URBAN FORESTS

Queensland is different ...
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... or is it??

Brisbane from Mt Coot-tha
Population weighted density by distance from CBD (census 2011)

- Greater Sydney
- Greater Melbourne
- Greater Brisbane
- Greater Perth
- Greater Adelaide
- Australian Capital Territory

Paddington, Brisbane
2.5km NW of CBD

Paddington, Sydney
2.5 km SE of CBD
Paddington, Brisbane
33 persons/ha

2.5 x density

Paddington, Sydney
81 persons/ha
Our climate is different
Annual mean temperature anomaly - Australia (1910-2015)

Australian Bureau of Meteorology

Mean temperature anomaly (°C)

Year

Based on a 30-year climatology (1961-1990)
Trend in maximum temperature
Annual 1970-2015 (°C/10yr)
Trend in Total Rainfall 1970-2015 (mm/10yr)
Norman Creek in Flood 2011
Number of extra skin cancer cases related to UV radiation

Per million inhabitants per year

Our cities are different ...
Suburban Coursework Masters’ Research Study
ARCH7220 + ARCH7420  Prof Peter Skinner UQ 2014

A class of 15 students identified 30 areas of distinctive suburban form across the Brisbane Metropolis, researched history of settlement and demography of these neighbourhoods.

Dimensional analysis of satellite imagery and eBimap using Revit - 100m radius.

Students measured residential lot size, roof area, secondary structures, paths and paved areas on residential allotments and street areas, footpaths paths and crossovers, and permeable ground surface within the public road reserves.
Lot Size, Building Footprint + Site Cover over time
Suburban Coursework Masters’ Research Study
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Permeable + Impermeable Surfaces: Private + Public Land

- 1825-1855: Petrie Tce
- 1855-1885: Spring Hill
- 1885-1915: East Bris.
- 1885-1915: Graceville
- 1915-1945: Annerley
- 1915-1945: Wilston
- 1945-1975: Kedron
- 1975-2000: Inala
- 1975-2000: Chermside
- 1975-2000: Forest Lake
- 2000-2015: Aspley
- 2000-2015: New Farm
- 2000-2015: Bulimba

Percentage of total land area:
- Impermeable surfaces – Public (roads, paths, crossovers)
- Impermeable surfaces – Private (roofs, terraces, drives)
- Permeable surfaces – Private (lawns, gardens)
- Permeable surfaces – Public (verges, street plants)
West End - late 19C
Narrow roads (10m) and small front yards, long backyards.

East Brisbane - early 20C
Wider road reserve, Shorter backyards
Equivalent bldg/bldg distances front and back.

New Farm Infill - early 21C
Units and infill houses, erode backyard amenity.

Springfield Lakes - early 21C
Back yard amenity sacrificed for ‘Street Appeal’
West End - late 19C
Few street trees in front, opportunity for substantial back yard planting.

East Brisbane - early 20C
Equal spacing of buildings offers ample opportunity for street & backyard trees

New Farm Infill - early 21C
Significant loss of backyard vegetation

Springfield Lakes - early 21C
No back yard space – Street tree planting only
INFILL N-S LOTS 15 m+ FRONTAGE = Net + 87 Households
ASHGROVE INFILL – PLUS PARKING IN E-W RESIDENTIAL STREETS
TOHO Subtropical Townhouse: Privacy & Ventilation
TOHO Subtropical Townhouse: WSUD, Urban Forests, Shade and UHI Mitigation

Major trees approx 15m from all buildings

Pipe + Cable Service Trench - Rain Water - Grey Water - Garden - Shaded Path - WSUD
ROHO 3: principal n-s avenues, reduced traffic on e-w residential streets
ROHO 2: single aspect housing - north sun to gardens, cars in southern shadow
ROHO 4: traffic separated cycle paths in all streets
ROHO 5: street trees in rain gardens along e-w residential streets
ROHO 6: street trees & swales along principal n-s avenues
ROHO 7: continuous shade along all pathways
A PERMEABLE ‘BREATHABLE’ CITY

EXTRACT FROM THE BRISBANE CITY CENTRE MASTER PLAN

architectus

202020 Vision Qld Urban Forest Master Class, 8 June 2016

Peter Skinner FRAIA Head of Applied Research Architectus Brisbane
GREEN, PERMABLE, CONNECTED PEOPLE SPACES

PODIUM AS STEPPED GARDEN TERRACE

PODIUM AS AN 'URBAN UNDERCROFT'
‘Create Buildings, Places and Spaces that celebrate our pleasant climate and natural assets.’

‘443 Queen Street’ early concept design sketches
‘The river’s edge will be green and shady. Landscaping will hang from buildings and extend out from urban plazas onto our river’s edge, providing shade and protection from the elements’ BCC CCMP