The Impact of Private and Shared Open Space on Liveability in Subtropical Apartment Buildings

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Brisbane Queensland
Latitude 27.5°S

- Summer 66-84°F Winter 48-70°F
- 5-10 heat discomfort days per year
- 1 Degree Day over 95F annually
- Intense Solar radiation from September to March
  - High Humidity
- Occasional summer cyclones and winter storms (Bureau of Meteorology)

Image: Brisbane City Council
Subtropical humid macro-climate
tropical /temperate hybrid

Image: Centre for Subtropical Design

Image: Olivia Martin Maguire Subtropical Brisbane through the lens Centre for Subtropical Design 2004

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Shady verandahs and outdoor living

Images: Centre for Subtropical Design
Brisbane River CBD reach

Image: Centre for Subtropical Design

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Low-density low-rise city
Urban consolidation and High-rise transformation

Brisbane residential towers above 19 storeys
- **Red** - current tallest 81 storeys (Infinity)
- **Green** – under construction 16 - 30 storeys
- **Yellow** – approved 90 storeys (Skytower)

Image: *The Courier Mail* pps 14-15 August 22 2015
Emerging trends

Image: [Link](http://elenbergfraser.com/#!/project/13060_fortitude-valley) downloaded 19 May 2015

Image: H Williamson

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Emerging trends

Fully-glazed balustrades
Emerging trends

- Extensively glazed facades.
- Extremely limited private external space (no private balcony)

Emerging trends

- Shared outdoor space as substitute for private outdoor space.

Photo: K Vasilyeva QUT Master of Architecture Student

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Private outdoor space in the residential environment
Shared outdoor space


www.dje.com.au
Australian Research Council (ARC) Linkage Project LP0668911
Managing the social, environmental & economic impacts of high density-living within inner-urban sub-tropical environment

Research partners: Port of Brisbane Corporation and Queensland University of Technology (QUT)
Questionnaire

- 2311 delivered
- 636 returns
- 28% response rate
- 5-point Likert scales
- Yes/no
- Open-ended
Average length of residency - average dwelling spatial attributes

- 3 years and 5 months (one month to 39 years)
- 68% of respondents lived on floors 1-3. (Highest Floor 19).
- 2 bedrooms,
- 2 bathrooms,
- private laundry,
- living room/kitchen/dining,
- 1 car space and
- 89% had 1 or more balconies
- 16% had a garden

Image source:
Entertaining 85%
Cooking and/or dining 74%
Gardening (66%) and drying laundry (62%)

Image: Centre for Subtropical Design
Rules and image impact daily life

• “We virtually have to dry everything because we have strict rules: you shall not hang washing out on the balcony. And that’s common to most properties” (#16).

• Some residents appreciated access to an alternative private outdoor utility area: “I’ve got my washing and things out there” (#10).
Everyday activities of dwelling

- 21%:
- Reading
- Relaxing
- Keeping pets
- Studying/hobbies
- Exercising
- Storage (19%)
Social buffer zone

“Important to very important”?

Aural privacy (88%)
Visual privacy (75%)

Image: M Mulholland GHD
Environmental buffer zone

- 83% prefer natural ventilation
- Continuous a/c not desirable
- Balconies filter heat and glare and promote breeze

Image: Centre for Subtropical Design
Conflicting uses

- Poor orientation
- A/c condensers on balconies
  - The doors are closed, blinds drawn, and air conditioning switched on.
Resident-perceived shortcomings

Images: Centre for Subtropical Design

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Shared outdoor spaces

I like that when we go out we don’t have to stand and have a little chat every five minutes. You can just come and do your own thing.

- Daily 10%
- Weekly 19%
- Monthly 40%
- Never 31%

TORBRECK BRISBANE, 1960
Photo: Eric Sierins, Max Dupain and Ass., in Homes in the Sky from AIA Nationally Significant 20th-Century Architecture Register
Overlooking street or courtyard?

Photo: A Munro

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Apartment residents desire balconies and value social and environmental benefits.
Filters and screens

Less glass, more permeability, more privacy.

Residents can make better use of their private outdoor spaces and adjacent interiors if they have some control over the degree of exposure they desire.

Photo: G Weiss
extensive glazing; minimal privacy; little sun protection; inhibits air flow
Obligatory communal space

- Dominated by a single use
- Lack spatial or aesthetic content

Image: QUT www.highdensityliveability.org.au

Photo: K Vasileyeva
Alternative approach to communal outdoor space

Ubiquitous and Interchangeable

Tropical: Kuala Lumpur

Temperate: Melbourne

Subtropical: Brisbane
Implications – generic designs fail to meet residents’ liveability perceptions

Surge in household power use

Image: The Courier Mail

People culture climate place

Australian Research Council (ARC) Linkage Project LP0668911 Managing the social, environmental & economic impacts of high density-living within inner-urban sub-tropical environment in partnership with the Port of Brisbane Authority.

All images by R Kennedy unless otherwise acknowledged.