

## SOLUTIONS IN THE SUBURBS

#### Document Control Sheet

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"...suburbs are not the city spread too thin, and in fact hold potential for a lived complexity as satisfying as that assumed to be available in inner cities.

...suburbs are increasingly recognised as part of a city's wellbeing with their own alternative idealogy and opportunities for urbanity and ecological sustainability.

...(recalibrated) structures can offer new possibilities for sustainably integrating living between generations and between established and arriving migrant communities."

Preface to *Suburbia Reimagined*, van Schaik and Bertram, 2019.

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## SOLUTIONS IN THE SUBURBS

Our suburbs breathe via private gardens. Family life, mature trees and budding sporting stars thrive there. Imagine if we could keep all of this and make the suburbs more vibrant, more sustainable and more dense with more amenity!

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#### 1.0 Background



We have done this to understand how we can grow our established suburban communities in ways which;

- are sustainable (minimising waste, maximising the adaptable and robust parts of our cities and their existing infrastructure.)
- protect and enhance what we value (e.g. retaining and enhancing existing communities/existing mature landscape including 'the backyard' etc.)
- provide for a diverse mix of residents and build safer, more engaged communities
- work with the existing scale of the suburbs
- respect and enhance the public realm

This proposition looks at Australia's impending need for housing through the lense of those things we value most about our suburbs. For the purposes of this study we have looked specifically at a particular suburban condition (the 600m<sup>2</sup>+ lot @ minimum15m wide) to test what might be possible.

Identifying and summarising the key values of our cities (peculiarly Australian cities) – i.e. seeking out those things we value and can agree on\* – we have then set about applying concepts which retain and enhance them at different scales and at different densities, on sites which can typically be found throughout every city and town in the country.

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\*Avoiding the temptation to build in the 'back yard' is an excellent example of something we can all aspire to. By simply avoiding the temptation to infill our cities back yards we can retain many of the things we associate with the very best parts of our existing lifestyle. i.e. We can; retain the lungs of our towns, keep amenity (light/breezes/ views/privacy) for our homes, retain private outdoor recreation areas, avoid the clash of infrastructure services (which often sit in rear yards), avoid exacerbating the 'heat island effect' of additional roofs, retain/improve natural overland flow, reduce the potential effects of flood waters and give ourselves the best opportunity to retain mature trees. Having identified something we value about our city, the strategies developed here then set out ways we can retain the things we value.

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#### 1.1 The need

The Australian population is projected to grow by 40% between 2016 and 2041 - from 24.2 to 34.0 million people.<sup>1</sup> The growth in places like Brisbane will be higher, with a 55% increase in population in the Greater Brisbane area by 2041.<sup>2</sup>

The need for new forms of housing (now!) is an issue with wide ranging effects. From macro land use (clever solutions will help reduce the loss of rural and native landscapes) to sustainability (reducing the need to build new infrastructure) and financial (e.g. addressing housing affordability and increasing the availibility of rental properties/ rental affordability)

Australia also has some of the largest houses among OECD\* member countries, with the average house size increasing almost 30% over the past three decades, and new detached houses currently averaging around 230.8m<sup>2</sup>.<sup>3</sup>

In addition, South-east Queenland's urban footprint has expanded 20,000 hectares in the last decade.<sup>4</sup> Brisbane alone covers an area 20 times the size of New York City, with a guarter of its population and remains the lowest density city of all the capital states. 76% of the housing stock in Brisbane is detached housing.⁵



Map showing urbanised areas in Brisbane over time Original source of data: ShapingSEQ South East Queensland Regional Plan 2017

\*Organisation for Economic Co-operation and Development

1. ABS 2016 Census, Household and Family Projections, Australia, 2016 to 2041, 2016

2. Queensland Government population projections, 2018 edition; Australian Bureau of Statistics, Regional population growth, Australia, 2016 (Cat no. 3218.0).

3. CommSec, 2018, Economic Insights 'Australian home size hits a 22-year low'.

4. Clark, 2019, ABC News 'Urban squeeze pushes great Australian dream to the fringes'

5. ABS 2016 Census

Despite this increase over the last two decades, the housing market in South-east Queensland suggests a growing appetite for living on smaller lots.





Market Study 2019

#### Proportion of Queensland household, by dwelling type



Source: Queensland Productivity Commission, QPC Housing in Queensland: Affordability and Preferences 2018

Family households make up the largest proportion of households in Australia. We also have an aging population, an increase in the number of single people and a decrease in the number of people having children.

We need a mix of dwelling types to cater to all household types. A proposition that supports both a family and one/two person lifestyle.







Image © realestate.com.au 2018

Family type projections, 2011-2036 (Australia wide)



Note (centre): The %'s are based on the Series B projections. Source: ABS 2015 'Household and family projects, Australia, 2011 to 2036.

Note (top right): Household types were classified based on usual residents. 'Visitors only' and 'other non-classifiable' households are not represented in the figure. Source: ABS 2011 Census.



Source: Hugo, G (2001). A century of population change in Australia (ABS - Yearbook 2001). ABS 2011 Census - Times Series Profile.

In 2016 the average household had 2.6 people, yet the suburbs remain full of 4 and 5 bedroom houses.

The question is how do we unlock the potential of the suburbs for growth?

Unless we look in new ways at how we inhabit existing residential properties, our aging population (our grandparents and parents) and our children could have no choice but to meet their neighbours and come home to places like this...



What if in the future our kids, parents, grandparents & carers still had the choice to arrive home like this?

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#### 1.2 Demographic diversity

A steady increase in house prices has meant "key workers" such as nurses, police officers and teachers are being pushed to the fringes of the cities. Cities need these key workers, as well as lawyers, bankers and executives living close to their places of employment.



#### 1.3 Diversity of tenants/diversity of choice

The following propositions cater to a mix of tenant types including:



- single people
- couples
- aging family members
- people with changing family circumstances
- adult children
- students
- carers
- service providers living in the community they serve (e.g. teachers, nurses/doctors, police, police, fire brigade etc.)



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#### 1.4 Key suburbs

This study is focused on the possibility presented by 600+m<sup>2</sup> rectangular lots in established suburbs.

The total estimated population of the typical target suburbs listed below is 331,545 (ABS Census 2016). The total projected population at 2041 is 513,894. This is a 55% increase in population.

Census data (2016) was collected for a number of suburbs located beyond a 2.5km radius of the Brisbane CBD\*, with emphasis on post-war suburbs due to their tendancy to house larger homes on larger lot sizes.

These suburbs include: Alderley, Ashgrove, Belmont, Camp Hill, Chandler, Chermside, Clayfield, Enoggera, Ferny Grove, Ferny Hills, Gordon Park, Indooroopilly, Kalinga, Kedron, Keperra, McDowall, Mitchelton, Mt Gravatt, Norman Park, Nundah, Seven Hills, Stafford, Upper Kedron, Wavell Heights, Wilston, Windsor, Wooloowim and Zillmere.



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small scale = BIG CHANGE

If 25% of residential lots could add a second dwelling...

### this would reduce the need to develop/subdivide 8,375 new lots.\*

#### ...that's more than 400 of these



\*A total of 22, 111 additional persons at an average of 2.64 persons per dwelling on a standard 15m wide lot.

#### 1.5 Median house price growth forecast, 2019-2022

	Estimated house price Jun 2019 (\$)	Forecast house price Jun 2022 (\$)	Growth 2019 to 2022 (%)
Sydney	980,000	1,040,000	+6
Melbourne	760,000	810,000	+7
Brisbane	552,000	665,000	+20
Adelaide	495,000	550,000	+11
Perth	505,000	540,000	+7
Hobart	500,000	520,000	+4
Darwin	500,000	535,000	+7
Canberra	680,000	750,000	+10

Source: BIS Oxford Economics

2.0 Appropriate Strategies for the Suburbs

2.1 What we love, what we want & what we need

- PROTECT BACKYARDS
  INCLUDE OPTIONS AND ESTABLISHED TREES
- UTILISE EXISTING INFRASTRUCTURE
- KEEP THE STREET AND CARS TOGETHER
- INCREASE DENSITY / INCREASE COMMUNITY
- ADD LANDSCAPE VALUE TO OUR STREETS
- INCREASE HOUSING VARIETY

**STRATEGIES FOR URBAN ENGAGEMENT**/ BETTER **COMMUNITIES/** BETTER SUBURBS/ **IMPROVING DIVERSITY AND AMENITY WITH** DENSITY...

- ACTIVATE THE STREET AS IF IT WERE OUR MOST IMPORTANT, **EVERYDAY PUBLIC** SPACE
- PUT EYES BACK ON THE STREET
- ALLOW HOUSING **OWNERS TO IMPROVE ON AND REALISE INCREASED PROPERTY VALUES**
- NEW FUNDING OPTIONS
- THAT MIGHT SUIT PUBLIC HOUSING



# 3.0 Applied Strategies (small scale)

PROTECT BACKYARDS AND ESTABLISHED TREES

#### UTILISE EXISTING INFRASTRUCTURE

IMAGINE LOW SCALE/LOW IMPACT OPTIONS UTILISING GARAGES & CARPORTS FOR DWELLINGS & COMMUNITY USE.





#### KEEP THE STREET AND CARS TOGETHER

10m





#### TYPICAL (EXISTING) SUBURBAN STREET



INCREASE DENSITY **INCREASE COMMUNITY** 







#### TYPICAL (POTENTIAL) SUBURBAN STREET

#### ADD LANDSCAPE VALUE TO OUR STREETS

FOR EXAMPLE, WORKING WITH INDIGENOUS IDEAS OF LANDSCAPE AND/OR VERGE GARDENS etc.









#### TYPICAL (POTENTIAL) SUBURBAN STREET



1 BED HOME option a

#### INCREASE HOUSING VARIETY

(CARERS/AGING FAMILY MEMBERS/ ADULT CHILDREN/OTHERS?)



1 BED HOME option b





1 BED HOME option c (including accessible amenities)



1 BED HOME option d





#### INCLUDE OPTIONS THAT MIGHT SUIT PUBLIC HOUSING

(CONSIDER ACCESSIBILITY, PROXIMITY TO PUBLIC TRANSPORT AND ACCESS TO COMMUNITY FACILITIES)





2 BED SITS option a + b



## ALLOW FOR NEW FUNDING OPTIONS



ALLOW HOUSING OWNERS TO IMPROVE ON AND REALISE INCREASED PROPERTY VALUES

#### PUT EYES BACK ON THE STREET

NOTE: THESE IDEAS ALLOW FOR POPULATION GROWTH WITHOUT BUILDING EITHER IN BACKYARDS OR CLOSER TO THE STREET ALIGNMENT (I.E. NO ADDITIONAL SITE AREA IS REQUIRED).

NOTE: OTHER OPTIONS WHICH EMPLOY THIS CONCEPT MIGHT ALSO BE CONSIDERED E.G. FLATS ABOVE GARAGES OR TWO STOREY APARTMENT OPTIONS MAY BE VIABLE IN SELECTED LOCATIONS.



0 1 2 3 4 5m



ACTIVATE THE STREET AS IF IT WERE OUR MOST IMPORTANT, EVERYDAY PUBLIC SPACE

Image © Inside Inc. 2020



West End Street Library. Architect Jonathon Goh. Image © Christopher Frederick Jones.

#### 3.1 Micro Projects

Activating the street is a concept that can be expanded upon. As the community grows and the demand for services expands, the opportunity for micro businesses and micro projects, such as street libraries, might also be considered.

Micro projects present an opportunity, at the smallest scale, to interface (and sometimes \*blur the line) between the public and private realm. There is room for all these options in the suburbs.

\*When we blur the line between the public realm – the street – and the private realm, what we are doing is activating both. This is the moment where architecture and urban design enable 'community' to occur.

### 4.0 Applied Strategies (existing housing stock)

CAN WE USE THESE SAME STRATEGIES TO ADAPT TYPICAL EXISTING SUBURBAN HOUSING STOCK?

IF THIS WERE POSSIBLE, IT WOULD CONTINUE TO ADD VARIETY AND PROVIDE MORE HOUSING OPTIONS.







POTENTIAL ADAPTATION OF 1 STOREY 10m HOUSE INTO ATTACHED HOUSING



0 1 2 3 4 5



#### POTENTIAL ADAPTATION OF 2 STOREY HOUSE INTO ATTACHED HOUSING

### 5.0 Applied Strategies (medium density)

ARE THESE SAME STRATEGIES ADAPTABLE TO OTHER SCALES AND GREATER DENSITIES?

THE FOLLOWING PROPOSITION WAS DEVELOPED TO TEST THESE IDEAS AT SCALE ON A REAL SITE LOCATED CLOSE TO TRANSPORT OPTIONS AND LOCAL COMMUNITY FACILITIES.

## WHEN YOU HAVE BEEN DOING SOMETHING FOR A LONG TIME, IF YOU WANT TO DO THINGS BETTER, YOU HAVE TO THINK ABOUT DOING THEM DIFFERENTLY



Research Proposition Presentation February 2019

16-22 Wagawn Street, Woodridge

## **THE DEVELOPMENT EQUATION** MORE IMUSI MORE DENSITY LOUAL AMENITY

#### **PROJECT PRINCIPLES**

- DWELLINGS WITH VIEWS TO THE STREET AND VIEWS TO PRIVATE LANDSCAPE
- SUPERVISION/COMMUNITY ENGAGEMENT/SAFETY FOR THE STREET
- FINDING THE BALANCE BETWEEN THE PEDESTRIAN AND THE CAR
- NATURAL VENTILATION (addressing QLD Government climate policy issues)
- RETAIN MATURE LANDSCAPE IN REAR YARDS (addressing QLD Government climate policy issues)
- **•** SUN TO REAR YARDS / SUN TO STREET

#### Infill Density in Logan City

With increasing residential demand there are three general options for SEQ housing growth:

- High density inner-city apartment development (conflicts in established suburbs)
- 2. Low density outer-fringe housing development (poor sustainability of urban sprawl)
- 3. Medium density in mid-range suburbs with townhouse and small apartment blocks.

This project explores the potential of midrange suburbs to provide walkable, liveable and sustainable residential increases through modest increases in allowable densities and through innovation in building forms.

### Logan's post-war suburbs offer great potential to demonstrate medium density infill:

- Largish lots (600m2) and modest houses allow affordable redevelopment
- Few heritage or character constraints on demolition and rebuilding
- Established suburbs have good amenity, facilities, services and transport
- Good residential layout with grid of eastwest streets and neighbourhood parks
- Established street and backyard trees provide shade and climate resilience
- HPW is ideally positioned to undertake innovative demonstration projects:
- Major landholder with significant stake in community success
- Long experience of working with the local community

- Greater housing mix allows tenants to
- downsize within their own suburb
- Owns neighbouring properties to redevelopment sites, easing risk of objection
- Government agency offers some freedom outside planning constraints
- Good partnership with Logan City allows testing and monitoring of innovations

#### The proposed Wagawn St site has very good potential for increased densities

- Well located site with good access to amenities and transport, high WalkScore
- Overlooks linear park and cycleway with links to playing fields, adventure sports
- Linear park has long-term potential for future creek reconstruction, landscaping
- Increased residential density and height would improve surveillance of linear park
- Street offers ideal solar orientation: open to north; protected to east, west
- Orientation reduces overshadowing ensuring winter sun to neighbours
- Lots 16-22 also offer amenity and southern outlook to Wagawn Park

#### Proposed site development strategies for 16-22 Wagawn Street:

- Make the street a valued, safe, active public space (treat the street and the people in it as if you care about them)
- Retain existing mature trees on site
- Ideally restrict building envelope between front and rear setbacks of neighbours
- Provide suitable side setbacks in relation to heights
- Provide recreation space in northern garden, elevated above the adjacent park

#### Future Dense Development Mapping



Note:

Based on a suitably wide road type. (traffic volume and amenity/light/landscape potential to the street), proximity to schools, proximity to public transport, proximity to shops and proximity to parkland, the area designated on this diagram could be considered for densities from 100 dwellings per hectare. Higher for sites which face the parkland/overland flow path to the north (i.e. 3-4 storey walkup everwhere in this zone and up to 6-7 storeys against the park). The remainder of DPHW land outside the sites shown could be considered for sale to the private market.

#### LEGEND



Medium-high density zone 20m wide road Parkland Land Owned by DPHW

250 1:5000

Street parking exemplars / shared environments / safety / amenity



Driveway(s) and pedestrians overlap on the property boundary





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Opposite page (clockwise from top left) Image © Houzz Inc. 2020 Image © ABC 2019 Image © Wikimedia Commons Ward 2014 Image © Wikimedia Commons Mbzt 2011 Image © John Gollings 2017 Image © Property HQ 2019

Pedestrians walk + cars seperated: cars / road connected















Enagagement between resident and the street

Identity for residents Street lighting alternatives

Bright graphics

Street furniture

Clockwise from top left Image © Pinterest Joana Avelar Quintas Image © Wall Paints 2015 Image © Publish Wall Radio Europa05 2015 Image © Unsourced Image © Decorathing Image © Apartment Therapy 2017

Clockwise from top left Image © Pxhere Image © Architonic Image © Australian Built Urban Designs Image © Brixton Design Trail

#### Site planning strategies



#### Proposal 16-22 Wagawn St.



m3architecture + Peter Skinner Density and Diversity Done Well 2019

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#### Unit model planning





#### Matrix planning

#### Mix (flexibility/adaptability) - social housing/affordable housing/community housing/potential local commerce





Option 2 19 Units (3 x 1 Bed, 6 x 2 Bed, 2 x 3 Bed, 4 x 4 Bed, 2 x 5 Bed, 1 x 6 Bed, includes 10 accessible units) Density = 73 Dwellings per hectare

Density = 108 Dwellings per hectare

Legend 1 Bed 4 Bed 2 Bed 5 Bed 3 Bed 6 Bed



Existing Wagawn St. Woodridge



Proposed Wagawn St. Woodridge



Proposed Wagawn St. Woodridge Looking from Wagawn Park

### 6.0 A Blueprint to Facilitate Change

#### 6.1 Current planning legislation

Current planning legislation suggests the smallest scale proposition would be classified as a Granny Flat and not require planning approval, provided the tenants meet the requirements of a 'household'. The dwelling could also be classified as rooming accommodation. We suggest that flexible planning and building legislation needs to be considered to support some outcomes (including "as of right" developments.

#### A household

#### A household can be:

- One person maintaining a household, or
- Two or more people related by blood, marriage or adoption, or
- Up to five children under the age of 18 that are not related and one or two adults who have care of them, or
- No more than five people that are not related.

#### Granny Flats

A granny flat, referred to in the City Plan as a secondary dwelling, can be a maximum of 80 square metres in size. If the granny flat is for a member of your household, you do not need to apply for Council approval as long as you meet the accepted development, subject to requirements criteria in the Dwelling house code or Dwelling house (small lot) code.

You will need to lodge a development application if:

- the granny flat is bigger than 80 square metres in size, or
- it is more than 20 metres from the main house. or
- you are renting it to someone who does not form part of your household.

To house 30% of the projected 2041 population for Greater Brisbane, we would need approximately 1.600 suburban blocks using this model. This is in contrast to approximately 8.000 new suburban blocks with detached dwellings (a suburban block is calculated here at 20 lots on 13,000m<sup>2</sup>).

#### Rooming accommodation

If there is more than one household living in the same house, it may classify as rooming accommodation. Student and boarding houses are common examples of rooming accommodation.

#### Multiple dwellings

The City Plan defines a multiple dwelling as use of a premises where it contains three or more dwellings. Proposals for multiple dwellings require a planning application.

For the purposes of City Plan, a multiple dwelling is not:

- rooming accommodation
- dual occupancy
- duplex
- granny flat
- residential care facility
- retirement facility.

#### Parking requirements

You must provide one car parking space on your site for a granny flat and one car parking space for the main dwelling house.

#### 6.2 Technical upgrades/building codes

In order to deliver this proposition, a number of technical criteria will need to be met. The long term success of any housing initiative which will successfully contribute to addressing the impending housing shortage is very much connected to streamlining approvals processes.

In this case the criteria will include:

- Planning Approvals\*
- National Construction Code Criteria based on dwelling type/use classification including\*\*
- Section C Fire Resistance (including potential fire ratings and/or compartmentalisation)
- Section D Access and Egress (including access for people with disability for certain dwelling types)
- Section E Services and Equipment (including where required, lighting and ventilation, smoke detection, exit signage, sound transmission etc)
- Section J Energy Efficiency

(In addition to minimum requirements, consideration might be given to additional measures e.g. a minimum requirement for solar).

\*Approvals will be dependant on the classification of use and the local planning regulations.

E.g. If the development is for related people and there are less than 5 adults living on site then no special planning approval may be required.

Miscellaneous approvals (e.g. Hydraulic/ plumbing approvals) and statutory fees (e.g. infrastructure charges) may still apply.

\*\*In the first instance a performance based approval for separate uses such as class 2 (separate dwelling) and/or class 5 (office) or class 6 (shop) would be sought.

This would include the use of an integrated fire detection and alarm system for both sets of uses including detection and alarm in ceiling spaces.

### 7.0 Financial Models (an opportunity)

An approach which allows the individual land owner/ householder/investor to improve their own property and realise additional value taps into:

- The mass scale represented by individual landowners\*
- The mass scale of small contractors and suppliers\*
- Reduced costs based on utilising existing infrastructure and existing building envelope
- The ability to tap into existing home equity
- The capacity to offset capital costs against alternative financial models and/or third party agreements (e.g. Dept of Housing or Housing Company fixed rental agreements prior to development OR State Development investment grants OR agreed rental arrangements for family members/carers etc.)
- Subdivision or alternative title arrangements (long-term) supporting new ownership models
- Encourages investment in the street (public realm)

\* i.e. large numbers of small self-funded projects as opposed to smaller numbers of large projects with bridging loans, complex financial arrangements, higher risk and large profit margins, all of which actually increase the costs of housing.



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WE CAN ALWAYS FIND REASONS NOT TO DO SOMETHING... BUT WHEN THE ISSUE IS IMPORTANT ENOUGH THERE ONLY NEEDS TO BE ONE GOOD REASON TO EFFECT

## C H A N G E