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**IMAGINING URBAN** FUTURES THE URBAN HOUSING CHALLENGE SYDNEY-DRIVING DENSITY SHANGHAI— BOOSTING QUALIT LONDON—MEETING URGENT ΠΕΜΑΝΠ CRFATING BF TFR PLACES FOR PEOPLE

# IMAGINING URBAN FUTURES

AS DESIGNERS, WE ARE RELENTLESSLY CURIOUS – CONSTANTLY SEEKING NEW WAYS TO HELP SHAPETHE CITIES WE LIVE IN TO CREATE A BETTER AND MORE SUSTAINABLE FUTURE. THROUGH INDEPENDENT RESEARCH, DESIGN SPECULATION AND MEANINGFUL COLLABORATION, WE EXPLORE NEW MODELS OF DESIGN AND DELIVERY. NEW APPROACHES THAT WILL MAKE OUR CITIES MORE DISTINCTIVE, DIVERSE, LIVEABLE AND PROSPEROUS. THIS IS URBAN FUTURES AT HASSELL.

EACH URBAN FUTURES PROJECT PRESENTS AN INFORMED DESIGN RESPONSE TO A CONTEMPORARY ISSUE. WE WELCOME THEDEBATE AND DISCUSSION THESE CONCEPTS ATTRACT. WE ARE NOT PROPOSING THEM AS FINITE SOLUTIONS, RATHER AS CONVERSATION STARTERS FOR WIDER EXPLORATION, SCRUTINY AND DEVELOPMENT. IN THE SAME WAY WE WORK WITH CLIENTS, WE APPROACH EACH URBAN FUTURES PROJECT WITH AN OPEN MIND AND FROM MULTIPLE PERSPECTIVES.

WE DRAW ON THE EXPERTISE OF THE TALENTED ARCHITECTS, INTERIOR DESIGNERS, LANDSCAPE ARCHITECTS AND URBAN DESIGNERS THAT WORK IN THE 13 HASSELL STUDIOS AROUND THE WORLD AND WELCOME PARTNERSHIPS WITH A RANGE OF SPECIALIST COLLABORATORS. THERE IS NO MONOPOLY ON GOOD IDEAS, EVERY IDEA IS TESTED AND CHALLENGED REGARDLESS OF WHO HAS PROPOSED IT.

WITH MORE THAN HALF THE WORLD'S POPULATION NOW LIVING IN URBAN CENTRES, WE ARE PASSIONATE ABOUT ADDRESSING THE CHALLENGES FACED BY CITIES AROUND THE WORLD. WITH URBAN FUTURES, HASSELL STRIVES TO BE AT THE FOREFRONT OF GLOBAL URBAN THINKING.

# THE URBAN HOUSING CHALLENGE



A safe, secure and affordable home is a fundamental human need. For many people, it's the largest financial investment they will ever make. It encapsulates a personal sense of identity and provides a foundation from which individuals can build a more financially and socially secure future.

Good housing also underpins an effective, functioning and prosperous city. It supports public transport and social infrastructure – better healthcare, better systems of education, better employment opportunities. All are important factors in the attraction and retention of the best global talent.

As urban centres around the world grapple with increasing populations, the provision of affordable housing is an ever-pressing priority. But it's not a simple case of 'build it and they will come'. There are some critical issues that have to be addressed if we are to develop sustainable, prosperous and liveable urban centres.

In thinking about this challenge, the team at HASSELL has identified three specific issues that must be addressed if a city is to meet the housing needs of its population. These are:

- Housing density the critical mass required to support shared city systems
- Housing quality increasing the diversity and legibility of a place to create more liveable communities - places that offer a variety of private, shared and public

space, support social equity and enhance environmental quality

 Housing delivery – the pace at which housing supply meets demand is fundamental to maintaining affordability within the market

We also identified three international cities with distinct housing models – London, Shanghai and Sydney - and assessed how they each performed in relation to the issues of density, quality and delivery.

We were eager to understand the challenges that are shared by - and specific to - these cities. We began to see that each city performs well in one, perhaps two, areas but not all three.

We asked: what can each city learn from the other two? How, for example, could Sydney develop a greater level of density to support better public transport? Or, how can London address its chronic housing shortage through faster delivery of new homes? How can Shanghai provide better quality places for living?

We then identified a housing typology for study, one that is representative of each city. Each typology had attempted to deal with some of these issues (usually density or delivery) but had, in essence, failed. We were keen to avoid the obvious and instead focus on typologies that might yield more interesting and unexpected results. We then looked at how we could transform these typologies to generate better social, cultural economic and environmental outcomes for the people that live there and the cities they sit within. These speculations test how the successful elements of one city could be applied to the others: for instance, what happens when Sydney adopts the density of London? Or Shanghai, the lifestyle qualities of Sydney? Or in London, the speed of delivery that we see in Shanghai?

And through this process, how can we ensure that each city doesn't compromise the qualities it does well?

### SYDNEY THE WALK-UP



DENSITY P/SQKM



## SHANGHAI The Slab Block



# LONDON THE ROW HOUSE



DELIVERY K/YR

QUALITY





THE WALK-UP APARTMENT BLOCK HAS GIVEN DENSITY A BAD NAME IN AUSTRALIA'S LARGEST CITY





## THE WALK-UP APARTMENT BLOCK HAS GIVEN DENSITY A BAD NAME IN AUSTRALIA'S LARGEST CITY



For the Sydney portion of our study, we looked to the suburb of Auburn, located about 20 kilometres from the city centre. Auburn is one of the city's most multicultural places, with more than two thirds of its population born overseas. It is well connected locally, with a major rail station, a mix of commercial, retail, industrial and residential uses, and is close to Olympic Park, one of the city's major sporting and recreational sites.

Auburn, and in particular, the northern half of the suburb, is a walk-up suburb. The walkup apartment model first appeared in early 20th century Sydney – population growth was rapid and it became obvious the city needed to intensify, rather than simply expand. Multi-unit dwellings were first recognised in the1921 Local Government Act but at this time, there was no recognition that this housing type required a rethinking of planning guidelines.

The Regulation of Flats Act, some 20 years later, attempted to do this, but the walk-up had taken hold. In some suburbs, including Bondi, Bronte and Randwick, this housing type made up more than a third of dwellings.

Under this Act, planning controls were rudimentary. Sites could be redeveloped to a height of three or four storeys, as long as certain setbacks were adhered to. The walk-up was seen simply as an oversized detached dwelling. And a place like Auburn demonstrates the results - single houses converted to apartment

buildings, lot by lot, sandwiched into the dimensions of existing sites.

No doubt, the walk-up apartment delivered greater density for Sydney, replacing single houses with 6-12 smaller dwellings. This density, by today's standards, is not particularly high. But, the walk-up also delivered multiple issues - limited diversity, a disinterest in the street, an acceptance of car-dominated travel, and provision of poor open space, both private and shared. The walk-up is largely responsible for the negative perception of higher density living in Sydney.

So, we were keen to explore ways in which this type can be transformed. We saw a logic in doing what the walk-up hasn't done - considering renewal on a scale larger than a single lot.



WALK-UPS REPLACE SINGLE HOUSES WITH 6-12 SMALLER DWELLINGS



DOWNSIDES: LIMITED DIVERSITY, DISINTEREST IN STREETS, CAR-DOMINATED TRAVEL, POOR OPEN SPACES



MANY WALK UPS AT END OF LIFE -NEEDING UPGRADE OR REDEVELOPMENT. **OPPORTUNITY: RENEWAL ON A SCALE LARGER** THAN A SINGLE LOT



NOW COMMON ACROSS CITY - MORE THAN 1/3 OF DWELLINGS IN SOME SUBURBS





CONSISTENT SETBACKS MAKE BADLY PROPORTIONED SPACES



**RELATIONSHIP TO STREET** DIMINISHED BY SETBACK AND INTERNAL PLANNING

THE TOTAL EFFECT OF THIS DEMOLITION OF INDIVIDUAL HOUSES FOR REPLACEMENT ON THE SAME SITE BY NOW QUITE STANDARD THREE-STOREY FLATS IS TRULY HORRIFYING. THE RESULTS ARE BARRACK-TYPE BUILDINGS, THEIR LONG DIMENSIONS FILLING THE DEPTH OF THE NARROW ALLOTMENT. WHAT USED TO BE YARDS AT THE BACK AND ON THE SIDES ARE DENUDED OF VEGETATION AND PAVED FOR CARS. ON FLOORS ABOVE, THE LIVING ROOMS OF ADJACENT BLOCKS FACE EACH OTHER ACROSS



VEHICULAR ACCESS TO FRONT AND SIDES MAKES SPACES UNUSABLE



REAR YARD SPACE IS DIRECTLY RELATED TO ONLY 50% OF **APARTMENTS** 



INTERNAL ARRANGEMENT BASED ON TYPOLOGY NOT SITE CONDITIONS



### TO UNLOCK THE POTENTIAL OF THE WALK-UP BLOCK, WE LOOKED AT RENEWAL AT THE SCALE OF THE NEIGHBOURHOOD, NOT THE SINGLE SITE



MIXED USES

MORE SHARED SPACE

THIS PROCESS DEMONSTRATES THE BENEFITS OF HIGHER DENSITY HOUSING FOR SYDNEY. IT CONSOLIDATES RESIDENCES TO CREATE MORE GENEROUS AND USABLE OPEN SPACE AND DELIVERS A DIVERSITY OF HOUSING TYPES AND BUILDING FORMS THAT CREATE MORE SOCIALLY SUSTAINABLE COMMUNITIES.

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Sydney—Driving Density





70 WALK-UP CLUSTERS WITHIN THE AUBURN77,000 SQM NEW OPEN SPACE = 2X AREA OF<br/>AUBURN PARK

#### SYDNEY'S WALK UP SUBURBS









# +194% +226% +193%

Comparatively speaking, this renewal delivers more of everything by:

- Doubling dwelling numbers and overall floor space
- Bringing a diversity of uses to include commercial, retail and community spaces
- Doubling the amount of open space

This process demonstrates the benefits of higher density housing for Sydney. It consolidates residences to create more generous and usable open space and delivers a diversity of housing types and building forms that create more socially sustainable communities.

Within the Auburn town centre, there are aproximately 70 of these walk-up clusters. Our proposed conversion would yield almost 5000 new apartments within the town – that's a net increase of 2380 apartments. And would deliver 77,000 sqm of new green space – the equivalent of two Auburn Parks, the town centre's main green space.

Applied at the same scale to just 10 of Sydney's walk-up suburbs, there is potential to deliver 10 per cent of new housing needed in Sydney over the next 10 years. This renewal would be occurring in parts of the city that are not yet identified in state government planning policies.

Many walk-up buildings in Sydney are reaching the end of their current life span and will require extensive upgrade or redevelopment. We believe that our proposal provides a means of delivering a large amount of new housing but, more importantly, it also has the potential to significantly enhance established neighbourhoods.





4900 NEW DWELLINGS +2380 DWELLINGS = 22% OF AUBURN TARGET



OF SYDNEY'S HOUSING NEED (273,000 BY 2012)

MORE THAN HALF OF CHINA'S EXISTING **RESIDENTIAL STRUCTURES WILL BE** DEMOLISHED AND REBUILT IN THE COMING 20 YEARS



03

### MORE THAN HALF OF CHINA'S EXISTING **RESIDENTIAL STRUCTURES WILL BE** DEMOLISHED AND REBUILT IN THE COMING 20 YEARS

#### **100 SQKM MIDDLE RING OF THE CITY** CONSISTS PRIMARILY OF THE XINCUN TYPE



![](_page_10_Picture_4.jpeg)

MORE THAN 20M PEOPLE NOW, WITH MORE THAN 50M BY 2050

Shanghai is a city of more than 20 million people and is projected to grow to more than 50 million people by 2050. It is already one of most dense and congested urban centres in the world.

As a result, the city is experiencing a rapid transformation. The municipal government has set goals to cap residential density in the city centre and increase the amount of public green space to 35 per cent of its total footprint. It is also exploring new ways to better integrate residential areas with Shanghai's new metro system (now the largest in the world).

Large areas of the existing city are being demolished and replaced with high density, gated compounds while many long-term Shanghai residents are being forced out to the city fringe due to rapidly climbing house prices and increasing unit sizes in the inner and middle ring.

For the Shanghai portion of our study, we chose to look beyond the city's historic centre (and iconic Lilong laneway housing) to the 100 square kilometre middle ring of the city. Here the predominant housing type is the Xincun, as evidenced in our subject site, located on Chengshan Road.

The Xincun (translated to English as 'new village') model was originally introduced to Shanghai and other Chinese cities in the 1950s and 60s, as part of China's 'Great Leap Forward'. Quick to plan and construct, the Xincun housed workers for the state-run factories that formed the centre of the neighourhood, or the 'danwei' (working-unit) as it was known. As China's service economy grew and the factories halted production in the 1980s and 90s, industrial buildings were replaced with additional housing units, with the retention of some schools and community buildings. The Xincun are between five and seven stories and have many similarities to the Sydney walk-up, with long rows of south-facing buildings forming large monotonous 'super-blocks'.

Even so, vibrant communities have grown in these areas and they have stimulated a diverse range of informal commercial and recreational activities. However, the layout and plan of these areas is disorganised and confusing and there is little in the way of open and green space around which these communities can grow.

![](_page_10_Picture_13.jpeg)

CITY GOAL: CAP RESIDENTIAL DENSITY, **INCREASE PUBLIC GREEN SPACE TO 35% OF** FOOTPRINT

![](_page_10_Picture_15.jpeg)

**OPPORTUNITY: HIGHER DENSITY** DEVELOPMENT LINKED TO TRANSPORT / RETAIL / PARKS

![](_page_10_Picture_19.jpeg)

20

![](_page_11_Figure_2.jpeg)

![](_page_11_Picture_3.jpeg)

This created space for 10 new neighbourhood parks close to existing schools, community amenities and metro stations.

26× NEW MIXED-USE TOWERS ALONG MAJOR STREETS

![](_page_11_Figure_6.jpeg)

Parks would be linked by a surface transit system, whether cycleway, shuttlebus or light rail, depending on the context. These transport networks would also connect to the two central metro stations.

![](_page_11_Figure_8.jpeg)

concentrate smaller homes close to existing school and community facilities. This approach also creates greater efficiencies by enabling communities to share centrally located facilities.

Mixed use towers are also arranged along major road corridors bringing diversity, amenity and better connections between communities.

![](_page_12_Picture_0.jpeg)

# OUR PROPOSAL DELIVERS NEW NEIGHBOURHOOD CELLS, FOCUSED AROUND GREEN SPACE, WITH EXPANDED PRIVATE AND PUBLIC LIVING SPACE FOR RESIDENTS.

REFURBISHED HOUSING

COMMUNITY PARKLAND

![](_page_13_Picture_0.jpeg)

ADDITIONALLY, IT WOULD CONTRIBUTE SIGNIFICANTLY TO THE GOVERNMENT'S PLAN TO GREEN THE CITY, DELIVERING MORE THAN 200 HECTARES OF NEW GREEN SPACE. THAT'S MORE THAN ALL OF THE EXISTING PARKS IN SHANGHAI'S INNER-RING PUT TOGETHER.

![](_page_13_Picture_3.jpeg)

![](_page_13_Picture_4.jpeg)

1.8M RESIDENTS CLOSER TO PARKS AND TRANSPORT

![](_page_13_Picture_6.jpeg)

208 HECTARES OF NEW GREEN SPACE = 7X SHANGHAI' EXISTING INNER RING GREEN SPACES

![](_page_13_Picture_8.jpeg)

![](_page_13_Picture_9.jpeg)

![](_page_13_Picture_10.jpeg)

![](_page_13_Picture_11.jpeg)

25% INCREASE IN PERSONAL LIVING SPACE

20% INCREASE IN PERSONAL GREEN SPACE

LONDON IS EXPERIENCING A PRESSING HOUSING SHORTAGE—ITS WORST SINCE WORLD WAR II

![](_page_14_Picture_1.jpeg)

## LONDON IS EXPERIENCING A PRESSING HOUSING SHORTAGE - ITS WORST SINCE WORLD WAR II

London is experiencing its most urgent housing shortage in decades, with almost one million people on the public housing waiting list alone. We were looking for a solution that would deliver new homes extremely quickly, possibly within a matter a months.

We centred our London study on the Harringay Ladder, a fantastic collection of row houses located in a diverse community about 10 kilometres north of London. Named for its layout of two long streets bisected by several shorter cross streets, or rungs, the Ladder was developed by the British Land Company between 1881 and 1899.

Reaching across approximately 20 streets, the houses of the Ladder are typical of London's predominant housing style of large houses and private back-gardens.

Originally designed to house the families of London's emerging middle-class, the Harringay Ladder community is far more diverse today. Many of the houses have been subdivided into smaller flats for couples or smaller families wanting to live relatively close to central London, with only a select few able to access the gardens at the rear of each building.

![](_page_15_Picture_7.jpeg)

NEW HOUSING NEEDED QUICKLY - MONTHS NOT YEARS

### 'THE HOUSING CRISIS HAS SHOWN THAT THERE ARE **REAL LIMITATIONS WITH** TRADITIONAL MARKET-**DRIVEN MODELS'**

DR MELISSA FERNÁNDEZ ARRIGOITIA LSE ON ALTERNATIVE HOUSING MODELS

![](_page_15_Picture_11.jpeg)

ROW HOUSES SOMETIMES SUBDIVIDED INTO SMALLER FLATS FOR COUPLES / SMALL FAMILIES WANTING CLOSE TO CITY CENTRE

![](_page_15_Picture_13.jpeg)

1,000,000PEOPLE ON PUBLIC HOUSING WAIT LIST ALONE

![](_page_15_Picture_15.jpeg)

OPPORTUNITY: MORE SUBDIVISION AND OPENING UP PRIVATE GARDENS TO MEET DEMAND FOR COMMUNAL OPEN SPACE

![](_page_15_Picture_17.jpeg)

![](_page_15_Picture_18.jpeg)

### WE HAVE CRAFTED A WAY TO UNLOCK THE POTENTIAL OF LONDON'S MOST COMMON AND ICONIC HOUSING TYPOLOGY TO ADDRESS THE CITY'S SUPPLY CRISIS AND MEET THE DEMAND FOR NEW COMMUNITY-ORIENTED, SHARED OPEN SPACE.

![](_page_16_Figure_3.jpeg)

![](_page_16_Figure_4.jpeg)

Private back-gardens are retained, defined not by fences, but by keeping the existing landscape. This creates a more complex and engaging collection of semi-public and semi-private spaces.

Existing houses can be augmented with new architectural elements such as a balcony, new bedroom, or self-contained studio apartment. These can be prefabricated elements that are craned into place, allowing for rapid delivery of new, more affordable homes.

The newly created open space offers the opportunity for garden allotments, shared outdoor amenities and play areas - all supporting a more cohesive and enjoyable community that is accessible to all.

The existing buildings could also be

reconfigured to align better with the needs of the current population. One terrace house could be split into two single dwellings of similar size. Each unit could accommodate two bedrooms and be appropriate for a small, or single parent family. Alternatively the additional room could be used as a work space, enabling a more flexible live/work model.

Other options include dedicating the entire ground level and part of the first floor to one residence, while creating a smaller single bedroom apartment on the first floor. Alternatively the opposite configuration could apply, with the smaller ground floor space being given over to commercial or business activity.

Incorporating the opportunity for business

work opportunities in the neighbourhoods.

or commercial operations would support functional diversity in the area and create new

# **RE-THINKING INTERIOR SPACE**

**OPTION 1** 

![](_page_17_Figure_5.jpeg)

OPTION 1 - LIVE / WORK

**OPTION 2 - COMMERCIAL ACTIVITY** 

![](_page_17_Picture_7.jpeg)

#### **OPTION 2**

![](_page_17_Picture_10.jpeg)

![](_page_17_Picture_11.jpeg)

#### FIRST FLOOR 38SQM Couple

![](_page_17_Picture_13.jpeg)

Single

![](_page_17_Picture_15.jpeg)

GROUND FLOOR 98SQM Family of 4

![](_page_17_Picture_17.jpeg)

![](_page_17_Picture_18.jpeg)

FIRST FLOOR 36SQM Couple

![](_page_17_Picture_20.jpeg)

Single

![](_page_17_Picture_22.jpeg)

GROUND FLOOR 36SQM Couple

![](_page_17_Picture_24.jpeg)

36SQM Single

![](_page_17_Picture_26.jpeg)

![](_page_18_Figure_0.jpeg)

APPLIED TO JUST 10 PER CENT OF LONDON'S ROW HOUSES, THIS DESIGN APPROACH CREATES THE POTENTIAL FOR MORE THAN 100,000 NEW HOMES AND 30,000 NEW GARDEN ALLOTMENTS. THIS WOULD HELP ADDRESS THE CHRONIC SHORTAGE OF AFFORDABLE HOUSING IN LONDON AND INCREASE PEOPLE'S ACCESS TO WELCOMING, ENJOYABLE OPEN SPACE.

> Additions attached to the back garden create new living and working spaces and vertical connections.

![](_page_19_Picture_4.jpeg)

Additions can also host single studio spaces or have public functions.

![](_page_19_Picture_6.jpeg)

79,000 ROW HOUSES IN LONDON

![](_page_19_Picture_8.jpeg)

100,000

ADDITIONAL HOUSES

![](_page_19_Picture_12.jpeg)

![](_page_19_Picture_14.jpeg)

The private gardens are converted into pedestrian accessways, public green spaces and allotments.

![](_page_19_Picture_16.jpeg)

# 1,000,000 NEW HOMES 1,000 THRIVING NEIGHBOURHOODS CREATING BETTER PLACES FOR PEOPLE

#### We know these ideas are challenging.

We also know there are a number of barriers that need to be overcome for many of them to be realised. It would require changes to strata ownership laws in Sydney; Londoners would need to be convinced to give up a portion of their back gardens; and Shanghai would need to rethink housing design completely. But, given the pressing need for more and better housing, we have to generate new ways of thinking about - and designing - our cities.

Policy makers, governments, city, shapers, designers, builders and communities need to engage in a new urban dialogue, to present ideas and challenge each other to come up with different ways of housing billions of citydwellers.

The speculations outlined in this report present one solution that would deliver up to 1,000,000 new homes and, more importantly, up to 1000 great neighbourhoods across three cities. That's more sustainable, well connected, higher quality places where people can live and thrive.

![](_page_20_Figure_5.jpeg)

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