaced by high-end mixed-use shopping facilities and office towers.

Urbanus has been researching and working on the urban villages issue for well over a decade; their first book on the subject – *Village/City City/Village* – was published in 2006.⁵ One of the urban villages where Urbanus made proposals for the renewal process is Baishizhou. Knowing that the existing structures were due to be fully demolished and replaced by high-rise shopping mall, office and high-end residential blocks, Urbanus's Baishizhou Five Villages Urban Regeneration research proposal in 2013 challenged the concept of redevelopment and tried to add value within existing buildings, creating inclusive mixed-use spaces and introducing a community typology. The proposal was turned down by the developer because they wanted to maximise profits by simply rebuilding, but the battle is continuing through the efforts of the designer, planners and a local non-governmental organisation. The value of what the urban village represents as a cluster for lower-income settlement needs to be recognised, and both the general public and decision-makers need to be educated to reconsider proposals for gentrification.

Baishizhou Urban Village,
Shenzhen,
2015

Baishizhou is a high-density, lower-income settlement developed by native villagers since 1980. In the photograph, the lower section is the traditional housing developed as a cooperative village in the 1960s. It is now surrounded by higher-density urban-village-style housing. The superblocks surrounding the village area create the condition of a village inside a city.

The value of what the urban village represents as a cluster for lower-income settlement needs to be recognised, and both the general public and decision-makers need to be educated to reconsider proposals for gentrification.

From the Urban Tulou to urban villages to governmental social housing projects, housing for those with lower incomes is taking on a variety of forms.

UABB 2017,
Nantou Old Town,
Shenzhen,
2017

Nantou village includes an industrial area, urban-village-style living, park and public services. A heritage site in Shenzhen city, it was the venue for the UABB exhibition in 2017. The open plaza and public structures were designed and constructed for local residents during the UABB. The concept is to improve the community living experience instead of following the 'clean up and rebuild' redevelopment model.

The urban village redevelopment process is impacting the lives of millions who are struggling to find a lower-cost place to settle in the city. Debate on housing issues has been ongoing for many years. At the end of 2017, the main theme chosen for Shenzhen's Urbanism/Architecture Bi-City Biennale (UABB) – co-curated by Yan Meng and Xiaodu Liu – was 'Cities Grow in Difference'. The exhibition was hosted inside one of the oldest urban villages. Urbanus argues that the benefit of the urban village typology is the fact that it incubates smaller-scale active spaces than typical development, which creates segregation within the spatial experience. What our cities need is an inclusive society for all.

From the Urban Tulou to urban villages to governmental social housing projects, housing for those with lower incomes is taking on a variety of forms. Events such as the attempt by local government in Beijing to 'clean up' a low-income settlement in December 2017, when residents were given a limited time to relocate, highlight the urgency of debate on the direction that cities should take, involving policymakers, planners, designers and the general public. It is not possible to achieve success while creating segregation. We have to address the issues of housing for all citizens, including lower-income migrants. ▢

Notes

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Beyond Temporary



GANS studio,
Community-scaled rebuilding,
Sheepshead Bay,
Brooklyn,
New York,
2013

above: The original proposal for Sheepshead Bay, illustrated here, replaces freestanding bungalows with prefabricated attached row houses to free up space for green and hard water management infrastructure and social amenities. The implemented plan will rebuild the existing homes in place by conventional construction.



above: The original plans desired by the Sheepshead Bay community included access to the elevated houses via a shared boardwalk that complied with the federal Americans with Disabilities Act. Because federal recovery funds do not include provisions for shared infrastructures, and the City could not find funding for such systems until the houses were already under construction, the boardwalk was dropped from the final project.

opposite far right: The community-backed proposal reset the front yards and the ground beneath the houses as a collective rain garden, with the proposed boardwalk ending in a large communal stair at one end. The City of New York supported planning efforts to rebuild at the scale of the neighbourhood, but lacked legal and financial mechanisms to implement block-wide proposals.

Prototypes for Resilient Communities



Speed is not the only requirement when responding to the catastrophic loss of dwellings in major storms, earthquakes and tsunamis. Equally crucial are community recovery and structural durability, since what is initially intended as temporary accommodation can often remain in longer-term use. **Cynthia Barton**, former housing recovery programme manager at the New York City Emergency Management Department, and **Deborah Gans and Rosamund Palmer** of Brooklyn-based architectural practice GANS studio, have been working together in this area for 10 years. Their and other similar collaborations have produced effective models of modular design and community engagement that could provide a way forward.

Natural disasters do not discriminate, but they reveal human patterns of historical social inequity. This is particularly true in cities, where the damage lays bare neighbourhoods of neglect, and disparities of wealth and investment in social and physical wellbeing. The promise of more equitable post-disaster recovery, designed to provide safe and desirable housing for all, is that rebuilt communities will also be more resilient to disaster. Yet, the US government's current structures of funding disaster recovery often prevent urban problems from being addressed holistically. It has historically separated short- and long-term actions, building temporary housing without community recovery planning. At the other extreme, the desire to institute resilient practices, which must be coordinated among multiple government agencies, often delays projects for years. This not only destabilises communities, but undermines neighbourhood economies and social structures, and with them the opportunity for collective decision-making and collaborative planning.

For the past decade, GANS studio, the New York City Emergency Management Department and their many collaborators, including government agencies and community players, have attempted to address this divide between the short and long term through design prototypes in which pre-disaster planning at the community scale frames the rapid deployment of temporary or permanent prefabricated modular housing after an event. GANS studio's community-based design for rebuilding a resilient coastal neighbourhood in Sheepshead Bay, Brooklyn, for example, included prefabricated housing as part of its strategy from its conception in January 2013, three months after Superstorm Sandy. In 2014 the City of New York chose onsite construction as the means to rebuild 50 houses in Sheepshead Bay, and building is still ongoing in 2018. In contrast, the multistorey apartment complex for 189 families designed by Shigeru Ban for the relatively small town of Onagawa was occupied just nine months after the great Japan earthquake of 2011, showing that it is possible to deliver housing at an urban density quickly.

Inclusive Planning

Following Superstorm Sandy in 2012, the New York City government recognised architecture and urbanism as key instruments of equitable recovery, but struggled to create housing and infrastructure design strategies that could simultaneously address the welfare of people and the quality of the built environment. Many coastal neighbourhoods are historically low-income and now subject to rising property values. Upgrading them to resilient standards could mean displacing entire working-class communities from the city. With this understanding of the development pressure along its waterfronts, the Mayor's Office set up a process that solicited citywide input on a community basis with the intention of maintaining the affordability of the housing to be rebuilt. The resulting Special Initiative for Rebuilding and Resiliency (SIRR) report, released

in June 2013, was commissioned as a roadmap for the city, organised by neighbourhood with strategies that included bottom-up input from 'town hall style meetings' as well as top-down planning. It took the position that the socioeconomic wellbeing of the city as a whole depends on larger-scale initiatives, while communities require additional local ones.

The City then launched the repair and replacement of large city systems such as subway tunnels and coastlines, and set up the federally funded 'Build It Back' programme to rebuild individual homes, but it had no funding or organisational mechanism in place to tackle the neighbourhood scale identified in the SIRR report. For this reason, the initial organising and design work GANS studio and the Pratt Center for Community Development had already undertaken in the working-class community of Sheepshead Bay appealed to the newly created Mayor's Office of Housing Recovery Operations, an inter-agency entity including members from departments such as City Planning and Housing Preservation and Development.

Sheepshead was originally a fishing and summer community down the road from Coney Island. Its small bungalows on infilled marshland had been winterised over time as year-long residences. It was immediately evident to the City that this workforce neighbourhood had a strong sense of social and physical identity determined by the idiosyncratic structure of its blocks organised around internal mews. During a series of community meetings led by GANS studio, residents had determined they would remain in the neighbourhood and rebuild collectively to mitigate their vulnerability to water. In its most complete form, their design proposal envisioned age-friendly collective access via ramp and boardwalk to prefabricated attached row homes, off-grid emergency solar power, social spaces, an expanded shared landscape for water management, and, most importantly, an overhaul of the antiquated water and sewer infrastructure.

The largest impediment to the realisation of the Sheepshead plan, however, was the funding stream for the Build It Back programme, which was limited to rebuilding individual properties and had no provision for shared infrastructure. For four years the City struggled to channel federal funds for the infrastructure of Sheepshead Bay through the New York City Department of Environmental Protection (DEP). Only in 2017, after reconstruction on an individual house-by-house basis had begun, did the US Department of Housing and Urban Development (HUD) provide an amendment to federal disaster aid that earmarked US\$20 million for the collectively owned infrastructure in Sheepshead Bay. With the guidance of not-for-profit legal aid, the City overcame the scepticism of residents and convinced them to create an official Homeowners Association in lieu of their longstanding informal practices of sharing maintenance costs.

As the story of Sheepshead illustrates, plans made through participatory processes immediately post-disaster can be realised. However, timely action is of the

The project set a precedent for rehousing people at a high density. However, because the container housing was intended to be temporary, it suffered repair problems as it remained in place during the six years it took to construct permanent homes.

essence to sustain the goodwill of the community and to implement plans in their entirety. As illustrated in the example of Onagawa, modular housing has true benefit in such scenarios because it can be built quickly for either long-term or transitional timeframes.

Housing People Quickly

Ban's project for the coastal town of Onagawa exemplifies the ability of modular production to house people soon after disaster, and also the potential pitfalls of approaching such housing as entirely temporary. In March 2011, the largest earthquake ever recorded in Japan struck off the northeastern coast of Tohoku. The ensuing tsunami wiped out over 70 per cent of Onagawa's buildings, leaving nearly all of its 10,000 residents homeless. One of the only places safe for temporary housing was a school baseball field and its parking lot. Needing to accommodate as many people as possible on a small site, Ban created a complex of quakeproof two- and three-storey apartment blocks using shipping containers. The planning and construction of the 189 units began four months after the quake and were completed in under five months, along with a community centre with programmes for children and seniors, and a small public square with a tent where groceries and other essentials were available twice a week. The project set a precedent for rehousing people at a high density. However, because the container housing was intended to be temporary, it suffered repair problems as it remained in place during the six years it took to construct permanent homes.

The realities of development and construction in large cities such as New York, even on a temporary basis, complicate the implementation and design processes of Ban's model. Fabrication and delivery are subject to the political constraints of rebuilding after disaster, especially in cities where available property is limited and population density high. Without planning for long-term resilience at the scale of the whole community, the housing will not support a truly sustainable physical and social future.



Shigeru Ban Architects,
Container Temporary Housing,
Onagawa,
Miyagi Prefecture,
Japan,
2011

above left: Stacking the standard 6-metre (20-foot) shipping container modules on the small site enabled more residents to stay in Onagawa post-earthquake.

left: A central courtyard between the rows of apartment buildings gave people a large space to gather and to shop for provisions.

Urban Recovery

In an effort to bring the possibility of speedy recovery – as demonstrated in Japan – to the complexities of a large city, in 2012 the NYC Emergency Management Department and Federal Emergency Management Agency (FEMA) commissioned the design of a rapidly deployable, higher-density post-disaster housing prototype to be implemented in the context of their urban community-based recovery strategies, that could work in urban areas where open land is scarce and rental vacancy rates are low. The prototype, designed by Garrison Architects, is a modular system that can be aggregated in the distinct urban forms of many New York neighbourhoods. The one- to four-storey walk-up apartments combine contemporary features such as sliding glass doors opening onto balconies with the scale of traditional Brooklyn brownstone townhouses, an important consideration because of the strategic assumption that they could become a permanent fixture in the city, not just temporary residences. The long-term potential of the prototype also extends to the quality of its steel structure, flexible plan and durable finishes, and to its fulfilment of all New York City code requirements for permanent housing, including the federal Americans with Disabilities Act guidelines.

The design therefore recognises that ‘temporary’ shelters can remain for decades and that disaster response and preparation are part of a continuous plan. The design quality associated with permanence initially made the modules controversial for some, with several stakeholders deeming them ‘too nice’, worried that people might want to stay. The built prototype, a three-storey model that features a one-bedroom unit, a three-bedroom unit and a public gallery on the first floor, has been in place in Brooklyn since 2014. It demonstrates how purportedly short-term housing can offer aspects of permanence after disaster and become a long-term asset that is integrated into the community.



Garrison Architects,
New York City
Emergency Management Department
Urban Post-Disaster
Housing Prototype,
Brooklyn,
New York,
2012

The interior space of Garrison Architects’ Urban Post-Disaster Housing Prototype is oriented to the wellbeing of all potential inhabitants, with universal design considerations for residents with disabilities as well as abundant natural light and ventilation and ecofriendly materials. These elements remedy the design problems of early post-disaster housing.

The three-storey, three-unit prototype is a prefabricated modular system that can be aggregated to fit within many urban typologies, and rapidly fabricated and deployed after disaster. The model meets all New York City building codes, can serve as either temporary or permanent housing, and will last as long as a traditionally built structure.



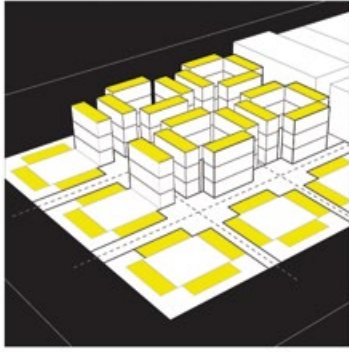


In 2014, the prototype was assembled on site adjacent to the New York City Emergency Management headquarters. The unit on the ground floor serves as a public gallery with information about the project.



[The prototype] demonstrates how purportedly short-term housing can offer aspects of permanence after disaster and become a long-term asset that is integrated into the community.

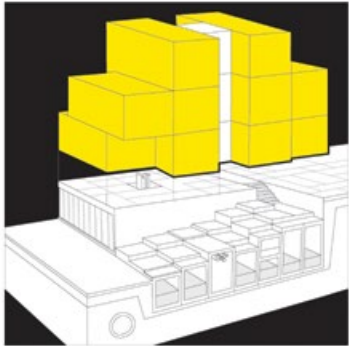
BUILDING ARRANGEMENTS AND ASSEMBLIES



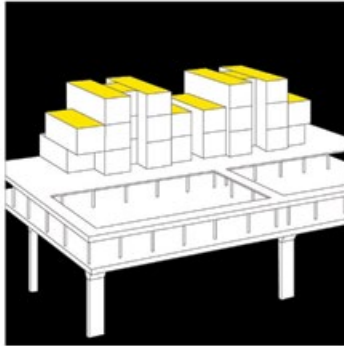
COURTYARD:
Housing arranged in relation to private and public courts



SUPER-STRUCTURE:
Interim housing installed on top of a new but permanent base building



TIE-IN:
Housing delivered with plan and infrastructure connections to a previously prepared site



PLATFORM:
Housing installed on a new or pre-existing platform at designated flood elevation



GANS studio and Pratt Institute,
Sites and Assemblies,
Red Hook, Brooklyn,
New York,
2013

Excerpted diagrams from the range of site types and building configurations for Red Hook made possible by Garrison Architects' Urban Post-Disaster Housing Prototype. Having a toolkit of potential post-disaster housing sites, configurations and assemblies sets the stage for the rapid deployment of prefabricated modules, which keeps neighbourhoods intact during recovery.

GANS studio and Pratt Institute (Eunhae Oh and Laura Silvera),
Open Enclave community-based design proposal,
Red Hook, Brooklyn,
New York,
2013

'Design prototyping' of neighbourhood recovery includes community-based, participatory planning before an event to guide rapid installation of modular housing after it. This student design proposal clusters the Garrison Architects prototype units within the larger scale of the block to house former neighbours, create public and private courtyards and sustain social networks.





GANS studio and Pratt Institute (David Martinez), Prepared Ground community-based design proposal, Red Hook, Brooklyn, New York, 2013

As part of a student study, Prepared Ground proposes that a city agency would outfit a public soccer field with subterranean infrastructure for housing and flood mitigation prior to disaster. The ground would be ready for rapid installation of the Garrison Architects-designed modular dwellings supplied by the Federal Emergency Management Agency (FEMA) and enable speedy neighbourhood recovery.

GANS studio and Cragnolin Engineering and Design, Prefabricated low-rise typology for the Build It Back programme, Staten Island, New York, 2017

In July of 2017, Build It Back began to replace the last 70 homes enrolled in the programme with houses manufactured by several factories in Pennsylvania. The first of these houses was designed and delivered in five months and the final house scheduled for April 2018, whereas the programme's traditionally built houses took more than two years to complete.



Text © 2018 John Wiley & Sons Ltd. Images: pp 78–9, 84(t), 85(b) © GANS studio; p 81 © VAN (Voluntary Architects' Network); p 82 © NYC Emergency Management Department/Garrison Architects; p 83 © NYC Emergency Management/Andrew Rugge, Archphoto; p 84(b) © GANS studio, Pratt Institute, Eunhae Oh + Laura Silvera; p 85(t) © GANS studio, Pratt Institute, David Martinez

Resilient Neighbourhoods

City employee volunteers first tested the living conditions of the Urban Post-Disaster Housing Prototype through temporary stays in the units throughout 2014. The resulting improvements are now recorded in federal design guidelines, which enables large numbers of manufacturers to supply housing after a disaster to any city in the country. The NYC Emergency Management Department also explored the prototype's fit within an urban context. The goals of the project were to increase resiliency by keeping people close to home in the short term and increasing housing stock for the long term. The department enlisted GANS studio and students from Pratt Institute to study the prototype design within the neighbourhood of Red Hook, Brooklyn, which had been badly flooded during the storm. Using Garrison Architects' modules, students designed projects of higher density: superblocks with facilities such as schools and libraries, and housing above storefronts. They developed wharves of housing, roof additions for coastal sites, and housing around generous landscaped courtyards for water management. Taken together, on distributed sites, the proposals created sufficient housing to allow the entire disaster-affected community to remain intact, to keep local businesses alive and social networks thriving. With the option to stay close to home, the pressure of time becomes less of a threat to a city's social and economic fabric.

Using the design prototype to depict a variety of post-disaster recovery scenarios within a neighbourhood, the Red Hook study presents a new model for collaborative community planning. Discussions include design visioning and also operational-level thinking that helps define how projects could be paid for and where the money will come from. For example, the Prepared Ground strategy for Red Hook proposed that the Department of Environmental Protection prepare parkland with housing infrastructure in advance of a disaster. In this framework of prototype recovery planning, community advocacy can have an impact and government can deliver on its promises.

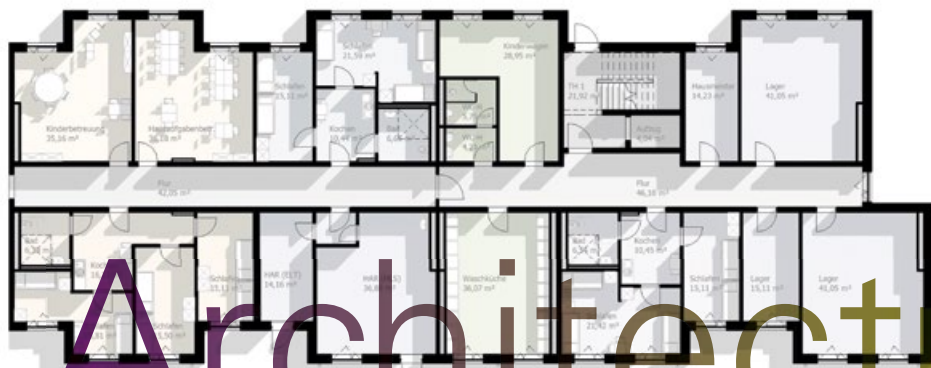
After considering prefabricated housing solutions in the wake of Superstorm Sandy for several years, in June 2017, as part of New York's Build It Back programme, GANS studio and Cragnolin Engineering and Design were commissioned to develop prefabricated modules to replace the last 70 flooded homes in Queens and Staten Island. Four months later the first houses were shipped from factories in Pennsylvania and set on their foundations. This programme has quickly and affordably housed the city's remaining disaster-impacted residents on widely scattered sites, but emerged too late to be used as a central element of community-based plans for rebuilding post-Sandy. Next time, when it is possible to deploy modular housing rapidly within a context of inclusive plans made prior to the storm, New York and cities around the country will have a viable way to rebuild an equitable city by design. ▴



86

HOWOGE,
Modular accommodation for refugees,
Hagenower Ring,
Berlin,
2017

Using off-site construction methods, HOWOGE public housing association developed this project as infill in a tower-in-the-park neighbourhood in East Berlin. It can subsequently be converted into regular affordable housing units with minor upgrades such as elevators, balconies and floor-plan reconfigurations.



Architecture for Refugees

BE0363 Hagenower Ring
Grundrisse M1:200
-Marketing-
01.06.2017

The massive influx of migrants to European cities from Syria and beyond, since 2015, has demanded a rethink of how to accommodate refugees. Germany is a case in point: to avoid ghettoisation and aid social cohesion, efforts are being made to integrate newcomers with long-term residents in urban neighbourhoods through specially built, mixed-use schemes. **Kaja Kühl**, a practising urban designer and adjunct professor at the Graduate School of Architecture, Planning and Preservation, Columbia University, New York, and **Julie Behrens**, who directs the affordable housing consultancy Project Urbanista, showcase several such projects.

Over the last few decades, the housing market in Western European cities has been marked by a withdrawal of public funding and increasing reliance on partnerships with the private real-estate market to provide housing. One notable exception has been the effort by some countries and cities to provide housing for the most recent influx of refugees. When over a million refugees arrived in Europe over the course of a few months in 2015, the task to shelter and accommodate them fell entirely on the shoulders of local governments. Many architects and planners welcomed the technical challenge of designing affordable, efficient and quickly deployable solutions and the public-purpose-driven nature of this task with a 'roll up our sleeves' attitude embodied by the German Chancellor's statement 'Wir schaffen das' (We can do it).

Recent events in Europe have marked a shift in a global recognition that 'architecture for refugees' is an urban challenge as opposed to one best addressed by geographically isolated camps. Most of the world's refugees are fleeing urban areas, and today roughly 13 million refugees live in cities. In September of 2017, the UN High Commissioner for Refugees Filippo Grandi acknowledged this trend and announced that the agency will engage more closely with cities to develop solutions in which refugees are integrated more permanently into their new urban homes.¹ The current situation presents

an opportunity for architects to design publicly funded housing projects that think beyond the short-term need for shelter and produce integrated, vibrant residential neighbourhoods that improve the lives of all city dwellers.

The German Pavilion at the 2016 Venice Architecture Biennale, 'Making: Heimat. Germany Arrival Country', curated by the Deutsches Architekturmuseum (DAM), showcased architectural solutions for emergency shelter that emphasise efficiency, affordability, flexibility and quality of design. Supported by an open online database, it was followed by an exhibition at the Frankfurt museum and now travels to Goethe Institutes around the world.² The breadth of projects envisioned or completed in Germany between 2015 and 2017 showcase ways in which architects are working with public clients to contribute to social equity through thoughtful design of housing and infrastructure.

Projects in the DAM database respond to the immediate housing crisis in a variety of ways, from adaptive reuse of vacant buildings to container villages; from temporary shelters to permanent housing solutions. Some are designed exclusively for newcomers, and others seek to integrate native-born residents into the building's tenant mix. Off-site construction and prefabricated modules are frequently proposed to meet the urgent demand quickly, but also to demonstrate the replicability of the project. One such example, designed, built and inhabited

in less than six months in Freiburg, Germany, uses a modular system made from wood as an alternative to steel containers. Here, three architecture firms – Franz und Geyer Architekten, Jochen Weissenrieder Architekten and stocker.dewes architekten – formed a collaborative for the project and developed the system for three different sites. The buildings were designed to be used as emergency shelter in the short term, but conceived so that the modules can be reconfigured and even relocated for other purposes when urgent need for shelter subsides.

Franz und Geyer Architekten,
Jochen Weissenrieder Architekten
and stocker.dewes architekten,
Emergency shelter,
Freiburg,
Germany,
2016

Housing Not Shelter

Accommodating a sudden large influx of residents is a challenge almost everywhere, but it is particularly difficult in cities experiencing a tight housing market. Berlin's 2014 housing plan called for 100,000 additional units over the following 10 years to meet the city's then-projected demand. By 2017, this estimate was already understood to be insufficient even without counting the arrival of an estimated 65,000 refugees to Berlin under the federal government's resettlement programme. Berlin's population is still smaller than it was before the Second World War.³ As a result, the city's existing infrastructure and relative low density offer opportunities for infill development that repairs the urban fabric while increasing the overall housing stock and improving access to amenities and services.

Three separately commissioned architecture firms collaborated to develop a modular system using wood as an alternative to steel containers. Designed as emergency shelter, the system can be converted into student housing or similar at a later date.



Untreated materials, flexible reuse and the promotion of a regional supply chain promote sustainability. Three projects housing between 100 and 300 asylum seekers have each been completed within less than a year.



As the refugee crisis subsides over time, the intention is to convert these units into permanent housing to be integrated into the HOWOGE-managed housing stock.



HOWOGE,
Modular accommodation for refugees,
Hagenower Ring,
Berlin,
2017

Each communal accommodation built according to the Berlin government plan is equipped with indoor and outdoor social spaces such as playgrounds and seating areas, as well as classrooms and spaces for social service providers on the ground floor.

During the initial response, many newcomers to Berlin were placed in emergency shelters in converted commercial buildings, school gymnasiums or tennis bubbles. To move people from these often-precarious living conditions, the local government developed a prototype for *Gemeinschaftsunterkünfte* (communal accommodations) based on a modular construction system. The prototype is to be constructed on 30 sites across the city and can accommodate between 200 and 450 people depending on location. These projects are designed following federal guidelines for communal shelters, as dormitories with shared bathrooms and kitchens. They include shared spaces such as playgrounds, classrooms and meeting rooms, and social services offices. The local government is developing 10 of these projects directly and has commissioned the six publicly owned housing associations in Berlin to develop the others based on the prototype.

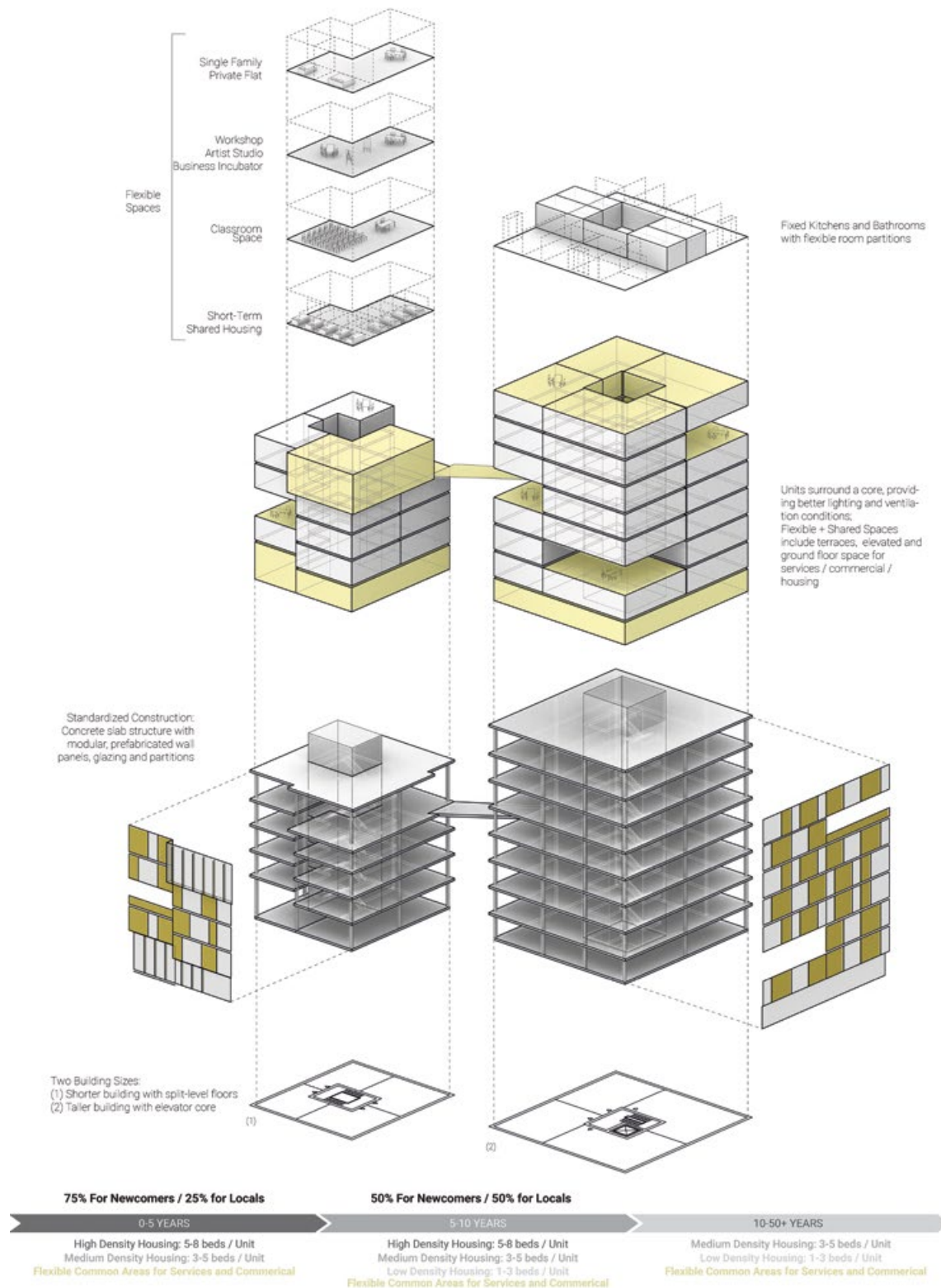
One such housing association, HOWOGE, completed a project under this initiative in 2017 as an infill development in a tower-in-the-park neighbourhood at Hagenower Ring. HOWOGE maintains a portfolio of 59,000 units, mostly located in the district of Lichtenberg in the east of Berlin. Its mission is to provide affordable housing, broadly defined as units priced at or below the average local rent per square metre. In the short term, the new housing units will be leased to the refugee agency for placement of newcomers. As the refugee crisis subsides over time, the intention is to convert these units into permanent housing to be integrated into the HOWOGE-managed housing stock. Together with the other housing associations, HOWOGE lobbied successfully to make key adjustments to the original prototype, rejecting the dormitory-style shelters in favour of units with private kitchens and bathrooms that could easily be converted into permanent affordable housing.

While this intent for permanent housing in the long term is an improvement over the original prototype and has since been adopted by the local government in Berlin for all modular shelters to be built, many advocates argue that the strategy still does not go far enough. For example, all of these buildings include indoor and outdoor accessory spaces for classrooms, play areas and social services. Yet these spaces are intended for the exclusive use of newcomers and may even be fenced off in accordance with design guidelines, severely limiting opportunities for interaction among newcomers and other neighbourhood residents.

In a 2016 workshop entitled 'Immediate Shelter, Sustainable Neighborhood', HOWOGE collaborated with Columbia University's Graduate School of Architecture, Planning and

Michael Nickerson, Lia Sooreanian,
Lama Suleiman and Karol Stern,
Immediate Shelter,
Sustainable Neighborhood: Berlin workshop,
Graduate School of Architecture,
Planning and Preservation (GSAPP),
Columbia University,
New York,
2016

In a workshop held by HOWOGE and the GSAPP at Columbia University, this team proposed housing a mix of newcomers and Berliners in a series of five- to eight-storey buildings on a HOWOGE-owned site in Lichtenberg. Over time, the project can 'de-density' as residents gain income and ability to rent more space per person, or others who can do so move in. Dormitory-style bedrooms can be converted into social spaces within the building, and social service areas on the ground floor can become additional apartments or commercial spaces.



Based on conversations with newcomers and their advocates, students also questioned the difference between shelter and housing.

Katrin Bozeniec, Jessica Cruz, Hussam Jabr, Tobias List and Yuanyi Zhang, Immediate Shelter, Sustainable Neighborhood: Berlin workshop, Graduate School of Architecture, Planning and Preservation (GSAPP), Columbia University, New York, 2016

Another team proposed active ground-floor uses such as retail, workshops, community facilities and playgrounds to benefit the neighbourhood at large. The proposal also navigates a transition to the industrial area to east and a nearby Vietnamese wholesale market.

Preservation (GSAPP) to explore two sites in Lichtenberg as potential infill development. The students' work sought to design appropriate housing solutions while creating spaces that contribute to the overall vitality of the development and neighbourhood. Based on conversations with newcomers and their advocates, students also questioned the difference between shelter and housing. It was generally accepted that the housing needs of most newcomers are nearly identical to those of every other Berliner. As a result, the students envisioned the transition from short-term shelter into permanent housing as part of a longer-term process that results in newcomers and native-born Berliners living side by side from day one.

This integrated housing concept is also part of the plan in Florian Nagler Architekten's Housing at Dantebad in Munich. Here, 100 affordable units with half reserved for refugees were designed and constructed in only 180 days above the parking lot for a public swimming pool. The parking lot remains fully operational, losing only five of the 110 spots to the new building as it completes the urban block.





Leveraging Housing for Newcomers

In Berlin, many of the proposed infill refugee housing sites are located in the east, where much of the existing urban fabric consists of socialist-era prefabricated developments. The current spatial configuration of these developments as towers-in-the-park within vast expanses of often unmaintained open space offers limited opportunity for casual encounter and few spaces for neighbourhood services and local commercial amenities. As such, owners like HOWOGE are already facing challenges around access to public space and neighbourhood amenities in and around their developments. The current rush to build new infill development provides an opportunity for architects and their clients to leverage this publicly funded effort as long-term contributions to the city. By designing permanent housing for a mix of tenants, incorporating commercial and community facility spaces and improved public space amenities such as playgrounds and sports fields, these projects can improve the overall experience in the neighborhood. Design with this foresight in mind suggests an 'architecture for all' mindset as opposed to 'architecture for refugees', and can play a key role in integration and the political acceptance of newcomers by their neighbours.

Housing thousands of newcomers in cities across Europe is an enormous undertaking supported entirely by public funds. Alongside the goal of creating new housing, designers and planners should leverage these projects to offer solutions for the benefit of all. Engaging strategies that promote equity, integration and long-term economic stability should be the goal of those who commission these projects, and the architects who design them. ▢

Florian Nagler Architekten,
Housing at Dantebad,
Munich,
2016

Under the 'Housing for All' programme, public housing association GEWOFAG in Munich commissioned this slender apartment building above the parking lot of a public swimming pool. One hundred units were designed and constructed within less than a year using prefabricated modules. Half of the units are reserved for refugees.


Notes

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Environmental Building Technologies for Social and Economic Equity

Pollyanna Rhee

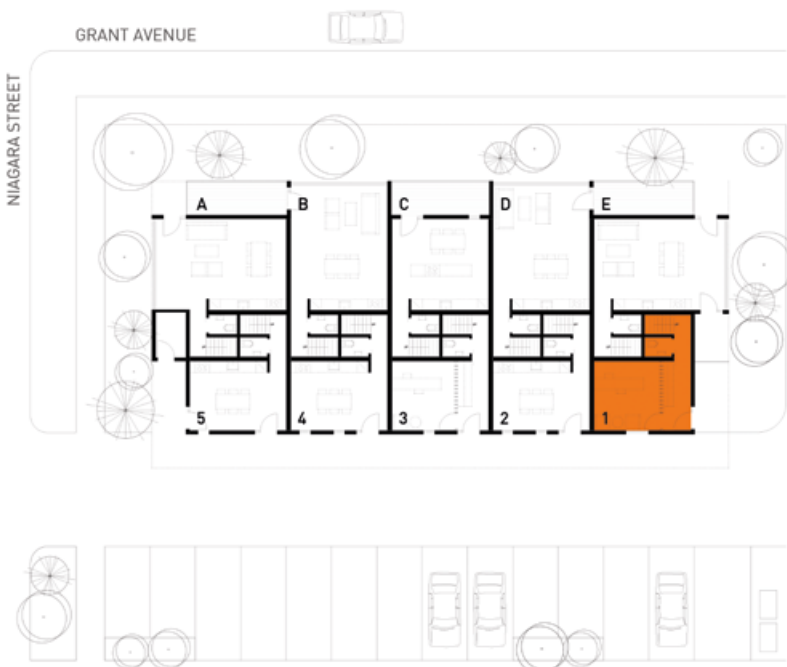
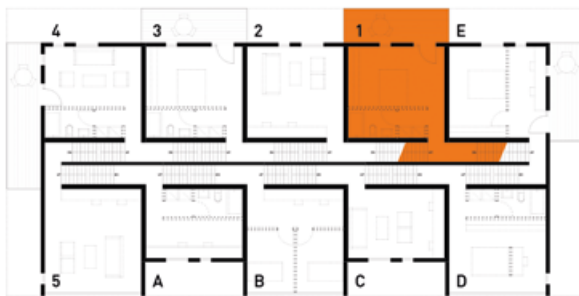
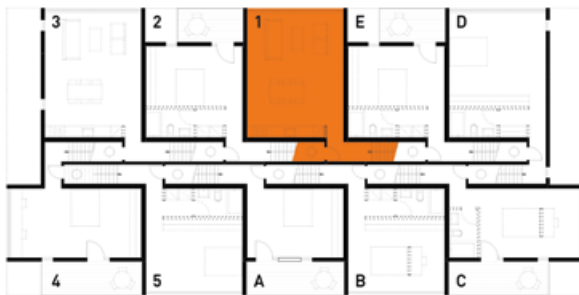


5468796 Architecture,
Bloc 10,
Winnipeg,
Manitoba,
2011

The wood slatting on the facade
provides privacy from the busy
street.

Affordability and sustainability are buzzwords of the construction debate today – and building with wood may be an answer to both. Not only that; it also has psychological and physical health benefits for the buildings' eventual users. **Pollyanna Rhee**, a PhD candidate in history and theory of architecture at New York's Columbia University, looks at how architects and initiatives around the world – from North America to Europe to Australia – are using this material for low-cost housing, notably in the form of sturdy cross-laminated timber (CLT).

The 10 units are staggered across each floor, producing an interlocked set of apartments.



Modest one- and two-storey homes line the narrow and long blocks in River Heights, a residential area southwest of the city centre in Winnipeg, Manitoba. Along Grant Avenue, one of the city's main thoroughfares that cuts through the neighbourhood, a three-storey apartment building with wood slatting in a dark shade makes a distinct impression. The building's 10 units are offset and staggered across the storeys rather than each with its own vertical block. These interlocked apartments have private entrances and balconies framed by the wood slats, offering a varying degree of privacy and openness. Designed by Winnipeg-based 5468796 Architecture, the Bloc 10 apartment building, completed in 2011, was envisioned by its developer as a positive example of affordable and sustainable property ownership for residents in this city in the Canadian prairie.

The warmth, affordability and environmental sustainability of wood mean that its advocates consider it more than a building material. Researchers have found correlations between improved psychological and physiological outcomes, such as lower blood pressure, in individuals occupying a space lined with wood panels as opposed to white steel.¹ In lauding Bloc 10, one critic proclaimed there is 'no greener way to build in Canada' than medium-density apartment buildings constructed out of wood, the 'most renewable of building materials'.² Its architectural uses go beyond slats, beams and planks: new wood-based materials can further address the environmental impact of building construction, which still accounts for a significant share of global waste, raw material consumption and energy use. Prominent architects are embracing cross-laminated timber (CLT), which has been described as 'the most advanced building material'.³ Consisting of layers of timber glued together at right angles, it has been noted for its structural strength and

reduced environmental impact in comparison to concrete and steel. Housing developments engineered with CLT are already reaching eight and ten storeys in Europe and Australia, such as The Gardens, a group of three buildings with 101 apartments by BlueCHP Limited in Campbelltown, west of Sydney, and Waugh Thistleton's mixed-use Dalston Works in East London, both completed in 2017. In the US, building codes for fire safety and earthquake-prone areas have restricted opportunities, but projects of five and six storeys are currently under development in the Pacific Northwest. Sustainable materials may need to be adopted for any future building, but can they also help meet social demands? Considering social equity as part of sustainability means asking questions such as where these developments should be located, who will live in them, and how such projects will engage with groups who have been traditionally underserved as beneficiaries of sustainable building technologies and healthy homes. In writing about Bloc 10, the critic Trevor Boddy proclaims that the 'question of affordable housing is the recurring bad dream of contemporary architecture. The difficulty of building dwellings simply and well imparts a night terror in many of us.'⁴ Environmental sustainability is usually emphasised as a standalone virtue. The building typology and who benefits from sustainable practices are often an afterthought, if considered at all. Embracing affordable and socially equitable housing as a central part of sustainable building practices widens the scope of potential benefits. Wood is more than a material; it can be part of a larger, regenerative process of land use, and can have a positive impact on the lives of residents.

'We build affordable homes for ordinary people'

The blue-and-yellow logo for BoKlok housing developments is reminiscent of IKEA's branding. This is no accident, since BoKlok emerged in the mid-1990s as a partnership between IKEA and Swedish construction firm Skanska, when IKEA founder Ingvar Kamprad and Skanska chairman Melker Schörling met at a housing fair and lamented that no one 'dared to build affordable housing', regardless of market needs.⁵ BoKlok, translated as 'live smart', thus began not with the design of a scheme, but by asking an economist 'How much can a nurse afford to spend on a home?' and then finding land to accommodate residences at that price.



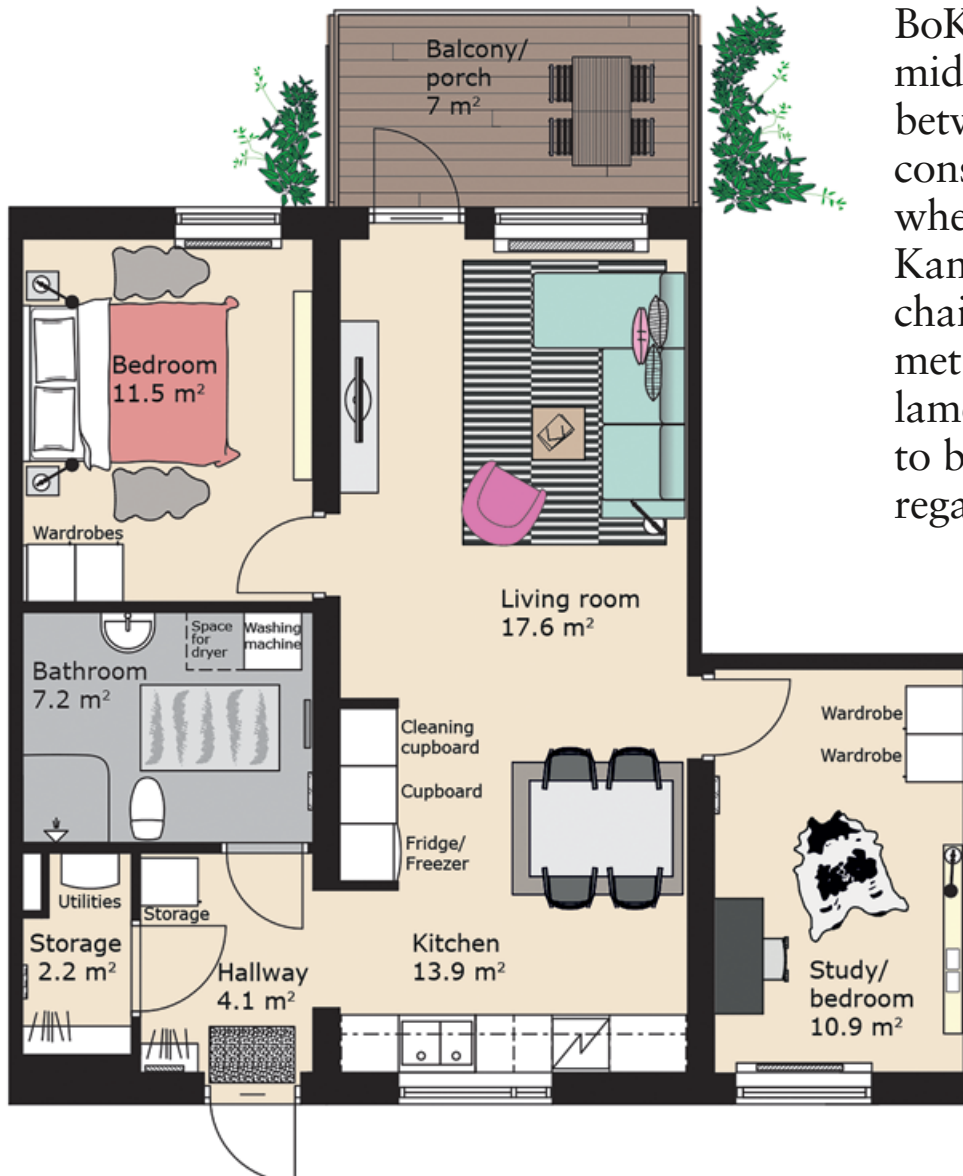
IKEA/Skanska,
BoKlok Flex housing under construction,
Alingsås,
Sweden,
2016

According to the BoKlok website, the tallest BoKlok development, the Flex block of flats, is four storeys in order to stay 'small and cosy' while providing a substantial number of units. It takes about three months from fabrication to completed units.

BoKlok manufacturing centre,
Vimmerby,
Sweden,
2015

About 80 per cent of the construction of a BoKlok unit takes place in a factory before being erected on site. Prefabricated wood reduces the amount of materials used for each development and shortens construction time.





BoKlok emerged in the mid-1990s as a partnership between IKEA and Swedish construction firm Skanska, when IKEA founder Ingvar Kamprad and Skanska chairman Melker Schörling met at a housing fair and lamented that no one ‘dared to build affordable housing’, regardless of market needs.

BoKlok Flex housing block, 2016

above left: Wood siding and other wood components are favoured over other materials for their cost efficiency and renewability.

above right: The largest BoKlok unit, the two-storey Mökeln terraced house, includes an open-plan living space with large windows for natural light and to give a sense of a larger space. Each house also comes with a small private garden.

left: Floor plan of a two-bedroom unit in a Flex apartment block. BoKlok claims that the best energy is the energy that is never used, so units are deliberately designed to be small in order to promote energy efficiency as well as general affordability.

Since its launch of four housing developments in Sweden in 1997, BoKlok's projects are still primarily located in that country, but can be found throughout Scandinavia, as well as in Germany and the UK. In Scandinavia's IKEA stores, customers can examine floor plans, current developments, and – due to high demand – apply to enter a lottery to purchase a BoKlok unit. Like IKEA's goods, the homes and apartments have names to distinguish each scheme. The Älmhult apartment building has a 'traditional exterior' with painted wood panels, while Helsingborg has a 'more urban exterior' and 'functional-style architecture'.⁶ These two-storey apartments, according to Lars Wild-Nordlund, BoKlok's Managing Director, look 'almost' like single-family homes surrounded by lawns, gardens and shrubs.⁷ For larger developments, Flex apartment blocks can be constructed up to four storeys high with slightly smaller individual units than other BoKlok schemes. Despite the small size of individual apartments, their open plan, high ceilings and large windows provide an illusion of more space. Even the relatively small size of the individual units becomes an environmental benefit since there are no 'unnecessary show-off square metres' using extra energy.⁸

BoKlok executives and in-house architects envision their developments as more than just housing schemes. Design strategies such as restricting the height of apartment blocks and favouring L-shaped buildings, encourage contact among residents, creating small neighbourhoods where they meet and interact. Residents are also expected to manage the developments cooperatively, which reinforces the community atmosphere. A governing board with rotating membership makes decisions about satellite dishes on balconies, lawn maintenance and the cleaning of collective spaces.⁹

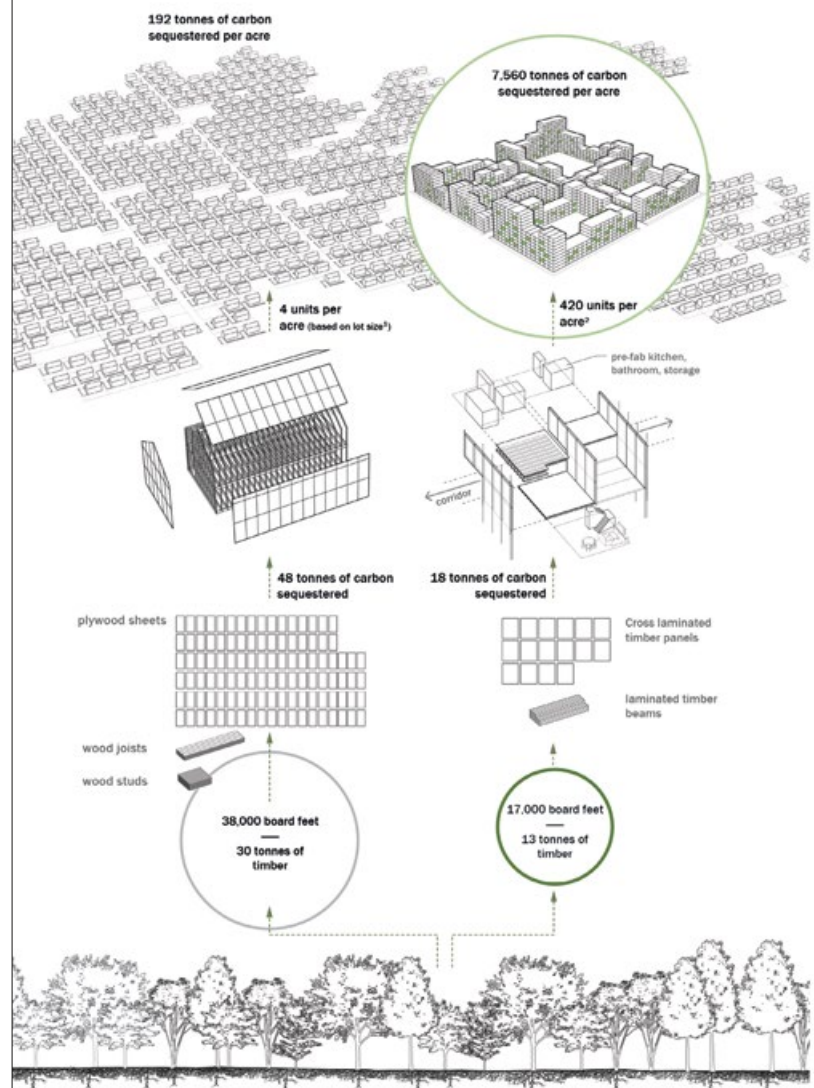
The material and manufacturing resources of BoKlok's parent companies support the process of building economical and environmentally oriented housing. Eighty per cent of the work is carried out in a factory and produced as prefabricated components, which helps minimise costs as well as environmental impact.¹⁰ The use of wood in BoKlok's designs features prominently in its marketing materials; its easy prefabrication, renewability, affordability and aesthetic charm are easily integrated into the brand's narrative.

In 2007, a group called Live Smart @ Home completed a series of apartments and terraced houses outside of Newcastle through a licensing agreement with BoKlok with the hope of constructing many more.¹¹ However, their plans were interrupted by the 2008 global

financial crisis, leaving many units, despite their relatively low cost (a terraced house for less than £150,000), unoccupied.¹² The susceptibility of housing to the market's changing fortunes tells us much about the place of social provision in the maintenance of affordable and ecologically minded housing and the limits of private enterprise to offer solutions for a broader public.

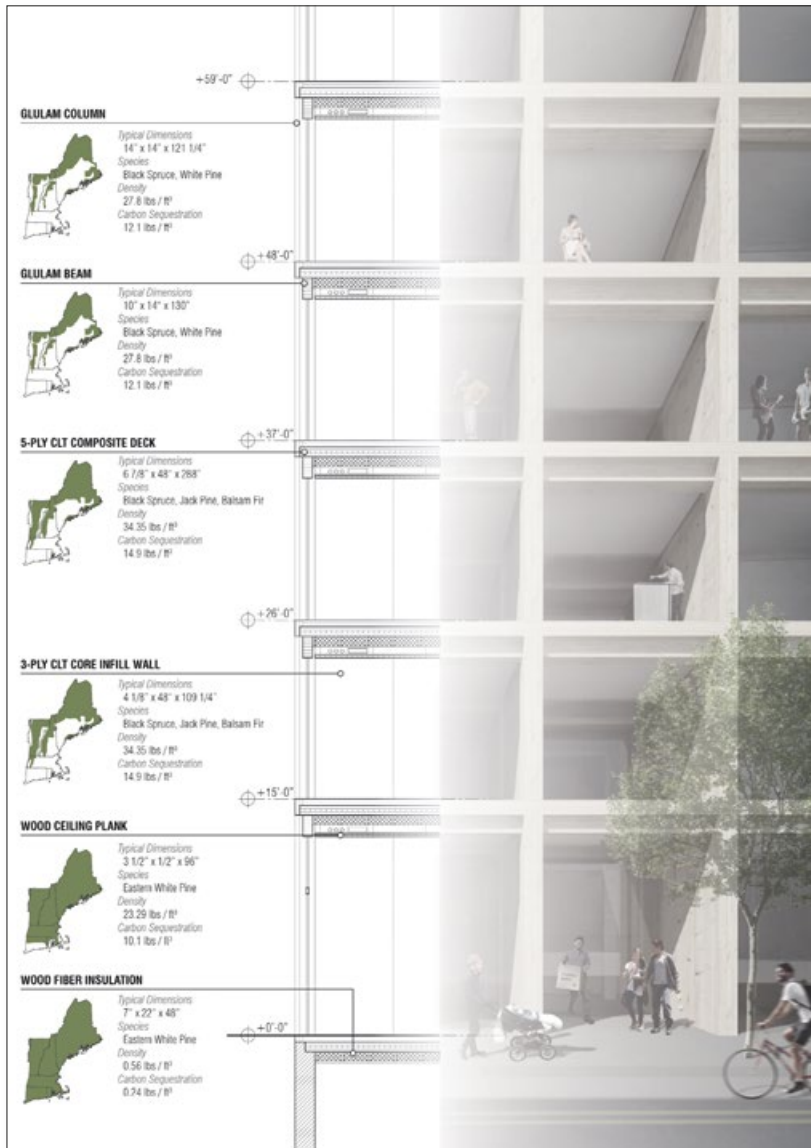
Looking Beyond Individual Structures

The suspension of BoKlok developments in the UK underscores the vital roles of public action, housing and urban policies, and political will alongside advances in materials and technologies to ensure the continued realisation of affordable and sustainable housing. Timber City, a research project by Gray Organschi Architects in New Haven, Connecticut, takes a speculative yet broad approach to the role of wood in producing sustainable and affordable communities at a vast scale. While they agree that advanced wood products such as CLT are key in reducing architecture's environmental impact, their strategy goes beyond just the material.



opposite bottom: Timber City approaches sustainable housing at multiple scales and uses. Comparing the environmental impact of single-family homes and multi-unit housing shows vast differences in the amounts of carbon sequestered, and timber and land used.

below: In a case study on New Haven, Connecticut, the architects propose taking advantage of New England's available tree species and transportation infrastructure for a regionally based, sustainable, and financially practical model of construction. New England's variety of tree species has the potential of supplying material for an array of timber building products.



With a focus on sustainable forestry practices, Timber City begins at the regional scale, to meet the environmental and housing pressures of a rapidly urbanising population. This requires moving away from single-family homes and suburban sprawl towards multifamily units, a shift that would minimise the environmental impact of construction and reserve land on which to produce more timber, and thus transform a source of carbon emissions into a carbon sink. The architects argue that mid-rise urban housing made of prefabricated CLT parts could accommodate 1,500 families in an area that is currently used for just 30 homes, resulting in lower maintenance, infrastructure and mechanical costs shared among many more residents.¹³ While Timber City remains a mostly speculative project, it proposes a way for architects to intervene in multiple processes of producing equitable and affordable housing with advanced materials and technologies. Social equity, sustainability and community are connected in this vision as complementary and necessary pieces of a systematic urban space intervention. Considering environmental sustainability and social equity can open up new possibilities and processes for architects who choose to engage with the challenge. ▴

Notes

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Social Affor

The Search Housing Policies



Versus dable for Inclusive in Mexico

Tatiana Bilbao ESTUDIO,
Affordable housing prototype,
2015

The architect's model for a generic and modular affordable housing prototype, designed to be replicated throughout the country, by adapting it to the social and regional diversity that characterises the Mexican territory.

However well-meaning, government-backed schemes to house the populace can be counterproductive in their emphasis on quantity. An over two-million-home building spree in Mexico in the first six years of the millennium ultimately led to soulless townscapes of standardised units. Mexico City-based architect **Meir Lobaton Corona** examines how this arose, and argues for placing the emphasis back on context, coherence and community – particularly through the work of the country's National Institute for the Funding of Workers' Housing (INFONAVIT).

In 2000, Mexican presidential candidate Vicente Fox Quesada proposed an unprecedented public-private partnership plan to build two million low-income homes throughout the country during his six-year term. In his inauguration speech he proclaimed: 'Housing is the essential space for Mexican families, it is a right enshrined in our Constitution, it is a central commitment of my Government, that any Mexican have access to buy, build, remodel or rent a house according to their budget or credit capacity and preference.'¹ During his presidency (between 2000 and 2006), 2,350,000 houses were built at a rate of 2,500 homes per day.² The trend continued in the following years, as the government launched several policies that encouraged the massive construction of housing complexes away from urban centres and incentivised credit programmes which allowed the population to purchase affordable dwellings. These efforts turned the complexity of the housing problem into a real estate opportunity from which a handful of local and global investors benefited substantially, at the cost of severely escalating the country's social and economic inequity.

This narrow-sighted perspective of simply addressing the problem's quantitative dimension, while leaving aside its social implications, resulted in the indiscriminate propagation of anonymous housing units that behave obliviously to their social and physical context. Commonly referred to as *cajoneras* (drawers) or *ratoneras* (mousetraps), such units are contributing to the degradation and transformation of a vast part of the national territory into generic landscapes of repetitive constructions that standardise the country and its inhabitants. This copy-and-paste operation, coupled with the remoteness of the new housing complexes, their inherent lack of access to basic services and social infrastructure offered by nearby urban centres, and the poor quality of the new constructions, led to a social and financial catastrophe that was manifest in other phenomena such as dwelling abandonment, soil speculation, spatial fragmentation and social segregation.

Aware of the need to open up a topical debate focused on rethinking housing policies, and convinced that some of the problems mentioned above could be counteracted by the formulation of new architectural, urban, social and political paradigms to enhance the production of housing projects that would be sensitive to the country's social and regional diversity, the National Institute for the Funding of Workers' Housing (INFONAVIT) has – through its Research Centre for Sustainable Development – conceived and implemented various initiatives that go from the revitalisation and regeneration of run-down housing complexes to the design and construction of new projects.

One such initiative is the 2015 design research project 'Single Family Regional Housing: 32 Entities, 32 Architects and 32 Proposals'. Based on the principle of integrating the trajectory and knowledge of recognised national architecture and urbanism firms with the experience and vision of INFONAVIT, it represents a joint effort to rethink the single-family house from a regional perspective.

The Paradox

For the task, INFONAVIT asked 32 local firms to design an urban housing complex for a generic one-hectare plot (100 by 100 metres; 330 by 330 feet) in a specific town in each of the 32 federal entities – 31 states and the federal district – that form the national territory.

Although the design brief was intentionally vague in terms of the programme, dimension and number of necessary dwellings, thus deliberately encouraging the participants to re-examine the complexity of the housing problem beyond its density implications, it explicitly asked for modular, flexible and adaptable housing prototypes which would adhere to the new national housing policy, take advantage of the existing infrastructure, promote a local identity, and actively participate in the production of integrated urban landscapes, as well as being appropriate to their climatic, geographical and social context.

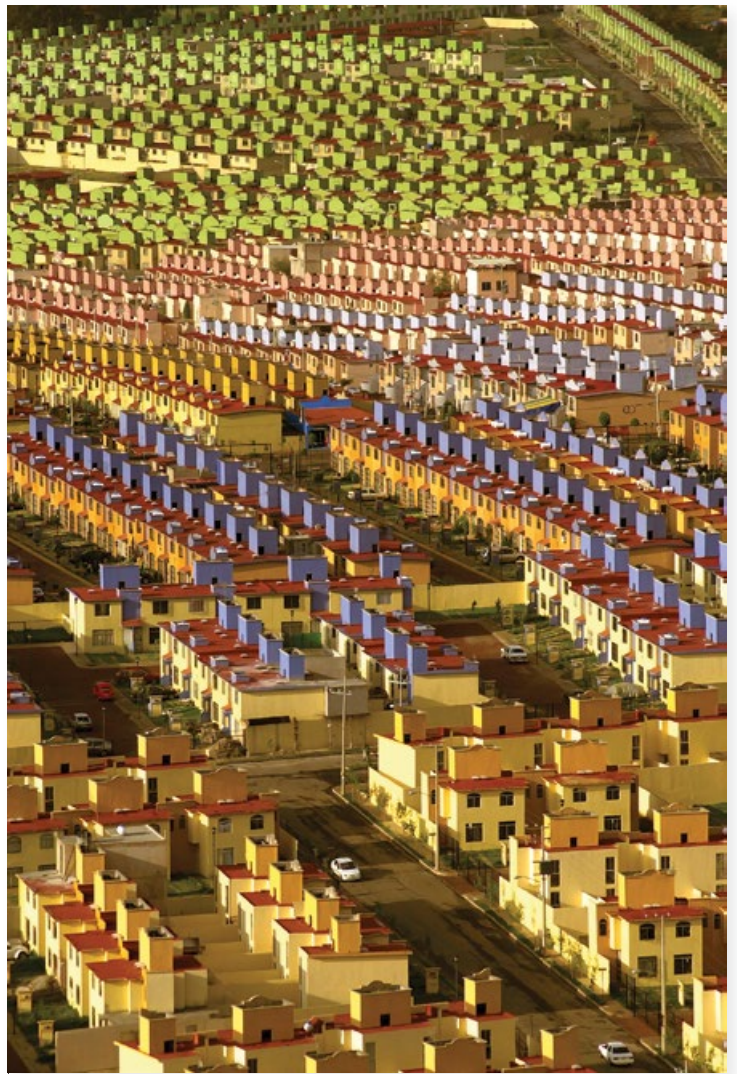
As part of the brief, architects were advised not to replicate vernacular dwellings, but rather to learn from the indigenous construction methods and design intelligence of their assigned region, and to integrate such age-old knowledge in their designs. In other words, to reconsider modernity as heritage and heritage as a possible future.

The guidance recalls the contradiction originally posed by Paul Ricouer in *History and Truth* (1965), and later quoted by Kenneth Frampton in his influential essay *Towards a Critical Regionalism: Six Points for an Architecture of Resistance* (1983), namely, 'how to become modern and to return to sources'.³ The old paradox once again becomes a haunting ghost, which we are seemingly unable to escape.

It is clear that defining a housing prototype can help reduce the increasing housing shortage. Nevertheless, the quality of a complex does not necessarily lie in the efficient solution of the unit, but rather in the actual organisation of the ensemble. In other words, it depends on the design of the space between the buildings and not on the buildings themselves.

While most of the proposals were sensitive to the regionalisation concept and successfully addressed Ricouer's paradox at the domestic scale, they failed to do so at its urban dimension. Only three out of the 32 presented projects were represented as being part of an integrated urban tissue, while the rest seemed to be isolated man-made islands floating adrift in the middle of a vast and empty ocean. The project presented by JC Arquitectura for Benito Juárez, Cancún in Quintana Roo was one of the many which – despite their eloquent representation – contradictorily resemble some of the housing complexes built during President Fox's mandate, evidencing what Frampton suggests in his essay that architecture should resist: namely, the inherent homogeneity of modern societies.

Perhaps this was not the architects' fault, and could be attributed instead to some inconsistencies in the design brief and the importance it gave to the unit rather than the complex. How is it possible to participate in the production of integrated urban landscapes when the proposed site is an imaginary plot of land detached from a real urban context? How do you take advantage of the existing



Marcos Fuentes Hernández,
Armonía Caótica 2,
Ixtapaluca,
State of Mexico,
2004

The photographer Marcos Fuentes Hernández has travelled throughout the country to document some of the government-promoted housing complexes. His photographs show the social and political implications of such architectures, laying bare the complexity of the housing issue.



How do you take advantage of the existing infrastructure where there is none? How do you promote a local identity when induced to design from the inside out and not the other way around?



JC Arquitectura,
Single Family Regional Housing initiative proposal,
Benito Juárez (Cancún),
Quintana Roo,
2015

View of the urban proposal for the Mexican National Institute for the Funding of Workers' Housing's (INFONAVIT's) Single Family Regional Housing initiative. Detached from its existing context, the architect has not been able to optimise on the regional condition.

infrastructure where there is none? How do you promote a local identity when induced to design from the inside out and not the other way around?

The Aftermath

In 2015, as a result of the exhibition and publication of the catalogue showcasing the 32 proposals, INFONAVIT was able to persuade a private developer to 'take the risk' of tackling a real housing project using the same constraints as those of the initiative's brief.⁴

For the task, Derex Desarrollo Residencial (the developer) engaged architectural practice Taller de Arquitectura X (TAX), led by Alberto Kalach, to configure a housing block in Hermosillo, Sonora, composed of 80 single-family houses of 45 square metres (485 square feet) each. Beyond the fact that he managed to double the number of units and increased their size to 73 square metres (785 square feet) each, while maintaining the requested cost of 200,000 pesos per unit, he counteracted the inhospitable climatic conditions of the site through the use of green roofs, a solar control system in the windows, cross-ventilation, and the inclusion of a private open space as part of the programme.

The adopted scheme, comprising a series of elongated attached houses contained within two loadbearing walls, is clearly reminiscent of the proposal Kalach developed for Reynosa, Tamaulipas in response to the Single Family Regional Housing initiative. The difference is that unlike the original project, where the units were arranged radially around a luscious communal garden designed to increase the relative humidity and create a more stable microclimate, here they were organised linearly, facing a private backyard with a tall tree planted in the middle of it, seemingly to avert any desire among its inhabitants to expand their houses into their courtyard, and therefore ensuring its optimum thermal and spatial condition over the years.

On 19 December 2016, the Secretary of SEDATU (Mexican Secretariat of Agrarian, Land, and Urban Development), Rosario Robles Berlanga and the Governor of Sonora, Claudia Pavlovich Arellano, presented the 'Arquitecto Gustavo Aguilar Beltrán' State Prize for Housing to the CEO of Derex for their project Bosco Sustainable Community. Governor Pavlovich expressed her appreciation to Derex for their commitment to building quality homes in Sonora, with the comfort and tranquillity of Sonoran families in mind.

Despite the proven benefit – both in terms of the project's public recognition and seeming commercial success – of working in conjunction with an architect to design a site-specific project that takes into account the particularities of the location and its future residents, it is puzzling why the company has not continued in the same vein since, but instead has tended towards a more standardised approach to housing design.

Another realised project which, obliquely, is a consequence of the same initiative, is Tatiana Bilbao ESTUDIO's intervention in Acuña, Coahuila – a municipality southwest of the border with Texas, which has a local steppe climate, meaning little rainfall throughout the year. On 25 May 2015, the unexpected passage of a Category 4 tornado took Acuña by shock, affecting most of the households and practically wrecked the entirety of the public spaces. In the



TAX / Alberto Kalach,
Single Family Regional
Housing initiative proposal,
Reynosa,
Tamaulipas,
2015

A view of the architect's proposal of a circular cloister defined by 60 attached houses, surrounding a shared garden designed to counteract the extreme climatic conditions of the site.

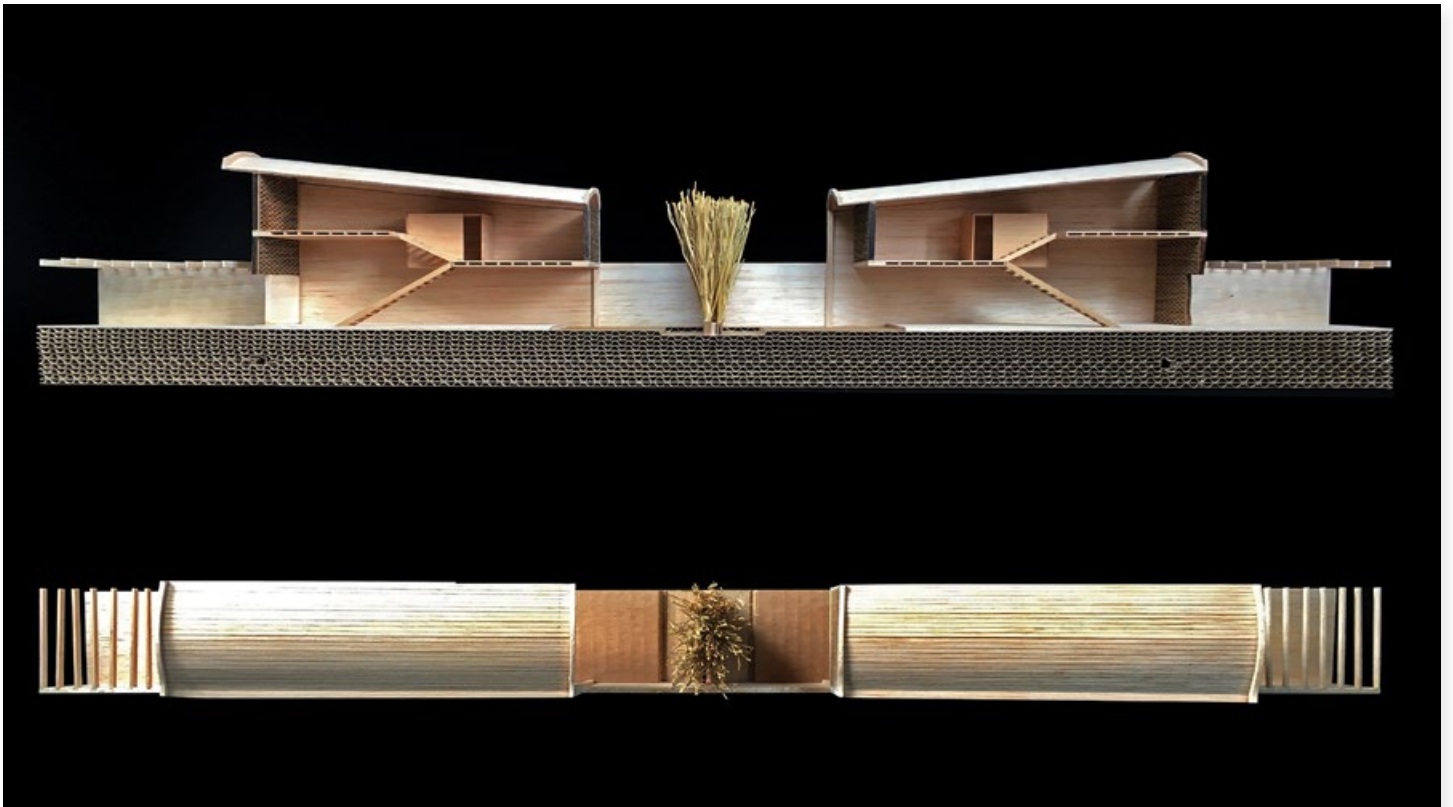


above and opposite: Section models of the architect's housing prototypes. The similarities between the team's proposals for Reynosa, Tamaulipas and Hermosillo, Sonora are clear. In both cases, the architect makes use of the dividing walls between the housing units as loadbearing walls, while the staircases in the middle of the plan allow for an open space organised in split levels.



TAX / Alberto Kalach,
 Bosco Sustainable Community,
 Hermosillo,
 Sonora,
 2015

This housing complex was conceived for its intra-urban condition and linked to the urban tissue. Differently from that for Reynosa, Tamaulipas, here the houses were arranged linearly following the traces of the narrow and densely wooded streets.



wake of the emergency, INFONAVIT visited the area and determined that 643 houses out of 3,446 originally reported as damaged were to be considered as total loss and had to be rebuilt.

The federal government commissioned Tatiana Bilbao for the reconstruction project. Her firm's proposal included not only the design of the new housing units, but the conception of a holistic spatial and social intervention for the affected area. It envisaged a new urban plan specifically thought out for the site. However, the proposed houses, only 20 of which have been built so far, are a revised version of the prototype for an US\$8,000–14,000 house that she had presented as part of the INFONAVIT initiative for San Cristóbal de las Casas, Chiapas – a location with a warm, temperate climate – which had been decontextualised and built in a gallery space for the first Chicago Architecture Biennial (2015).

The fact that both of the realised projects are a revised version of a prototype conceived for a different region of the country contradicts the very principle on which the whole

Tatiana Bilbao ESTUDIO,
Single Family Regional Housing,
San Cristóbal de las Casas,
Chiapas,
2015

Attempts have been made to adapt this prototype to the different regions of the country. *Celosia* (lattice) has been used as a means of contextualising the housing and bridging the stark contrast between the seemingly hermetic pink volume and the surrounding landscape.





Tatiana Bilbao ESTUDIO,
Sustainable Housing,
Chicago Architecture Biennial,
2015

In 2015 the architect presented one of the firm's two prototypes for affordable housing – a 1:1 model built out of thin drywall elements – at Chicago's Biennial. The main focus was on showcasing this specific housing solution rather than the wider question of the complexity of housing in Mexico.



Tatiana Bilbao ESTUDIO,
Rehabilitation and
housing project,
Acuña, Coahuila,
2015

At Acuña, an adapted version of the Chiapas prototype has been built. It remains to be seen how extensive research into the development of an archetype house will translate at the local level, responding to the specific needs and desires of inhabitants and the regional particularities of a site.

initiative was based, unintentionally questioning whether such a thing as a regional housing type really exists, or if in fact any housing type can be easily adapted in order to make it work under completely different climatic and social conditions.

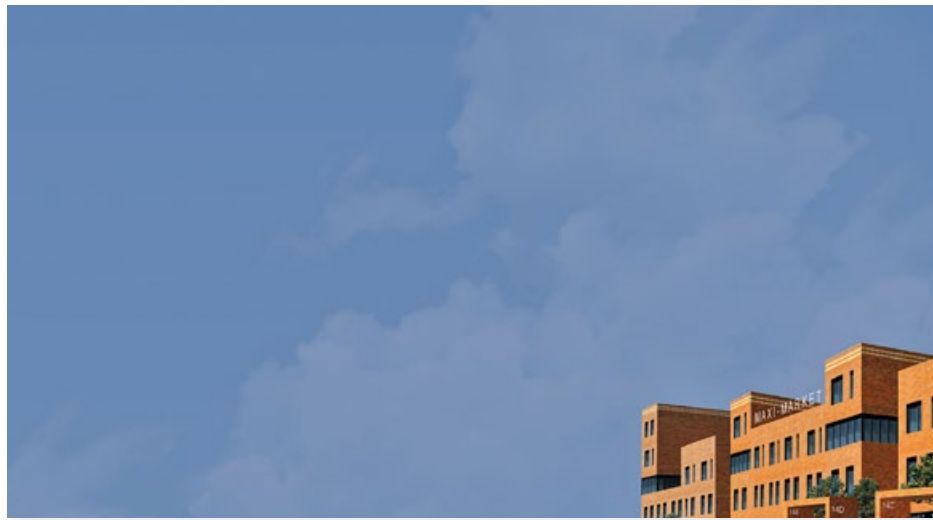
This apparent contradiction is proof that the initiative's original objective – of finding a new paradigm that repositions the country's regional diversity and its inhabitants' socio-demographic characteristics at the core of the discussion – is perhaps not the key concern. More important is questioning both the government's and developers' resistance towards the reorientation of their working methods, and debating the degree to which the inclusion of urbanists and architects in the equation can really help to improve communities' quality of life, which eventually could lead to a more equitable society.

It is worth noting that from its creation in 1972 until the end of the 1980s, INFONAVIT actively participated in the design, construction and financing of affordable housing (that is, housing units affordable for that section of society whose income is below the median household income). It was not until the 1990s that the institute transferred the construction and promotion to the private sector, becoming solely a social mortgage lender for affordable housing. Ever since, the provision of housing has been controlled by a capitalist system indifferent to the population's real needs and desires.

Beyond the effort to contribute to reversing the current housing crisis, this whole experience demonstrates the prevailing need to transition from a government model towards a governance one: a model in which developers, governmental institutions, town planners and architects work collaboratively in conjunction with communities and their inhabitants, to design, develop and produce new housing models that cherish the diversity of the localities, enhancing their essence as social catalysts. Perhaps then we will be able to talk of a true paradigm shift. ▴

Notes

1. President Vicente Fox inauguration speech, 1 December 2000, http://www.biblioteca.tv/artman2/publish/2000_49/Discurso_de_Toma_de_Posesi_n_de_Vicente_Fox_Quesad_71.shtml (author's translation).
2. Instituto Nacional de Estadística y Geografía (National Institute of Statistics and Geography), censuses and counts of population and housing.
3. Paul Ricœur, 'Universal Civilization and National Cultures' (1961), in *History and Truth*, transl Charles A Kelbley, Northwestern Press (Evanston, IL), 1965; Kenneth Frampton, 'Towards a Critical Regionalism: Six Points for an Architecture of Resistance', in Hal Foster, *Postmodern Culture*, Pluto Press (London), 1985, p 16.
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The Land of a Thousand Hills

Rwanda's New Urban Agenda

Daniel Wyss and Fatou Dieye,
Tafali-Étage 8 Million Rwanda
Francs (FRW) House,
Gikondo,
Kigali,
2017



The loadbearing reinforced rowlock-bond cavity-wall system allows for full flexibility in the interior. Homeowners can modify internal configurations without affecting the structure. The option of choosing one's own interior arrangement removes much of the stigma associated with mass-produced low-cost housing.



Multiple Tafali-Étage units can be combined to create a dense city block, a mixed-use micro-estate with sufficient parking, walkways, small shops and services for neighbourhood residents and low-rise, high-density alternative to the expensive concrete apartment block typology.



The Tafali-Étage (multistorey brick house) prototype can be entirely engineered, manufactured and constructed by Rwandan small and medium enterprises. The modular system is adaptable to sloped sites and the loadbearing reinforced rowlock-bond cavity-wall system is well suited to the region's high seismic activity.

When a country's urbanisation rate far outstrips its construction industry's capacity to build, ambitious yet practical solutions are called for. Spurred by government initiatives, Rwanda has recently seen a number of these emerge, involving specialist teams from around the world working closely with communities. **Fatou Dieye**, who is coordinating one such project for the Swiss Agency for Development and Cooperation, highlights a few. The resulting flexible prototypes employ locally available materials and skill sets, and fit the country's socio-cultural patterns and terrain.

As mainland Africa's most land-scarce economy with the highest population density, Rwanda is all too familiar with the pressures and challenges of population excess: shrinking farmlands, overburdened infrastructure, greater income disparities, in addition to insufficient access to public resources like schools or health facilities. Add to this changes in climate patterns, slow industrialisation and rapid low-income rural–urban migration, and the prospects for smart and sustainable growth in Rwanda may seem daunting. And yet, history has shown that African cities are amazingly resilient, with residents who find the means to cope with adversity through ingenious, often informal, solutions. In Rwanda, this creative resilience has blossomed into a key economic and urban development strategy characterised by a wave of ambitious new planning codes and regulatory legislation. Determined to unlock the benefits of urbanisation, the public sector has concentrated its efforts on policies designed to address its biggest development hurdle: the mass provision of so-called affordable housing – dwelling units priced to meet the conventional 30 per cent of monthly income standard. Galvanised by this momentum, a new generation of architects and planners has answered the call, working in close concert with local authorities to develop innovative housing solutions that maximise precious land and building materials resources, while building the strategic framework necessary for the sustainable growth of healthy and prosperous cities and villages nationwide.

Central Business District,
Kigali,
2017

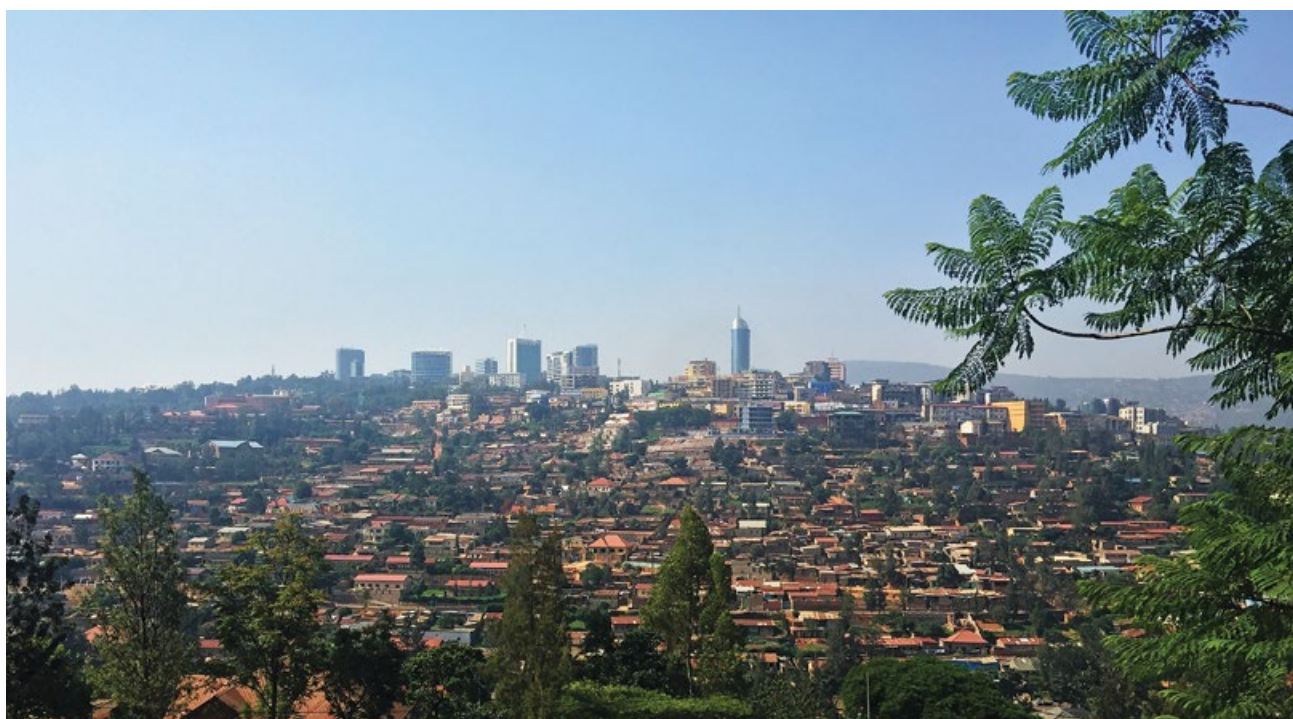
Nestled in the heart of East Africa's Great Lakes Region, Rwanda – also known as the Land of a Thousand Hills – has a unique topography dominated by lush green mountains and wetland valleys. Less than 50 per cent of the land in its capital city is buildable area, so development often occurs on steep slopes and other flood-prone areas.

A Challenge for Every Opportunity

Housing is an undisputed boon to economic development: better living conditions contribute to increased household productivity, and the construction of labour-intensive housing can generate employment all along the supply chain – a potentially advantageous situation for a small landlocked country with a demand of nearly 8,000 new dwelling units per month.

However, a city's ability to deliver sufficient housing depends much on the health of its construction sector. Like many cities whose limited resources are strained by the pressures of rapid urban transformation, Rwanda's cities suffer from the typical signs of construction industry dysfunction: large quantities and high costs of imported building materials and the absence of small local construction firms with access to the skilled labour and financing required for building standardised housing at mass scale. Consequently, despite a recent increase in the construction of planned housing estates, Rwanda's formal housing stock (legally registered dwelling units built to code) remains limited and unaffordable for 80 per cent of the population, the low- and medium-income urban households that earn less than US\$600 per month.¹

With four out of five urban households priced out of the formal housing market, housing construction in Rwanda is typically carried out on a plot-by-plot basis, with most landowners investing in self-designed, self-built solutions that prioritise affordability and opportunities for income generation over neighbourhood cohesion or architectural expression. So despite ambitious city masterplans and national building codes that envision apartment blocks and other high-density residential typologies, more than 60 per cent of the land in the country's capital, Kigali, is currently occupied by low-density informal settlements² – a failure in the housing construction supply chain with tangible urban consequences.



Supply-side Solutions

Follow the trail of Rwanda's local building materials and one is likely to come across Skat Consulting, a Swiss team of building and construction technology experts leading the implementation of the Swiss Agency for Development and Cooperation's Promoting Off-farm Employment through Climate Responsive Construction Material Production (PROECCO) project. With 40 years' experience working as construction industry facilitators in emerging economies, Skat quickly identified Rwanda's abundant and excellent-quality clay reserves as a possible 'home-grown solution' to local building materials deficiencies, one of the primary factors in the acute shortage of standardised housing options below US\$50,000.

In an effort to link the pressing need for off-farm jobs with the high demand for low-income housing, the Skat team, led by architect and town planner Daniel Wyss, introduced the Tafali-Étage (multistorey brick house) prototype in 2017. A customisable modular housing system made of locally sourced fired bricks, it is specifically designed to bridge the gaps in the housing supply chain by rethinking its key inputs: materials, technology, design and labour. Drawing from field experience gained in India and Nepal, Skat's design relies on a reinforced rowlock-bond cavity-wall system, a labour-intensive construction technology that minimises the amount of costly cement mortar in favour of an increase in relatively 'cheap' man hours, an equation that ultimately drives walling costs down by 30 per cent.

Although inspired by the design efficiency of workers' duplex housing units popular during Europe's industrial revolution – a typology that automatically halves the quantities of Rwanda's most expensive building elements (roofing and foundations) – the Tafali-Étage is a 100 per cent Rwandan product, tailored as much to the realities of the local building industry as to the country's strong preference for single-family brick houses over concrete apartment blocks that eliminate private entrances and open space. With simple construction details and costs starting below US\$10,000 (\$190 per square metre), the typology is a welcome addition to a housing market challenged by the population's low purchasing power and shortage of skilled builders. However, more important than cost-efficiency and buildability is the system's potential to address one of Rwanda's main urbanisation challenges: how to finance the transformation of informal neighbourhoods into dense, economically vibrant and well-planned residential communities.

With the possibility of combining up to 15 units per standard 600-square-metre (6,460-square-foot) plot, the Tafali-Étage system can be assembled to create low-rise high-density housing blocks, with dedicated entrances and private garden space for each family. Neighbouring landowners could easily trigger the transformation of entire neighbourhoods by investing in the construction of Tafali-Étage micro estates – small enclaves of formal buildings with shared servicing and communal areas – a potential citywide urban upgrading strategy that would minimise the need for expropriation or government intervention while multiplying the availability of standardised, renter-friendly, income-appropriate housing solutions in the heart of the city.



Unplanned residential neighbourhood near Kigali's Central Business District, Kimisagara, Kigali, 2017

City managers and urban planners are responsible for enforcing strict building standards and zoning regulations in the city's most popular residential neighbourhoods; a challenge given lack of infrastructure, small plot sizes and irregular road access.

Infrastructure for Resilience

The introduction of Rwanda's *Green Growth and Climate Resilience: A National Strategy on Climate Change and Low Carbon Development* (2011)³ heralded a shift in the government's approach to tackling the environmental consequences of urbanisation. By 2014, technicians in local planning offices were united in supporting the construction of high-density 'green cities', new climate-friendly urban neighbourhoods designed as social and economic engines of growth.

For Light Earth Designs (LED), an award-winning sustainable design practice with offices in the UK, South Africa and Rwanda, the green city agenda presented an ideal opportunity to pioneer an authentically African version of sustainable urbanism, with green infrastructure and affordable housing as its core elements. The practice's Rwanda-based team introduced Batsinda II in early 2015, the first of three low-rise high-density green neighbourhood masterplans. Located on 10 hectares (25 acres) of steeply sloped land adjacent to Batsinda I – a government-subsidised low-density housing village where residents initially relocated but are once again facing the threat of displacement due to rising land prices⁴ – Batsinda II's 536 dwelling units are smartly arranged around diamond-shaped courtyards and diagonal streets, an ingenious crisscrossing that minimises walking distances, steep slopes and costly cut-and-fill manoeuvres.

Light Earth Designs,
Batsinda II,
Kigali,
2015

As Rwanda's first residential community designed for mass production, the two- and three-and-a-half-storey modular housing blocks and maisonettes were planned on a 4.2-metre (13.8-foot) structural grid, well-adapted to the precast concrete frame and cast in-situ slab construction system proposed by LED for its efficiency, tighter dimensional tolerances and reduced CO₂ emissions. Even more important is the speed and adaptability of the precast system, which allows maximum flexibility for external wall construction, so that the buildings' skin can be adjusted to accommodate unpredictable fluctuations in the supply and cost of locally sourced materials like compressed stabilised earth blocks, fired bricks or strawboard.

For the LED team, sustainable technologies and construction practices go hand in hand with community building. Thus, key features of Batsinda II's green infrastructure system were designed to be built by neighbourhood residents during Umuganda, Rwanda's monthly day of mandatory community work. Most notable are the elements that reveal the full potential and productive capacity of the land: the bioswales and courtyard gardens that replace more traditional and costly municipal infrastructure such as storm drains, gutters and retaining walls.

Designed to withstand a 100-year flood event, Batsinda II's innovative and functional landscape design increases the neighbourhood's environmental resilience while minimising the expensive land development costs that contribute to Rwanda's high housing prices. For the LED team, this design strategy represents a different way of city building, one that improves the efficiency of urbanisation by balancing the need for higher-density development with landscape productivity and community engagement, an economic growth and environmental resilience strategy that embodies Rwanda's commitment to sustainable urban development.



Inspired by the language of semi-public courtyards found in traditional vernacular Rwandan dwellings, Batsinda II's two- and three-and-a-half-storey housing blocks easily achieve a development density of over 80 dwelling units per hectare.

Developed in partnership with the City of Kigali, the Ministry of Infrastructure and the Rwanda Social Security Board, Batsinda II is a pilot integrated green neighbourhood, intended to serve as an example for new economically and socially diverse urban settlements. Batsinda II's housing blocks are grouped around community gardens to be designed, planted and maintained year-round by neighbourhood residents.



The masterplan for Batsinda II is based on an ecosystem infrastructure approach, penetrated by green fingers of soft landscape and peri-urban agriculture, creating pedestrian-friendly walking paths while protecting the site from stormwater and flood damage.



Village Futures

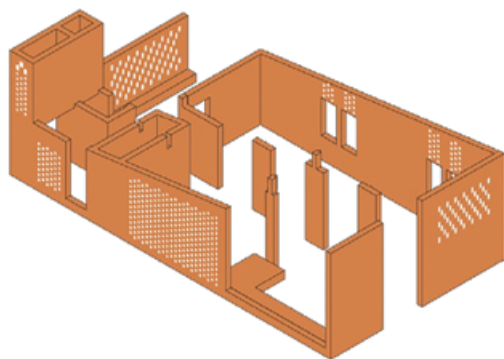
In Rwanda, opportunities for leveraging the benefits of urbanisation extend well beyond the formal limits of the city. In 2010, the Rwanda Housing Authority introduced the Integrated Development Approach Model Village Program (IDP), a dispersed economic growth strategy targeting the 60 per cent of Rwandan households living in lower-density peri-urban zones and rural hinterlands.⁵

In 2017, a group of eight young designers from the Massachusetts Institute of Technology (MIT) School of Architecture and Planning supported IDP engineers in the design of new mixed-use settlements for rural villages across the country, an activity aimed at promoting good land-management practices and improving welfare through increased economic density. Tasked with developing a housing model appropriate for mass replication and suitable to local tastes and traditions, the MIT design team, led by architect and professor Rafi Segal, carried out a cultural mapping exercise, diligently analysing the familial relationships and daily rituals that shape domestic space in Rwandan villages.

With its long, slim profile, it is intended to be mirrored, multiplied and arranged into linear bands that can follow the natural contours of Rwanda's majestic hills.

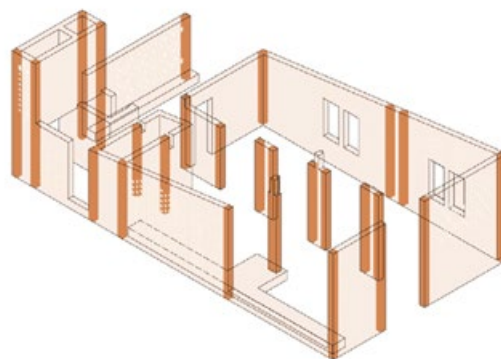
Named after the majestic grey crowned crane so revered in East Africa, the Umusambi House stretches its wings to the very edges of the plot, collapsing traditional boundaries between indoor and outdoor spaces. Adjustable interior partition walls accommodate a variable number of rooms and degrees of privacy, while a covered front porch – a modern-day reinterpretation of the traditional Rwandan homestead's most public spaces, the *irembo* (front yard) and *uruganiriro* (where conversations take place) – further breaks with tradition in a successful bid for added efficiency and flexibility. The interplay between public and private extends to the exterior of the house, where a perforated, breathable brick skin modulates the passage of light, activating interior spaces during the day and lighting the village at night, marking the passage of time while capturing the benefits of Rwanda's temperate climate.

Although guided by the desire to accommodate the domestic rhythms, needs and preferences of individual families, the Umusambi House was designed to function as part of a collective, a building block within a larger community. With its long, slim profile, it is intended to be mirrored, multiplied and arranged into linear bands that can follow the natural contours of Rwanda's majestic hills, minimising the need for extensive earthworks while opening the possibility for integration of other community programmes and activities – the schools, markets, information and communications technology (ICT) hubs or playing fields that bring social cohesion and economic opportunity to settlements.



GRADIENT BRICK

Brick walls frame all interior, semi-interior and exterior living spaces. Brick courses transition between solid and void space based on the need for ventilation and privacy. All voids are sized to the space of a single brick for ease of assembly.



EMBEDDED STRUCTURE

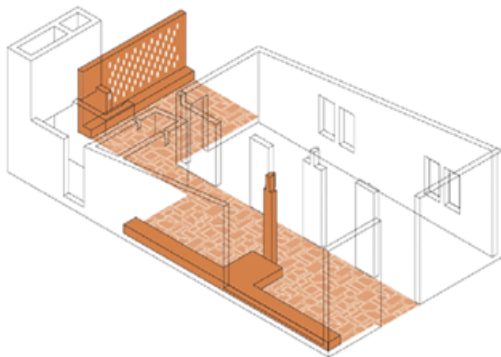
Structural columns are integrated into the brick walls by forming continuous vertical cavities for rebar and concrete.



Massachusetts Institute of Technology (MIT)
Housing Workshop,
Umusambi House prototype,
Mageragere,
Rwanda,
2017

above: The Umusambi House was designed for future application in Rwandan villages and towns as a two-household model, a strategy that would both improve upon existing low-density land-use practices and increase efficiencies in the construction of structural components, material use and building performance.

below: Led by Professor Rafi Segal, MIT students and local masons worked in close collaboration with the Rwanda Housing Authority and Skat Consulting to develop a culturally and economically viable design and materials palette for a low-cost housing prototype. Primary design considerations included the need for incremental expansion of growing families, functional commercial space, natural ventilation and flexible indoor/outdoor spaces.



LOT AS HOUSE

Open space is integrated within the house plan to form two open-air rooms: a covered porch at the front of the house, and an exterior court at the back of the house.

New Approaches

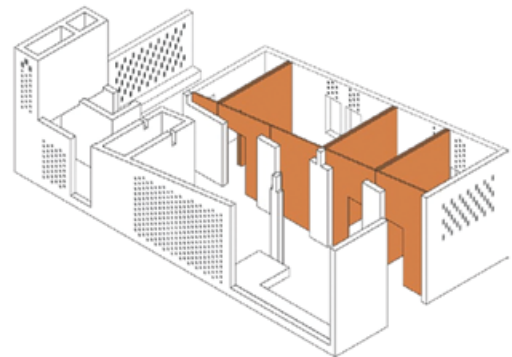
For architects practising in the Global South, slow industrialisation and rapid urban growth present a unique set of affordable housing supply and demand challenges: not only are designers responsible for delivering cost-effective solutions for low-income populations, these must be delivered at mass scale, leaving little room for inefficiencies in design or production. In Rwanda, where housing demand far exceeds the capacities of the local construction industry, architects must routinely stretch the boundaries of traditional practice to address persistent building materials, skilled labour and financing shortages.

The result is a new breed of architect, a hybrid architect/environmental-urbanist-planner-value-chain expert, capable of designing the housing as well as the specific planning, production and construction processes that determine its suitability to the Rwandan context. Not only does their initiative show that designing for density and yielding a mass supply of housing is viable, but that it is possible to do it with local building materials and resources, in line with climate, and using site topography to achieve cost savings and improve buildability. ▴

Notes

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2. *Ibid*, p 47.
3. Available at: <https://cdkn.org/wp-content/uploads/2010/12/Rwanda-Green-Growth-Strategy-FINAL1.pdf>.
4. Tom Gardner, 'Can a Failed Rwandan Housing Project Offer Lessons for the Future?', *Reuters*, 8 March 2017: www.reuters.com/article/us-rwanda-landrights-housing-feature/can-a-failed-rwandan-housing-project-offer-lessons-for-the-future-idUSKBN16F1U3.
5. Steven Muvunyi, 'All Districts to Construct Model Urban Community Settlements', *New Times Rwanda*, 27 August 2016, p 1: www.newtimes.co.rw/section/read/202998/.

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SELF SIZED

Self-arranged interior partitions allow for flexibility in the number and size of rooms, accommodating different household structures. Strawtec panels allow for lightweight divisions that can be painted differently in each house.

Spatial Models for the Domestic Commons





ifau / HEIDE & VON BECKERATH,
IBeB (Integratives Bauprojekt am
ehemaligen Blumengrossmarkt),
Berlin,
2018

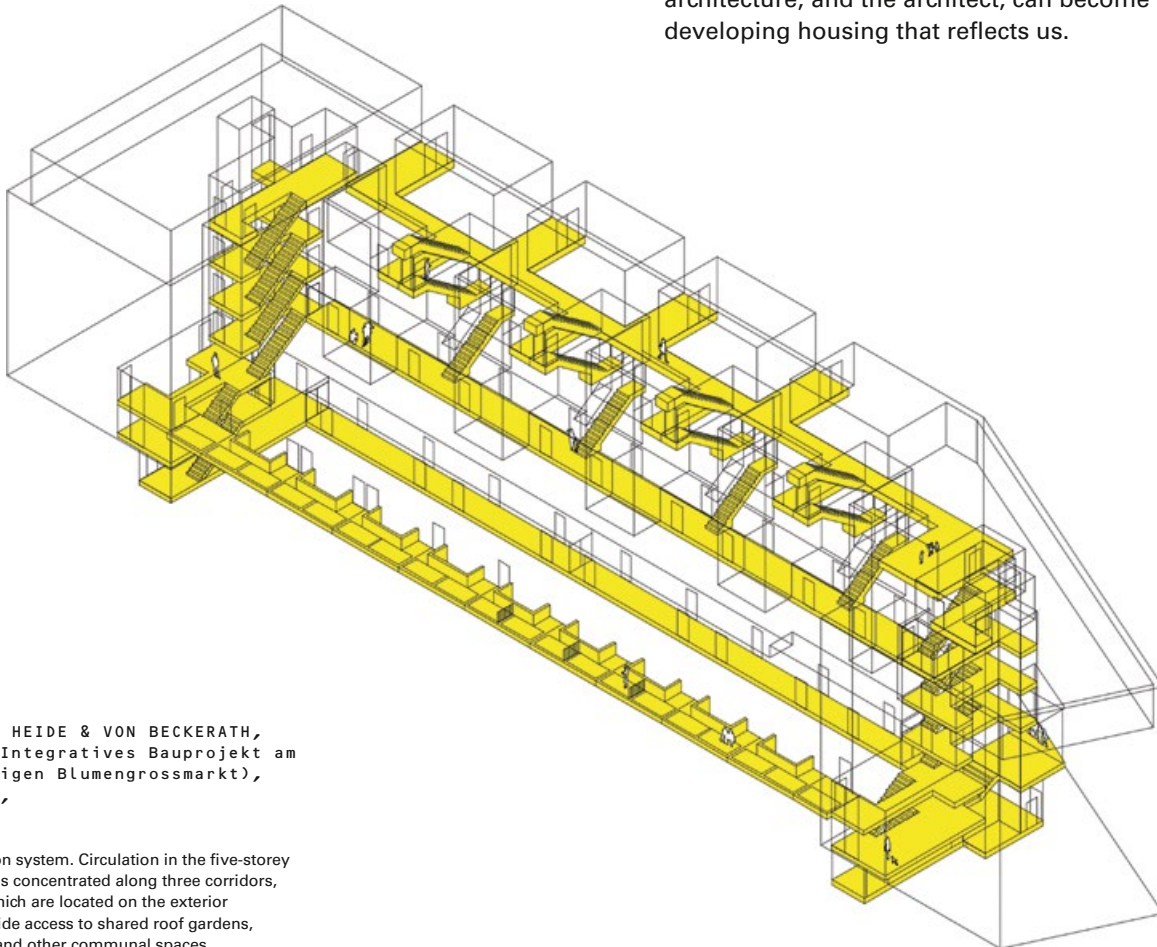
Cross section. The open configuration of ateliers
and units creates spaces for diverse lifestyles
and family types.

Communes, Co-living and Cooperatives

Sharing accommodation is perhaps the most obvious solution to housing affordability issues, but can be fraught with problems. Through collaborative design and agency, both architects and residents can play their part in facilitating harmonious and adaptable co-living environments supporting emerging forms of households. **Neeraj Bhatia and Antje Steinhilber**, who co-direct the Urban Works Agency research lab at the California College of the Arts, report on three projects from across the globe that demonstrate just that: a Berlin Baugruppe, a Seoul 'share house' and a California commune network.

An increased migration to cities in recent decades has compounded pressures on urban land, opening up the divide between those who can afford property and those who are living in precarious conditions to gain the social and labour mobility that the city historically offers. The Precariat – a growing class-in-the-making – is emblematic of this condition, and encapsulates almost 40 per cent of the population in a growing number of countries.¹ Many urban dwellers today are starved for more affordable options of domestic space that allow them to create meaningful social units and to embrace contemporary lifestyles which combine temporal ways of working and living while more precisely reflecting alternative forms of families.

Against this backdrop, new typologies of commoning domestic space – communes, co-living, cooperatives, amongst others – have emerged to create domestic spaces that more precisely reflect contemporary values. In contradistinction to the micro-unit, which reduces the unit to its ultimate minimum of individual autonomy, by reorganising the relationship between the private and public realm – primarily by sharing particular amenities such as kitchens, dining areas or bathrooms, among other programmes – residents can have access to a form of luxury without the economic burden. Not only does this create a higher quality of life, it enables the formation of new social units that replace the nuclear family. The following three case studies examine spatial and social typologies of contemporary co-living projects and offer cues on how architecture, and the architect, can become an agent in developing housing that reflects us.



ifau / HEIDE & VON BECKERATH,
IBeB (Integratives Bauprojekt am
ehemaligen Blumengrossmarkt),
Berlin,
2018

Circulation system. Circulation in the five-storey building is concentrated along three corridors, two of which are located on the exterior and provide access to shared roof gardens, terraces and other communal spaces. The internal corridor links five green atriums, creating informal areas to pause for conversation with neighbours.

Pooling Resources

‘Baugruppen are a solution for the moment when the city is not acting as it should.’

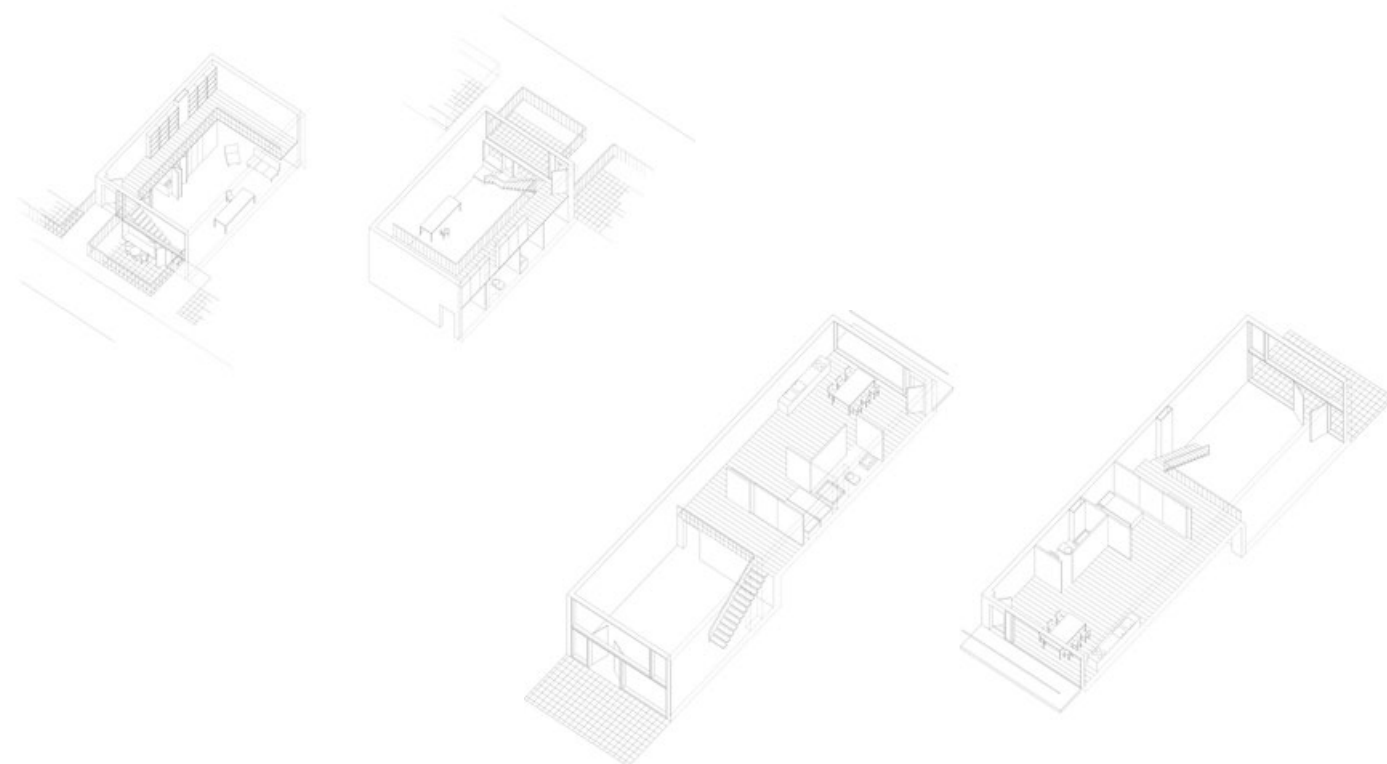
— Florian Zeyfang, *Baugruppen* project resident²

Following in the footsteps of Berlin’s history of communal housing experiments that include the well-known Kommune 1, *Baugruppen*, or ‘building groups’, have become a popular alternative development model, where future homeowners directly pool their financial resources towards a multi-family co-housing project. By eliminating the developer in this process, economic savings of 10 to 20 per cent per square foot typically result.³ The close collaboration between future owners during planning and design foregrounds shared values and lays the groundwork for tight communities – a large ‘urban family’ – in the resulting buildings.

Atelier axonometrics. The added height of the ground-floor ateliers allows for the addition of mezzanine configurations by the owners over time.

At present, access to land in Berlin has become extremely difficult, inciting the Berlin State to sometimes tender plots of land to competing *Baugruppen* with stipulations around specific uses – an incentive for further innovation within the *Baugruppen* model.⁴ Designed for one of these plots, the IBeB building (Integratives Bauprojekt am ehemaligen Blumengrossmarkt), a co-housing project to be completed in 2018, illustrates a new, diversified approach to pooling resources. Located in the new ‘creative quarter’ in southern Kreuzberg, the project combines diverse housing typologies and atelier workspaces with collective amenities. It was initiated by architects ifau and HEIDE & VON BECKERATH in collaboration with a *Baugruppe* that includes a bottom-up building cooperative focused on creating low-cost rental units (Selbstbaugenossenschaft Berlin eG) as well as a social agency. The involvement of the cooperative is an integral part of achieving a unique economically diverse community of occupants – consisting of a combination of owners and renters – through a collaborative financing model which enables the cross-financing of cooperative living and studio spaces.⁵

Central to the spatial typology of many *Baugruppen* projects is the design of shared amenities and the quality of circulation as anchors for social interaction. Also common is the provision of ‘blank’ units – units that can be built out by individual owners over time to accommodate individual and changing needs. In the IBeB building, such ‘blanks’ together with the open configuration of the various apartment types produce an architecture that is designed for its diverse occupants as a ‘framework’ for various concepts of living and working – enabling different interpretations of these live and work spaces as needs, lifestyles and family units change over time.



Share House

The 'share house'⁶ has become a term to encapsulate how between five and 15 young people in Asia (primarily in Korea, Taiwan and Japan) come together in co-living situations. Increasing tuition fees and housing costs are inciting the rapid growth of the share house, as an alternative to precarious dwellings. Still, it is estimated that 23 per cent of the youth in Seoul (between 20 and 34 years of age) live in makeshift homes such as basements (*Ji-Ha-Shil*), rooftop additions (*Ok-Top-Bang*) or modified study carrel rooms (*Go-Shibang*).⁷ Abbreviated to '*Ji-Ok-Go*', which coincidentally translates to 'hell-like suffering', young Koreans are confronted with flexible, temporary and volatile jobs that encourage unstable living conditions. While the share house's popularity is in part due to its affordability, it also provides humane living conditions centred on the social unit of 'another family'.

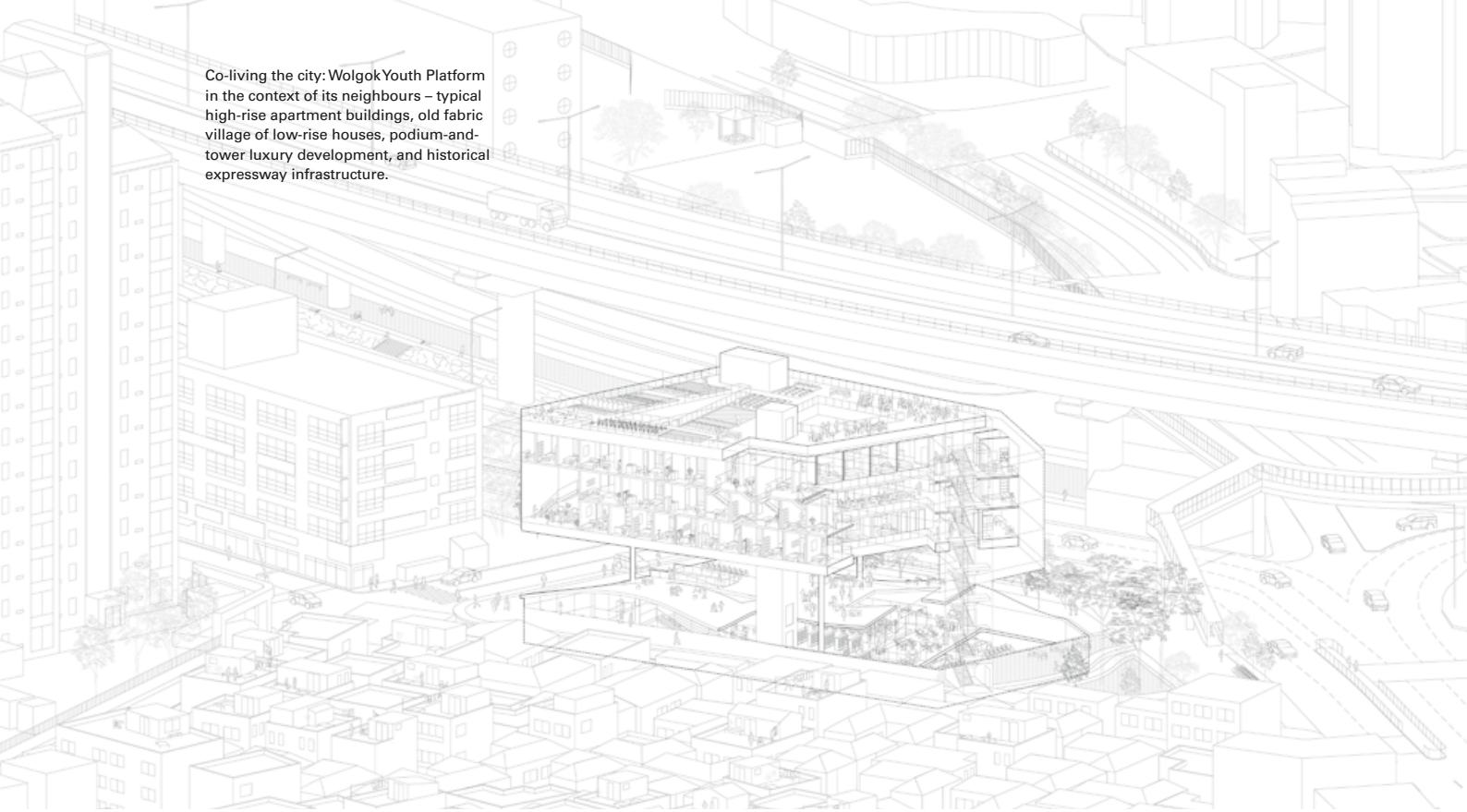
Scaling up the concept of the share house, the Wolgok Youth Platform (WYP) in the Seongsbuk District of Seoul – a project developed in 2017 by the architecture firm N H D M, the non-profit housing organisation Habitat for Humanity Korea and the Seongsbuk District local government – acts as a piece of domestic infrastructure for sharing. The local municipality donated the site and acted as a co-client in the project, partnering with Habitat for Humanity, which is typically known for building single-family homes for those in need. Scaling up their scope of work not only allows them to address the rapidly increasing demands for affordable housing, it also enables a systemic approach to housing. This is a distinct development model, as the typical Korean share house is developed by either private entities disconnected from the residents, or by public entities that struggle to provide continual programming and support. The collaboration between a public non-profit, government and individuals creates a tight community whose relationship extends beyond the opening of the building.

WYP is designed to house underprivileged youths and create incubator spaces for them to work as entrepreneurs while simultaneously providing much-needed public space for the surrounding community. Organised around different scales of sharing and varying levels of autonomy of the domestic unit, the project employs programmes such as washrooms, kitchens, living spaces and dining areas as nodes for social units, which are arranged around three courtyards. The building is lifted from the ground plane to create a shared public plaza – for both the building's residents and the surrounding neighbourhoods – consisting of a park space, hardscapes and youth-run shops. Below this, a co-working, incubator and community library space form transitional programmes that also interface with the surrounding community. A careful balance between the individual and multiple scales of collectivity enables varying relations based in living and labour.

N H D M,
Wolgok Youth Platform,
Seoul,
2017

Going beyond the spaces of minimal comfort or limited internalised interactions, the project imagines the new concept of a basic living unit that is tightly connected to and supported by the city. Creating an important intersection with the surrounding publics as well as with larger urban networks, the proposed unit attempts to reconnect the urban and the civic.

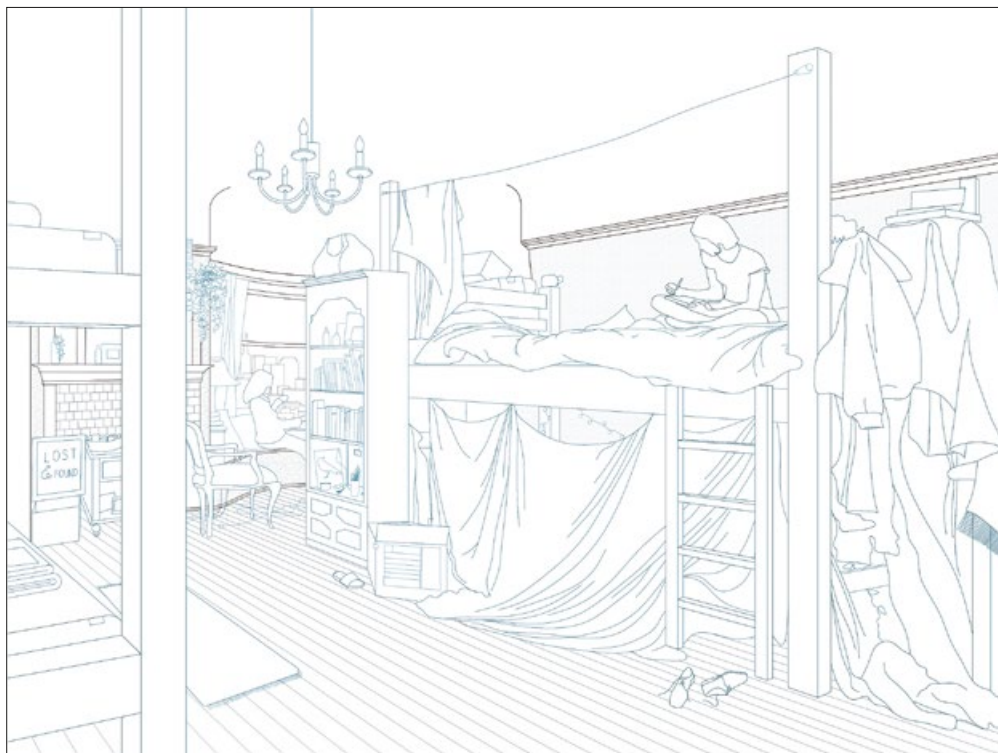
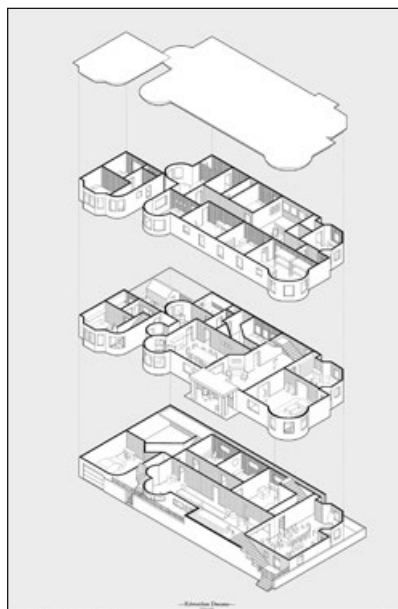
Co-living the city: Volgok Youth Platform in the context of its neighbours – typical high-rise apartment buildings, old fabric village of low-rise houses, podium-and-tower luxury development, and historical expressway infrastructure.



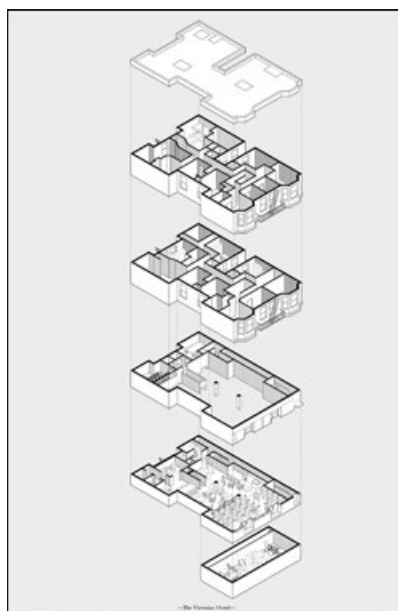
The collaboration between a public non-profit, government and individuals creates a tight community whose relationship extends beyond the opening of the building.



View from northeast. The public realm on the street level and below is open to the residents as well as to the rest of the city. It is connected with the open courtyards of the living spaces and continuous with a diverse system of networks around the site.



The expansion into two other locations – the Red Victorian and DeWinton Manor – led to the formation of a local Embassy Network, which allows residents to move easily between locations, acknowledging our increasingly nomadic lifestyles.



Commune 2.0

In the 1960s, the free-love and anti-establishment movement in America gave rise to a series of communes, wherein groups of people could more precisely define their own family unit, way of living and politics, that often sat outside or adjacent to the dominant system. The majority of the five thousand communes that existed in the United States emerged in Northern California, with hundreds in the San Francisco Bay Area alone.⁸ While this cultural legacy remains, most of these communes – which often reappropriated existing buildings – have vanished. There are series of reasons (and theories) of why they did not persist: from the challenges of living together, to increased rental prices, to legal issues surrounding building occupation and the habits of residents. It could be argued that the tactical development of communes did not scale up into a strategic vision. This is not surprising as management and accountability of the commons becomes increasingly challenging as their scale increases.

Today, a new series of communes are emerging in the Bay Area, in part to address the housing crisis, as rent in a commune is typically 35 to 40 per cent of market-rate housing. Beyond economic security, communes remain critical ventures for exploring alternative forms of living. Within this context, the Embassy in San Francisco becomes a unique case study in how to maintain the benefits of stewardship in smaller communities while embracing other scales of sharing across a network of communes. The Embassy was founded by Jessy Kate Schingler with a group of friends in 2012 as a retrofit of an 11-bedroom Edwardian mansion – now called Embassy SF – that hosts between 17 and 23 residents. The expansion into two other locations – the Red Victorian and DeWinton Manor – led to the formation of a local Embassy Network, which allows residents to move easily between locations, acknowledging our increasingly nomadic lifestyles. The network adds a different scale of sharing of goods, services and resources that are seldomly needed. To help with the challenges of scaling up, the network leverages technological platforms such as Slack, Loomio and Cobudget to mediate relations within their governance structure of a 'do-ocracy'. At an even larger scale, the international Embassy Network has expanded to include locations in Berlin, the Netherlands, Greece, Costa Rica and Haiti, enabling residents to move between locations with ease. Unlike most contemporary membership-based living models, the Embassy Network is created and controlled by the residents themselves (not a corporation), providing a promising template of how to strategically scale up the commons, while retaining local control. For architects engaged in emergent discourses on co-living, the self-initiated communes provide a rich spatial history on how to organise, manage and steward the commons, as well as the scales of sharing, and the spatial delineations of the public/private realm.

Designing How to Share

Living together is not easy: it requires sacrifice, patience and flexibility. These relationships need to be designed. Design in this context is expanded from the building

proper, to the architect being involved in the collaborative process, acting as initiator and facilitator.

The examples in this article shift the conception of architecture from rigid housing typologies that cater to outdated assumptions about family units to that of an open framework that can be configured and reappropriated over time. Rather than producing complete and autonomous unit types, these projects foreground shared amenities at different scales, related to the diverse spectrum of relationships that we participate within. The projects direct careful attention to boundaries between private and collective areas, acknowledging that sharing space with others is predicated on an ability to assert identity and lay claim over private territory. The precise configuration of both shared and private spaces within these frameworks enables changing uses of space in time, allows new and shifting interactions to take place, and ultimately supports the emergence of meaningful social units around shared values and activities. Lastly, these experiments remind us that sharing can produce new forms of 'luxury' without economic burden, which is the first step in addressing the Precariat. The design of purpose-built co-living experiments not only can more precisely bridge the gap between our values and the spaces we occupy, it also ensures that these spatial experiments and their ensuring legacies are not lost, but carried on and refined by future generations. ▴

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A Conversation with an
Architect, a Developer and a
Former Federal Housing Official

Allies in Equity

The success of subsidised housing programmes is inextricably linked to broader issues of policy, infrastructure and community development. Guest-Editor **Karen Kubey** discussed the subject with three of its key players in northern California: architect Michael Pyatok, developer Joshua Simon and former federal housing official (now academic) Carol Galante. Problems posed by zoning laws, opportunities offered by infill sites, and the importance of early engagement with residents to establish programme, were among the topics they discussed.



East Bay Asian Local Development Corporation
(EBALDC),
Social Determinants of Health,
2017

In collaboration with local hospitals,
non-profits, public agencies and neighbourhood organisations
in Oakland, California, EBALDC works towards common goals such
as increasing affordable housing options, reducing incidents
of high blood pressure, and improving
educational opportunities.

When asked to talk about the design of below-market, subsidised housing, architect Michael Pyatok, developer Joshua Simon and public-servant-turned-academic Carol Galante each wanted first to discuss something else. These three influential San Francisco Bay Area housing figures, working towards social and economic equity in their own ways, spend most of their energy addressing the political and financial constraints that can stand in the way of the creation of well-designed housing.

Even for Pyatok, founder and principal of PYATOK architecture + urban design, architecture is not the primary question. 'Regardless of what we do as architects, first as citizens we have to constantly find ways to introduce policies that work at the local level,' he says. 'As "citizen architects," it's important that we are engaged with organisations both locally and nationally that are pushing for more financial support for the development of housing for those on low incomes.'

Simon, executive director of the East Bay Asian Local Development Corporation (EBALDC), believes the way to address inequities most meaningfully is to zoom out to the scale of the neighbourhood. As he describes it, EBALDC's Healthy Neighborhoods community development approach 'starts with the fundamental concept of putting our residents at the centre of all of our work, and working with the other neighbourhood organisations that serve the same people we serve'.

One priority for Galante is to work at once on housing and infrastructure. 'For better affordable' housing design and greater social equity, we need affordable housing in public transit-oriented developments, making sure that as a society we are making investments in public transport or using properties around those areas.' Now the I Donald Turner Distinguished Professor in Affordable Housing and Urban Policy, and the Faculty Director of the Turner Center for Housing Innovation, both at the University of California, Berkeley, Galante served in the Obama Administration as the Assistant Secretary for Housing and Federal Housing Commissioner at the US Department of Housing and Urban Development (HUD). She was previously President and Chief Executive of BRIDGE Housing Corporation, California's largest non-profit developer of below-market, mixed-income and mixed-use developments.

Ranging from questions on community engagement, to zoning and financing, the conversation with these three experts ultimately points towards potential opportunities for architects to play a more active role in creating more equitable housing and neighbourhoods.

Barnhart Associates Architects with BRIDGE,
One Church Street,
San Francisco,
2002

While at BRIDGE Housing Corporation, then President and Chief Executive Carol Galante focused on public transit-oriented affordable housing development. The non-profit development organisation's One Church Street, built in a high-rent neighbourhood, houses 93 below-market apartments and on-site social services and is adjacent to public transport.





PYATOK architecture + urban design with the Native American Health Center and East Bay Asian Local Development Corporation (EBALDC), Seven Directions, Oakland, California, 2008

Thirty-six below-market apartments are arranged around two linked courtyards, above a two-storey health centre incorporating community rooms, a ceremonial outdoor gathering space, and built-in artworks designed by Native American artists.



Putting In the Time

Behind every housing project developed or designed by Pyatok, Simon and Galante are months or years spent working with local communities. Pyatok often gives testimonials at city council or state legislature hearings, advocating for progressive housing policies, including strengthening rent-control laws and requiring private developers to support below-market housing through impact fees or by including low-rent units in their own market-rate developments: 'The argument I like to put forth is that affordable housing for lower-income people is really an indirect subsidy to the business community. If someone else is partially taking care of the housing tab, wages can be closer to what is necessary to compete in the global market. When people hear that argument coming from a businessperson – and they see an architect as a businessperson – they think twice about it.'

Galante reflects: 'At BRIDGE I spent a lot of my time before local city councils, ensuring the quality of the housing and how it was managed, and how we could get more housing built in places with greater opportunities.' Her work in public transit-oriented development also led Galante to engage with financial and regulatory frameworks at the regional and state levels that could help to promote this alignment of housing and infrastructure: 'An example was when we supported a major state bond measure to help pay for the infrastructure needed to connect those communities to public transport and allow for urban infill development. It would have otherwise been too expensive to put public transport upgrades on the back of market-rate housing, let alone affordable housing.'

Some of the most critical engagement work is more local. 'Over the last five years of our Healthy Neighborhoods programme,' says Simon, 'we have spent a lot of time with resident associations, neighbours, and with our own existing residents as we plan new developments.' Community engagement is also at the heart of Pyatok's practice: 'We're known for being able to work with community groups, getting them involved in the design process early so that whatever is produced will be acceptable to the neighbourhood and will meet the needs of the population we're serving. We also see ourselves as educators. We're not just a pencil for the developer. We're not just a pencil for the community.'

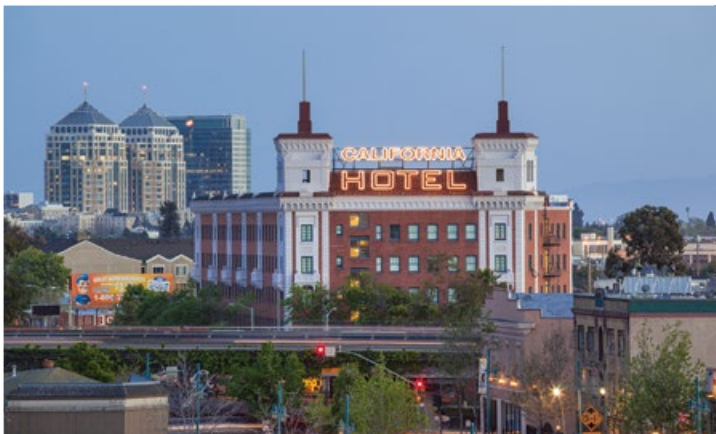
Galante pushes this point further: 'The best of the best architects have processes for engaging with residents. But I still think there's a huge amount more that architects can and should be doing in that regard, which is understanding how their product actually gets used', for example through post-occupancy evaluations and research.

Beyond Housing

According to Simon, who trained as an architect: 'The most important opportunity to help build social equity through design is the part that's most often forgotten or paid the least attention, and that is programme.' EBALDC housing developments incorporate spaces for community gatherings and entrepreneurial efforts, open to small local businesses and non-profits, to 'open doors that are otherwise closed to' low-income residents. At the organisation's converted California Hotel residence (2014), which houses the Oakland Public Conservatory of Music and a backyard community garden, along with a healthcare organisation and social services, 'music, culture and creativity have become a connecting point. Finding ways to bring in these uses that are not strictly housing helps to build a network of relationships that increase equity in the community and offset the lack of opportunities many people face.'

Though Pyatok and Simon highlight the need for mixed-use developments, financial constraints and zoning rules can get in the way. 'The dilemma is that funders for housing, commercial and ground-floor community spaces are all different, and they don't talk to each other,' explains Simon. 'One of the things EBALDC has been able to do is work with our design teams to create buildings that are essentially two or three buildings combined into one.'

'The other important thing that prevents people on low incomes from really living out their lives more sensibly is that our zoning and building codes make it very, very difficult for people to use their apartments as a place of work at the same time as a place to sleep and to eat,' adds Pyatok. 'We don't design apartment buildings to allow for people to make things. Being a bit more creative and flexible in the zoning and building codes to permit small business enterprises to exist within residential buildings would go a long way in helping lower-income families to supplement their incomes.'



David Baker Architects with the East Bay Asian Local Development Corporation (EBALDC), SPARC-It-Place, Oakland, California, 2016

EBALDC is experimenting with temporary installations and programming on vacant lots of future housing developments, in collaboration with David Baker architects. SPARC-It-Place was built by volunteers.



Gelfand Partners Architects with the East Bay Asian Local Development Corporation (EBALDC), California Hotel, Oakland, California, 2014

EBALDC turned the 1929 California Hotel, a historic jazz venue shuttered since 1971, into 137 below-market housing units and 740 square metres (7,965 square feet) of commercial space.



PYATOK architecture + urban design
with the East Bay Asian Local
Development Corporation (EBALDC),
Swan's Market,
Oakland, California,
2000

Though it appears to be one building, Swan's Market, a 1917 marketplace re-purposed by EBALDC in collaboration with PYATOK, was actually redeveloped as five separate properties, with each use supported by a different funder. The site includes below-market rental apartments and market-rate co-housing condominiums, along with restaurants, retail, small businesses and non-profit organisations, and a shared courtyard.

‘One of the things EBALDC has been able to do is work with our design teams to create buildings that are essentially two or three buildings combined into one.’

Distribution of Wealth

The San Francisco Bay Area has the highest housing costs in the US. 'We've got an inequitable distribution of wealth,' Pyatok laments. 'Some people are getting gigantic salaries, so they can pay high rents. That's overheating the production of market-rate housing to a point where there aren't enough construction workers around to execute the projects, so construction costs are getting high. When it comes to affordable housing, we have to look for ways of cutting costs just to get the things built.' The Turner Center is leading a survey of contractors and developers to better understand drivers of rising construction costs and develop solutions: 'A huge financial constraint is the actual cost of production,' says Galante. 'Is it materials? Is it new code requirements? Is it labour costs? There are multiple problems and each of them has to be addressed in order to make any kind of impact.'

At the US Department of Housing and Urban Development, Galante helped shape federal housing policy: 'Coming up with the Choice Neighborhoods initiative and the Rental Assistance Demonstration Program, we were leveraging very modest federal subsidies in new ways. As neighbourhoods improved and wealthier people found them more attractive places to live, we put in a lot of effort to ensure that the housing stock that was there when nobody cared about those neighbourhoods could be upgraded and maintained for the people already living there.' More recently she has turned her focus on issues closer to home: 'Hands down the biggest political constraint is the fact that we have a system [in California] that allows virtually unlimited discretionary review at the local level. Theoretically that gets you better design. But I'm not convinced. It certainly creates huge barriers for new development, particularly for housing a population that is not necessarily welcomed in a community, partly based on negative associations with public housing design, and partly based on, frankly, racial biases.'

'Sometimes no matter what you do with the architecture it's not going to satisfy some people because they just have a problem with living cheek by jowl with people whose incomes might be only one quarter of theirs,' says Pyatok. 'But I've always been concerned about trying to make an architecture that is digestible, acceptable and enjoyable to as broad an audience as possible.' When it comes to housing, 'this is the stuff that's going to be the home front of generation after generation and it has to have lasting value, particularly for those with lower incomes; we don't want to stigmatise them with weird-looking stuff, the fashion of the moment demanded by market-rate housing.'

PYATOK architecture + urban design,
Fox Courts Affordable Family Housing,
Oakland, California,
2009

above and right: The result of a winning Oakland
Redevelopment Agency competition entry, Fox Courts
two-storey below-market town houses are accessed
via single-loaded corridors on alternate floors.





Concentrating on a partial yet fundamental intervention in creating social equity, Galante, Pyatok and Simon work to deliver the best housing possible within current political and financial frameworks while at the same time striving to change those systems.

Architecture for Equity

So how might architects help work towards greater social equity? Galante sees promise in infill sites. 'How do you get in the crevices of the landscape and design both affordably and creatively? Not all the buildings we're going to build are 50 and 100 units. How do you do a lot more on a small scale? I think architects have a huge role to play in that.' The Turner Center is researching the potentials of offsite housing prefabrication. 'There's also a big role for architects in designing creatively within the constraints of modular construction. I think it's a huge opportunity moving forward.' Though PYATOK's central mission is to serve the non-profits and public agencies that provide housing for people with lower incomes, 'we found out by doing only that for 20 years that we were barely surviving'. When the firm expanded its portfolio to include market-rate and student housing, developers 'put a lot of special design talent and money into furnishings, fixtures and finishes. With affordable housing we've always felt that it's kind of a luxury to be able to do that. But with a clever use of the budget we can make those kinds of spaces in affordable housing have the same impact they have in market-rate housing.'

Pyatok advocates for eliminating the most common below-market, multifamily housing typology. 'Double-loaded corridor buildings are the worst for family housing for a host of reasons, social and physical. Interior hallways and stairs that are closed from view can become unsafe spaces, so it's not a great idea to be trapping families in these kinds of buildings. And they consume more energy to light and ventilate than for all the dwelling units they serve.' PYATOK has designed buildings at up to 150 units an acre, where 80 per cent of units are floor-through, on single-loaded corridors.

Simon implores architects to engage in early programming exercises: 'A building, ultimately, is a wrapper for the uses within. I think the most important conversations are those about the programme, to figure out who are the likely residents and what are the spaces, activities, organisations and businesses that can help compensate for the inequities they face. Part of our dilemma is that we have a system that focuses on putting a roof over people's heads, and addressing equity is more than that.'

Concentrating on a partial yet fundamental intervention in creating social equity, Galante, Pyatok and Simon work to deliver the best housing possible within current political and financial frameworks while at the same time striving to change those systems. With greater system-level support – and an expanded role for architects in the housing development process – how much more good could they do? ▴

This article is based on telephone conversations between Karen Kubey and Michael Pyatok, Carol Galante and Joshua Simon in September 2017, and extends from a panel discussion at the American Institute of Architects San Francisco Chapter NEXT Conference she moderated in November 2015.

Note

1. In this article, 'affordable housing' refers to government-subsidised, below-market housing built by private developers.

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Social Housing in an Increasingly Politicised Landscape

COUNTERPOINT

JULIA PARK



The deaths of over 70 residents of London's Grenfell Tower, when the building's cladding went up in flames in July 2017, sent out far-reaching shock waves. It was a stark example of the dangers of neoliberalism, with public bodies not taking proper responsibility for social housing. As **Julia Park** – Head of Housing Research at London architecture and urban design firm Levitt Bernstein – observes, adequate policy and standards enforcement are key to ensuring that those with lower incomes can access housing which is fit for purpose. This requires architects to come on board with politicians – as her and certain other firms are already doing.

We have to ask what our priorities are as a nation. We have to ask if it is building a new generation of nuclear missiles we can never use, or a good standard of new housing for the people of Britain.

— Neave Brown, interview in the *Camden New Journal*, 6 October 2017.¹

Neave Brown, who died earlier this year, was a passionate advocate of social housing; the type of architect who chooses to champion democracy through design and give voice to those who would otherwise go unheard. Few are rewarded with a RIBA Gold Medal, as Brown finally was, but some of the world's best housing has been achieved through their efforts and those of their committed clients.

It is no coincidence that Brown's most memorable work was achieved while working at Camden Council from 1966 when he was recruited by Sydney Cook who led the in-house team of architects. They had their own committed client – the housing department of a visionary council. The political climate was favourable, but during the decades that followed, Brown, and others like him, were exposed to the political vicissitudes of housing in the UK.

Increasing Privatisation

The UK's earliest social housing was funded by charitable organisations and donors. The celebrated philanthropist George Peabody was born in Massachusetts in 1795 to a working-class family with seven children. He moved to London in 1837 and became a successful banker. Giving



Neave Brown,
Alexandra Road
Estate, Camden,
London,
1978

above: Neave Brown's iconic 'groundscraper' contained 520 homes, community facilities and a 1.6-hectares (4-acre) landscaped park, creating a new urban neighbourhood.

left: Levitt Bernstein was later commissioned to work alongside Neave Brown to sensitively refurbish and repair the homes, ensuring the long-term future of the estate and significantly improving the environment for all residents.

generously to public causes, he set up the Peabody Donation Fund. Renamed the Peabody Trust, it aimed to provide housing of a decent quality for the 'artisans and labouring poor of London'.² A paternalist model perhaps, but the housing, which was solid and dignified, changed many lives. Much of it remains in active use; 'Peabody estates' and social housing have become almost synonymous.

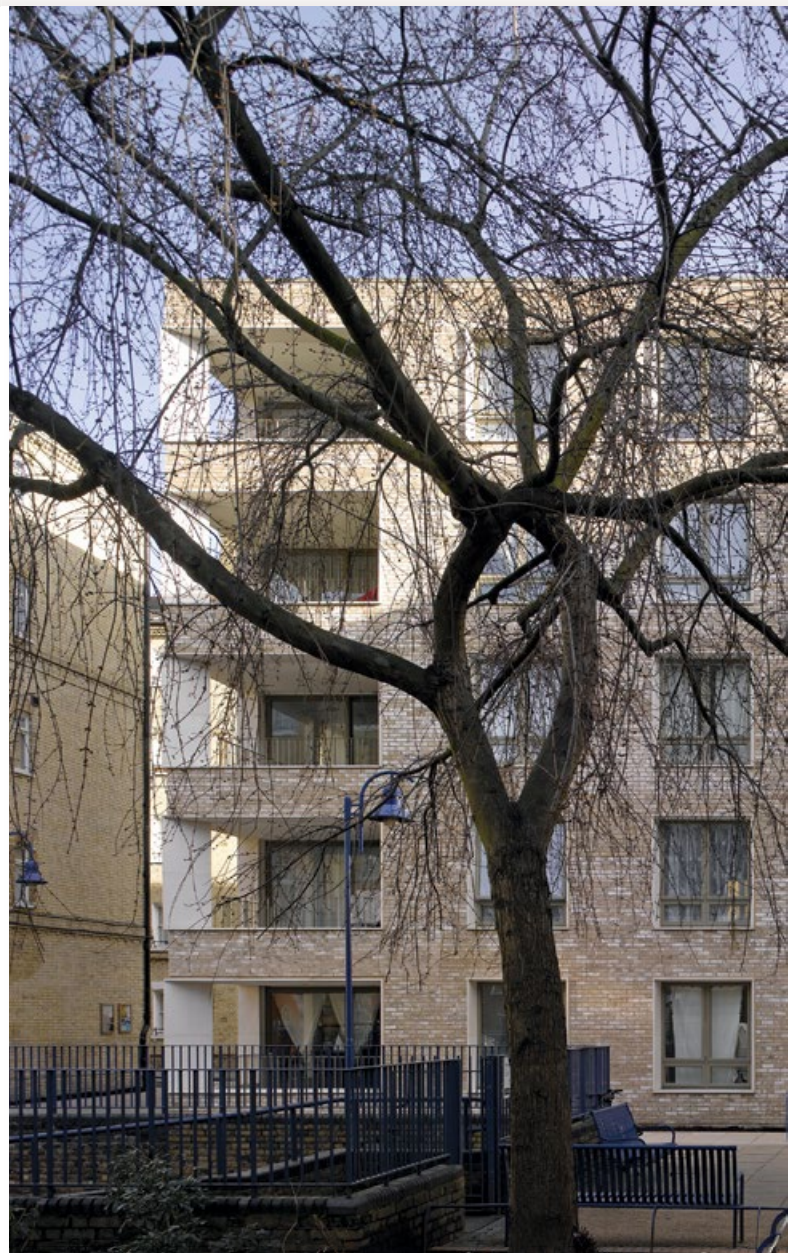
Throughout history, governments have been confused about their role in housing. Both World Wars were followed by ambitious house-building programmes, motivated not only by extensive bomb damage to already impoverished living conditions, but also by a surge of optimism and a duty to reward the bravery of returning soldiers and the stoicism of those left behind.

The UK's most recent housing boom began in the 1960s; nothing to do with war this time, but as with the postwar efforts, everything to do with political will and public-sector involvement. Supported by government funding, most local authorities then had in-house teams of architects. Twenty years later, however, governments across the Western world drew back from investment in public services in favour of neoliberalism. Led by Ronald Reagan in the US, and Margaret Thatcher in the UK, this brought lasting change. Obsessed with home ownership and driven by a belief in free enterprise and market forces, Thatcher effectively put an end to council house building. It became impossible for councils to subsidise housing through local taxes, grants were channelled to housing associations and council tenants encouraged to buy their homes at a large discount under the 'Right to Buy' scheme. Faced with cost cuts and a new housing-benefit system that disadvantaged councils, many transferred their housing stock, and their tenants, to housing associations.

Subsequent spells of Labour government saw some improvement, but Thatcher's policies were never reversed. Her ideologies and reforms continue to exert a dead hand on the type of housing built in the UK – and who builds it. When David Cameron became Prime Minister in 2010 he picked up where Thatcher had left off. The housing market was struggling to recover from the 2007–08 banking-induced recession, and the government's response was deregulation; 'cutting red tape' to make it easier to build. Simultaneously, grant subsidy for affordable housing was drastically reduced, and four years later all national design and sustainability funding standards were abolished. The message was clear: 'if you're not a homeowner, you don't count', and 2017 saw the lowest level of new social housing for 20 years in England.³

There is an irony to the fact that most new affordable housing is now delivered by those least interested in doing so. Section 106 obligations force developers to include a proportion of affordable housing in all but the smallest developments.⁴ Speculative housebuilders inevitably place shareholders' interests above social equity. Where they are engaged at all, architects often face an uphill struggle over design quality and run the risk of being replaced post-planning because of design-and-build contracts that make contractors responsible for design.

Affordable and social housing used to be one and the same thing. Not any more. Shared ownership and some types of outright sale are now classed as affordable housing.





Niall McLaughlin Architects,
Darbshire Place,
Whitechapel Estate,
London,
2014

above: The new five-storey building for the Peabody Trust restores a group of six utilitarian housing blocks set around a shared space. Respecting the massing and characteristics of Henry Darbshire's 1870s design, the new building, commissioned by the Trust, fills the gap left by one of the original buildings that was destroyed during the Second World War. Over half of the 13 new homes are affordable.

left: In deference to the original buildings, inset balconies maintain the simple, crisp outline.



Affordable rent can be up to 80 per cent of market rent – miles away from any meaningful measure of affordability. Wikipedia still defines housing associations as 'private, non-profit making organisations that provide low-cost "social housing" for people in need of a home'.⁵ While this broadly remains their core purpose, most associations now build more housing for sale than for rent. Forced to behave like private developers because of funding cuts, they cross-subsidise the building of affordable housing through the profits of outright sale; very little is let at social rents.

The creation of mixed communities has been the only significant advantage of Section 106 and cross-subsidy. Many of the iconic estates of the 1960s and 1970s were mono-tenure – home to a single demographic. As unemployment rose, low-income families with above-average health problems were hardest hit. Management and maintenance slipped as budget cuts kicked in; some estates experienced high levels of deprivation and crime, and many tenants felt isolated and abandoned.

Architects bear some responsibility. The lines between innovation, experimentation and self-indulgence can be fine ones. Entrances were often tucked away and the 'streets in the sky' sometimes went on for miles, magnificent in their way, but often confusing and sometimes threatening. Because no one had ever seen housing like this before, it created a separateness that increased alienation and stigmatisation.

Poised for Change

Those who have contributed to this issue of Δ recognise the increasing politicisation of housing around the world. The ever-changing policies of ever-changing governments lead to instability and short-term thinking. But for a number of reasons, some serendipitous, others tragic, things may be about to change in the UK.

The Los Angeles fire last year, mentioned by Guest-Editor Karen Kubey in her Introduction to this issue of Δ , has an eerie parallel in the UK. Last June, 71 people died in a fire in a tower block in Kensington, one of London's wealthiest boroughs. Most victims of the 'Grenfell Fire' were social housing tenants. Many, it seems, had repeatedly voiced concerns about aspects of the recent refurbishment, including fire safety issues, but were ignored. The Royal Borough of Kensington and Chelsea was unable to provide the names of everyone who lived there. Some of the flats sold under Right to Buy were being rented out by absent landlords; others were home to illegal immigrants. None of this was any surprise to the majority of Londoners who know only too well that the depth of the city's housing crisis leads many to live under the radar. But it came as a profound shock to the government.

Privatisation and deregulation almost certainly played a significant role in the fire. In a speech to the National Housing Federation, Home Secretary Sajid Javid, then Secretary of State for the newly named Ministry of Housing, Communities and Local Government, spoke of the need to 'return to the time, not so very long ago, when social housing was valued. It was treasured. Something we could all be proud of whether we lived in it or not.'⁶ He promised a Green Paper on the future of social housing, and funding has since been increased. More importantly, there is newfound recognition



Levitt Bernstein,
Vaudeville Court,
Islington,
London,
2015

above: The design provides 13 new homes for social rent on a semi-derelict garage site owned by the London Borough of Islington. Two new buildings, comprising a mix of duplexes and apartments, extend the existing terraces. Residents of the existing tower and the new buildings share the new garden to the north.

Levitt Bernstein,
Sutherland Road,
Walthamstow,
London,
2017

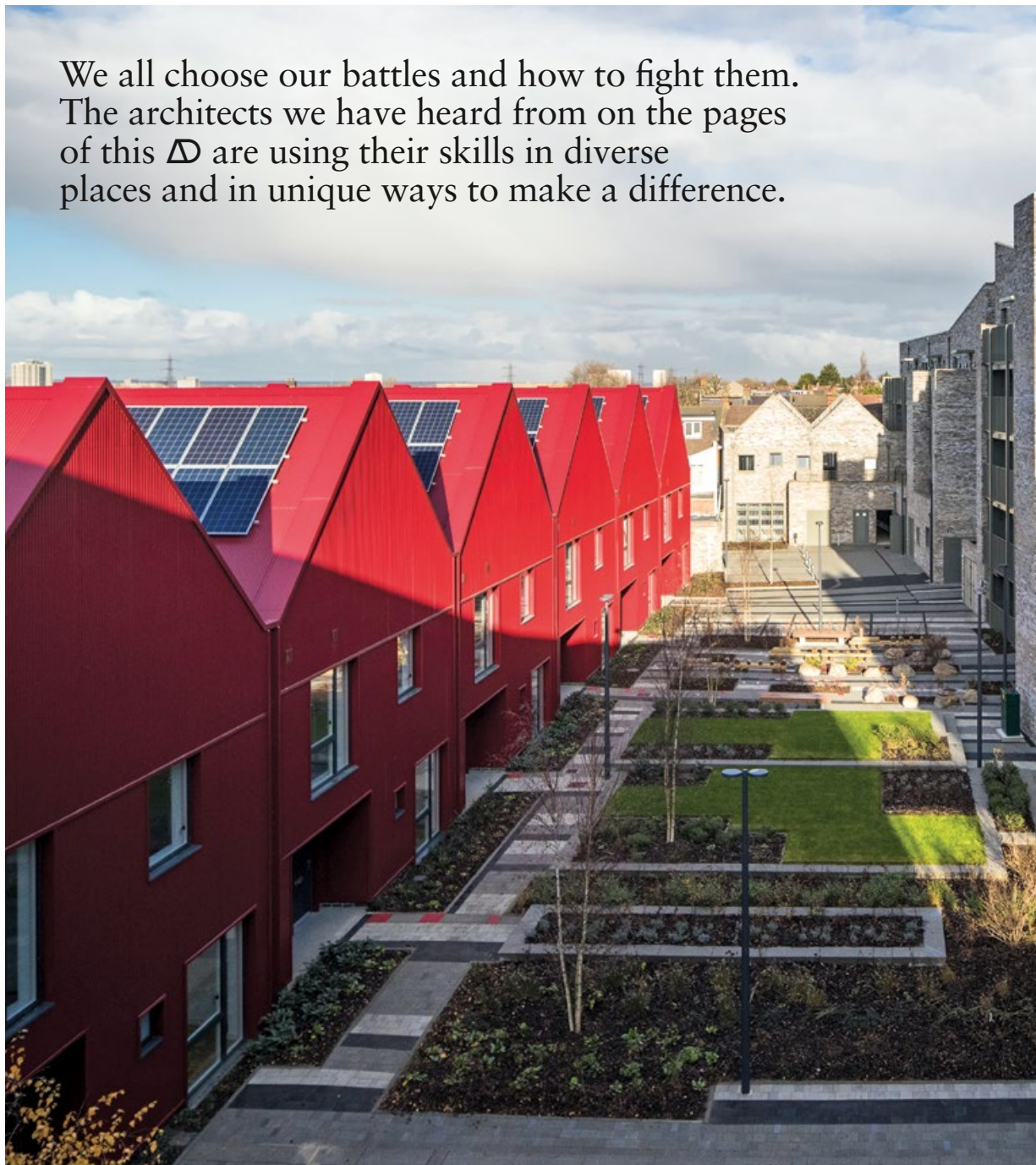
The design and materiality of this new development for EastThames Housing Group reflect the former use of the site. Semi-derelict industrial units have been replaced by 59 new affordable homes, a health centre and a shared garden.

that the public sector, headed by government, should take greater responsibility for public services. For all the wrong reasons, there has rarely been a better time for housing architects to make a difference.

Coincidentally, the architectural profession has gained a powerful ally in Sadiq Khan. Elected Mayor of London in 2015, he made a strong start with the publication of 'City for All Londoners' (2016).⁷ Recognising London's growing inequalities, it promised to share the benefits of London's extraordinary success more widely. We learned that 80 per cent of London's housing is only affordable to 8 per cent of its households,⁸ and that life expectancy varies by more than six years between boroughs.⁹ Ironically, Kensington and Chelsea tops that list. And of the 65,000 new homes London needs each year, two-thirds need to be affordable – a term that has acquired new meaning through the introduction of the 'London Living Rent'.¹⁰

Khan is consulting extensively, inviting public participation and innovation in design and procurement. There is money on the table for those who go beyond the minimum. This

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lays fertile ground for architects who want to explore the new ways of working and new ways of living described by Kubey. Much of this is directed towards the thousands of young professionals who are both locked out of the market and keen to explore new forms of collective living. But, here at least, and even in our cities, the nuclear family and the traditional family home are far from dead; it is just that one can no longer access the other. One of the greatest threats to London's economy, and it is affecting architects too, is the outward migration of talented 30- to 40-year-olds whose skills peak just as their children arrive.

Khan's powers are limited; only the government can lift the cap that restricts local authorities' ability to borrow to build new housing. Tired of waiting, a growing number are setting up local housing companies or partnering with developers. Croydon Council not only has its own development company, Brick by Brick, but also a newly established, in-house team of architects: Common Ground Architecture. This time around, all sizable developments are mixed tenure and the design is contextual and reassuring.



Making Our Voices Heard

We all choose our battles and how to fight them. The architects we have heard from on the pages of this Δ are using their skills in diverse places and in unique ways to make a difference. For most, this means fighting the system. Policymakers rarely seek the views of the architectural profession and it has largely failed to make its voice heard. Perhaps we assume that our work speaks for itself. It should. But the language barrier brought about by a systemic, cultural deficit in our understanding of what good design means is a problem. Those of us who do lobby for change and respond to calls for evidence know that it is hard work for what feels like scant reward. We do it because it matters, and because we know more about housing than they do.

Levitt Bernstein celebrates its 50th birthday this year. From an all-too-familiar humble start (doing up terraced housing from an office in someone's front room) – and perhaps subconsciously – the two Davids set themselves a high bar. The practice has grown to well over 100, but the early ethos of architecture for a social purpose still underpins our work. This is what first attracted me to Levitt Bernstein and what has kept me here for 30 years, initially as a project architect and now as head of housing research. Alongside our project work we continue to help shape housing policy and standards, secure in the belief that practical and informed policy supports good architects and good outcomes, and promotes social justice.

As the profession steps up its intervention in housing, it is important to avoid overcomplicating what is essentially a simple principle. Tenants of affordable and social housing have never needed special housing. They just need help to access homes that are fit for purpose when fully occupied, accessible, energy efficient, long lasting and easy to look after; beautiful enough to demonstrate that their occupants are valued, but not different enough to set them apart. The best social housing is ordinary housing done extraordinarily well, offered with pride and in the pursuit of social equity – a national priority, not a matter of chance. Δ

Notes

1. See Dan Carrier, 'Social Housing Plea of RIBA Gold Medal Winner', *Camden New Journal*, 6 October 2017: <http://camdennewjournal.com/article/social-housing-plea-of-riba-gold-medal-winner>.
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8. Mayor of London, 'London Housing Strategy: Draft for Public Consultation', Greater London Authority, September 2017: www.london.gov.uk/sites/default/files/2017_london_draft_housing_strategy.pdf, p 43.
9. Office for National Statistics, 'Health State Life Expectancy at Birth and at Age 65 by Local Areas, UK', 7 December 2017: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/datasets/healthstatelifeexpectancyatbirthandage65bylocalareasuk>.
10. 'London Living Rent': www.london.gov.uk/what-we-do/housing-and-land/renting/london-living-rent/.

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HOUSING AS
INTERVENTION

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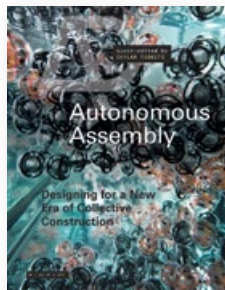
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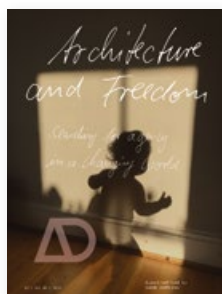
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