TRANSFORMING CITIES

TO ACHIEVE A FINANCIALLY
AND ECOLOGICALLY
SUSTAINABLE FUTURE

Steve Thorne
Design Urban Pty Ltd
70% of the world's population will live in cities.

Cities are responsible for 75-80% of the world's greenhouse gases.
Melbourne @ 5 million 2022
Melbourne @ 5 million
90% of all city infrastructure required by 2022 already exists.

Conventional responses are to expand existing infrastructure and build more large scale projects.
These responses have high hidden costs.

1000 houses built on the fringe of Australian cities cost $300 million more than 1000 houses built within existing growth boundaries.

Melbourne: Oil & Mortgage Vulnerability

2001

2006
Status Quo

Will cost $110,080,000,000 extra over 50 years assuming that half of all future housing is built on the periphery of Melbourne.
Challenge

Re-align the existing infrastructure of cities to produce a more;

- Sustainable
- Liveable
- Economically viable future
This is Happening in Many Cities

From a Policy point of view
It's about the Cities – and HOW we grow
DECENTRALISATION TO CONCENTRATION

Glasgow
QUALITY PUBLIC INFRASTRUCTURE

Bordeaux
SHIPYARDS TO SUSTAINABILITY

Malmo Bo01
FROM BLIND SPOT TO CITY OF CULTURE

Temple Bar, Dublin
PEOPLE, PLACES AND TRANSPORTATION

Bogota
Rediscovered Rivers
Seoul, South Korea
Rediscovered River
Seoul, South Korea
Rediscovered River
Arhaus, Denmark
MONOFUNCTIONAL TO MULTIFUNCTIONAL

Melbourne
1983

= 5 dwellings
1997

3,763 dwellings

- 5 dwellings

convenience store
2002

9,895 dwellings
Professional Specialisation
Status Quo is not an option!

At the same time destroying the “Australian Dream” of a home and land package is not an option.

So What are Our Options?

‘The 7.5% City’
ACTIVITY CENTRES 3% OF METRO AREA
Known redevelopment sites 1.5%
SUBURBS - 90% of METRO AREA
Melbourne overview showing 4 study areas
Urban Design Principles

- Sites with rear vehicle access via lanes
- Lanes provide good interface with lower density hinterland
- Ground floor to be either “commercial capable” or retail – limited scope for residential at ground floor
- Studio units on garages to lanes – maximum 2 storey to provide interface with existing detached dwellings
- Tallest elements built to front boundary
- Height determined by locality and a maximum 6 storeys
- All building pedestrian entrances directly from street
5. setbacks

6. active frontages

7. passive surveillance

8. freedom zones

9. access
Development Scenarios

Magenta
1 Shop
1 Dwelling

G Shop

6m

30m
Development Scenarios

Yellow
2 Shops
5 Dwellings
Development Scenarios

- Green
  - 3 Shops
  - 7 Dwellings

Diagram showing floor plans and dimensions.
Development Scenarios

Navy
4 Shops
10 Dwellings
Development Scenarios

Red
2 Shops
6 Dwellings
Development Scenarios

Orange
4 Shops
14 Dwellings
20m Street Reserve
Nicholson Street study area (high level)
NOW

Nicholson Street, East Brunswick - looking south to the city
Johnston Street study area (high level)
Johnston Street study area (medium level)
NOW

Johnston Street, Abbotsford - looking east
POSSIBLE FUTURE

Johnston Street, Abbotsford - artists impression
Maribyrnong Road study area (high level)
NOW

Maribyrnong Road, - looking west to Union Road
POSSIBLE FUTURE

Maribyrnong Road - artists impression
Riversdale Road study area (high level)
NOW

Riversdale Road, - looking west to Riversdale Park
Design Development Overlay
Assessing the Potential
CADASTRAL PARCELS

Metropolitan Cadastral Parcels = 1,571,532
SPECIAL BUILDING ZONES
(CBD, Southbank, Docklands, St Kilda Road)

Tram Potential Sites = 25,128     Bus Potential Sites = 96,480       Total = 121,608

Legend
- Green: Tram / Light Rail
- Orange: Target Bus Line
- White: Cadastral Parcels
SELECT PARCELS ALONG TRAM and TARGET BUS CORRIDORS

Potential Sites = 25,128    Bus Potential Sites = 96,480    Total = 121,608
Tram Potential Sites = 23,505  Bus Potential Sites = 95,450  Total = 118,955
PUBLIC USE AND INDUSTRIAL ZONES

Legend
- Green: Tram / Light Rail
- Yellow: Target Bus Line
- Gray: Industrial Zone
- Pink: Public Use Zone

Tram Potential Sites = 23,202
Bus Potential Sites = 91,252
Total = 114,554
REAR LANEWAY

Legend
- Green: Tram / Light Rail
- Orange: Target Bus Line
- Blue: Rear Laneway
- Light Blue: Urban Growth Boundary

Note:
Laneways have been derived based on gaps between cadastral parcels

Tram Potential Sites = 18,188  Bus Potential Sites = 22,440  Total = 40,628
RECENTLY DEVELOPED SITES AND SITES IN PLANNING (DPCD)

Legend
- Green: Tram / Light Rail
- Yellow: Target Bus Line
- Purple: Recently Developed Building

Tram Potential Sites = 18,118  
Bus Potential Sites = 22,038  
Total = 40,156
Tram Potential Sites = 17,726
Bus Potential Sites = 21,973
Total = 39,699
HERITAGE OVERLAY

Legend
- Green: Tram / Light Rail
- Orange: Target Bus Line
- Yellow: Heritage Overlay

Tram Potential Sites = 16,307
Bus Potential Sites = 20,570
Total = 36,877
(Remove 50% of sites within the heritage overlay)
FRONTAGE < 6m

Legend
- Green: Tram / Light Rail
- Orange: Target Bus Line
- Light Blue: Frontage < 6m
- Blue: Urban Growth Boundary

Tram Potential Sites = 12,439
Bus Potential Sites = 18,883
Total = 34,753
# Results

<table>
<thead>
<tr>
<th></th>
<th>Tram</th>
<th>Target Bus Lines</th>
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<tbody>
<tr>
<td>Sites available for densification</td>
<td>12,439</td>
<td>22,038</td>
</tr>
<tr>
<td>Total area (Ha)</td>
<td>1,418</td>
<td>5,275</td>
</tr>
<tr>
<td>Current population</td>
<td>48,630</td>
<td>158,250</td>
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</table>

**Proposed Density Range 180 - 450**

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net population increase</td>
<td>1,003,950</td>
<td>2,457,310</td>
</tr>
</tbody>
</table>
Urban Density, 1995 (Persons/Ha)

Acknowledgements: Prof Peter Newman, Murdoch University, W.D.C.
Tallinn, Estonia

Lydia Koidula 24

RESIDENTS / ha:

237

- 102 dwellings / ha.
- 237 residents / ha
- GFA: 1071 m²

(Source: J.MOZAS, J.ARPA: D BOOK, Density, Data, Diagrams, Dwellings, '07)
Mexico City, Mexico
Calle Alfonso Reyes 58, Colonia Condesa

RESIDENTS / ha:
449

- 179 dwellings / ha
- 449 residents / ha
- GFA: 2009 m2

(Source: J.MOZAS, J.ARPA, D BOOK, Density, Data, Diagrams, Dwellings, '07)
Dellekamp Architekten 2003

Aerial view
Vancouver, Canada

4387 West 10th Avenue

RESIDENTS / ha:

553

- 142 dwellings/ha
- 553 residents/ha.
- GFA: 1932 m2

(Source: J.MOZAS, J.ARPA; D BOOK, Density, Data, Diagrams, Dwellings, '07)

LWPAC 2006

Aerial view
An Access Economics report prepared for Diabetes Australia estimates the total economic cost of obesity in Australia in 2008 was a staggering $58 billion.

Public transport users vote with feet

By CLAY LUCAS
TRANSPORT REPORTER

PUBLIC transport users get a daily average of 41 minutes physical exercise, compared with an average of eight minutes for those who only drive, according to an analysis of Victorian travel data.

Research completed by the Bus Association of Victoria has found that those who use public transport in Melbourne are likely to get their recommended daily dose of physical activity as a “side effect” of their travel.

Exercise guidelines produced by the federal government recommend that adults spend at least 30 minutes a day walking, cycling or doing another activity that increases their heart rate.

An Access Economics report prepared for Diabetes Australia estimated the total economic cost of obesity in Australia was about $58 billion in 2008.

A map produced as part of the Bus Association’s study also indicates how much people who live in each of Melbourne’s council areas either walk or cycle. It shows that those in Melbourne’s inner areas, which in most cases have easier access to public transport, get much more exercise as part of their daily travel routine than those who live in outer Melbourne.

Bus Association policy manager Chris Loader said the study showed that improving public transport services was crucial. “The research demonstrates that it brings significant public health benefits,” he said. “We need better public transport in Melbourne’s middle and outer suburbs.”

The Heart Foundation’s chief executive, Kathy Bell, said the survey highlighted the need for more outer-suburban transport services, because one impact would be improved health.

“People in Melbourne’s growing outer suburban areas are missing out on satisfactory levels of public transport services and also on the health benefits of walking and cycling that are associated with regular public transport use,” she said.

The study’s figures are derived from the state government’s Victorian Integrated Survey of Travel and Activity, released last year. It surveyed 43,800 people in households in Melbourne and regional Victoria. The Bus Association analysis compared public transport users with those who used a vehicle to get around.

‘people who used public transport on a particular day, also spent an average 41 minutes walking and/or cycling as part of their travel.’ Chris Loader The Age March 12 2010
Productive Suburbs

This comprises 90% of the metropolitan area and remains the ‘Australian dream’.

- The home as a financially positive energy generator in support of the grid and large scale energy facilities achieved through gross feed-in tariffs.
- The backyard as productive food source.
- The street as linear forest-$1 invested in tree planting delivers $5.6 of value back to the city.
- The city as catchment.
NOW

Curtain Street, looking west to Nicholson Street
POSSIBLE FUTURE

Curtain Street - artists impression
REDEVELOPMENT SITES

• The State Governments Urban Development Program database identifies 1,486 key development sites that either have planning approval or are under construction.

• The area covered by these sites is 3161 hectares, or 1.5% of the metropolitan land area.

• Based on the developments where there are known dwelling numbers the average density is over 200 dwellings per hectare. This would conservatively translate to an additional 550,000 people accommodated.

• Add to this the 100,000 house blocks currently owned by VicUrban and private developers and you have an additional potential of 250,000 people within the existing capacity of available land within the metro area.
Established Areas
Default Metro 1 Alignment
North Melbourne Station – new plaza connection

E’gate development

Docklands

Moonee ponds creek – Improve public space
The opportunity

• Engaging the community in the solution
• Avoid the “either or” debates
• Move beyond conventional developments and investment patterns which will only reinforce existing problems
• Transformational solutions that build on existing infrastructure can produce better social, economic and environmental benefits.

• Potential new population capacity (excluding growth areas and infill sites) is 4,050,000 people on 7.5% of the Metropolitan area.
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