Regenerating the middle suburbs of Australia’s cities: a focus for new urban policy and greyfield precinct redevelopment

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Swinburne University, Melbourne

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Pathways to Sustainable Urban Development

Transition Arena

Technological Innovation In Urban Infrastructure

+ Innovative Urban Planning & Design

+ Change in Household Consumption Behaviour

Rate of Change

Slow

Moderate

Fast
3 Horizons of Urban Development

Source: Newton (2008)
1. The challenge of regenerating the middle suburbs: What’s the problem?
Melbourne @ 5 Million
What shape will it take? Will it 'get better as it grows bigger'?
DWELLING AND POPULATION GROWTH: AUSTRALIA

Number of dwellings*

Population**

* Number of dwellings reported in the Census, interpolated using completions data.
** Data for Australia are annual to 1972 and quarterly thereafter.
Sources: ABS; RBA
Under-occupancy of housing in Australia 2006; Percentage of households with two or more bedrooms spare

<table>
<thead>
<tr>
<th>Age cohort</th>
<th>&lt;20</th>
<th>20-24</th>
<th>25-29</th>
<th>30-34</th>
<th>35-39</th>
<th>40-44</th>
<th>45-49</th>
<th>50-54</th>
<th>55-59</th>
<th>60-64</th>
<th>65-69</th>
<th>70-74</th>
<th>75-79</th>
<th>80+</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.8</td>
<td>24.1</td>
<td>34.2</td>
<td>31.4</td>
<td>27.3</td>
<td>29.3</td>
<td>33.9</td>
<td>46.5</td>
<td>59.7</td>
<td>61.2</td>
<td>64.4</td>
<td>64.6</td>
<td>64.4</td>
<td>45.7</td>
</tr>
</tbody>
</table>

The Reliance on Greenfields as the Principal Demographic Absorber for Australian Cities

Regular revision of Urban Growth Boundaries and Green Wedges

City to ‘grow’ 134,000 homes on farmland

End of the boom? Housing industry showing sign of nerves

Challenge: Directing More Population & Housing Investment INWARDS
# Metropolitan Infill Housing Targets

<table>
<thead>
<tr>
<th>City</th>
<th>Timeframe</th>
<th>Housing Target</th>
<th>Greenfield Target</th>
<th>Infill Target</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adelaide</td>
<td>2010 – 2030</td>
<td>258,000</td>
<td>77,400</td>
<td>180,060</td>
<td>70</td>
</tr>
<tr>
<td>Canberra</td>
<td>2004 - 2032</td>
<td>58,000 – 90,000</td>
<td>-</td>
<td>41,500 – 45,000</td>
<td>-</td>
</tr>
<tr>
<td>Darwin</td>
<td>2010 – 2030</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Melbourne</td>
<td>2009 – 2030</td>
<td>600,000</td>
<td>284,000</td>
<td>316,000</td>
<td>53%</td>
</tr>
<tr>
<td>Perth</td>
<td>2009 – 2031</td>
<td>328,000</td>
<td>174,000</td>
<td>154,000</td>
<td>47%</td>
</tr>
<tr>
<td>Sth East Qld</td>
<td>2009 – 2031</td>
<td>754,000</td>
<td>374,000</td>
<td>380,000</td>
<td>50%</td>
</tr>
<tr>
<td>Sydney</td>
<td>2011 – 2036</td>
<td>770,000</td>
<td>Up to 231,000</td>
<td>At least 539,000</td>
<td>70%</td>
</tr>
</tbody>
</table>

## Current Forms of Redevelopment in the Middle Suburbs

<table>
<thead>
<tr>
<th>Arena</th>
<th>Net addition to housing stock</th>
<th>Planning framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Alternations, extensions, refurbishments to existing residential properties; 1 for 1 replacement</td>
<td>Nil</td>
<td>‘No go’; limited change zone – specific characteristics recognised for protection, providing limited opportunity for increased housing</td>
</tr>
<tr>
<td>2. Piecemeal infill (typically demolition and replacement on a single parcel of property)</td>
<td>Ranges from 2 for 1 to approx. 8 for 1</td>
<td>‘Slow go’; incremental change zone – respects existing neighbourhood character while providing an increase in housing diversity with a moderate increase in new dwellings</td>
</tr>
<tr>
<td>3. Precinct regeneration: activity centres/TODs; transport corridors</td>
<td>Significant addition to housing stock</td>
<td>‘Go go’; substantial change zone – designed to promote a significant increase in new dwellings, greater housing diversity and new built form and character</td>
</tr>
</tbody>
</table>
‘The primary intervention point should be the middle suburbs... Without coordination, sustainable outcomes will not be achieved in these areas. The middle suburbs must be the focus of the new urban policy.’
(Major Cities Unit, 2009)
# Value of New Construction vs. Housing Upgrade Projects, 2009

<table>
<thead>
<tr>
<th>Region</th>
<th>Mean</th>
<th>Sum</th>
<th>Count</th>
<th>Column %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner</td>
<td>$2,427,122</td>
<td>$4,660,073,377</td>
<td>192</td>
<td>0.9%</td>
</tr>
<tr>
<td>Middle</td>
<td>$496,282</td>
<td>$1,775,201,346</td>
<td>3,577</td>
<td>17.7%</td>
</tr>
<tr>
<td>Outer</td>
<td>$229,486</td>
<td>$3,780,550,722</td>
<td>16,474</td>
<td>81.4%</td>
</tr>
<tr>
<td>Total</td>
<td>$297,474</td>
<td>$6,021,759,445</td>
<td>20,243</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Mean</th>
<th>Sum</th>
<th>Count</th>
<th>Column %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner</td>
<td>$262,824</td>
<td>$439,178,183</td>
<td>1,671</td>
<td>9.3%</td>
</tr>
<tr>
<td>Middle</td>
<td>$80,022</td>
<td>$782,774,315</td>
<td>9,782</td>
<td>54.3%</td>
</tr>
<tr>
<td>Outer</td>
<td>$39,204</td>
<td>$257,375,222</td>
<td>6,565</td>
<td>36.4%</td>
</tr>
<tr>
<td>Total</td>
<td>$82,103</td>
<td>$479,327,720</td>
<td>18,018</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
POPULATION CHANGE
MELBOURNE 2001-2006

Distance from CBD to LGA centroid (km)

Population Change 2001 to 2006 (000)

- <5
- 5-10
- 10-15
- 15-20
- 20-25
- 25-30
- 30-35
- 35+
Population Mobility: Melbourne, 2005-2006

Distance from Melbourne CBD

- <5
- 5-10
- 10-15
- 15-20
- 20-25
- 25-30
- 30-35
- 35-40
- >40
DISTRIBUTION OF DWELLING TYPES BY DISTANCE FROM MELBOURNE CBD

![Chart showing the distribution of dwelling types by distance from the Melbourne CBD.](chart.png)

- **Occupied Dwellings**
- **House**
- **Townhouse**
- **Flat**

**Distance from CBD to LGA centroid (km)**

**2006 - Total Number of Dwellings (000)**

- <5
- 5-10
- 10-15
- 15-20
- 20-25
- 25-30
- 30-35
- 35+
DWELLING DENSITY PROFILE: MELBOURNE 2001, 2006

- **Net Dwelling Density (per Ha)**
- **Distance from CDB to LGA centroid (km)**

The diagram shows the net dwelling density profile for Melbourne in 2001 and 2006, classified by distance from the Central Business District (CDB) to the Local Government Area (LGA) centroid, in kilometers. The data is represented for the following distance intervals:

- **<5 km**
- **5-10 km**
- **10-15 km**
- **15-20 km**
- **20-25 km**
- **25-30 km**
- **30-35 km**
- **35+ km**

The bars for 2001 are in black, and the bars for 2006 are in gray.
DISTRIBUTION OF JOBS FROM CBD TO MELBOURNE FRINGE 2006

2006 - Total Population Employed (000)

Distance from CBD to LGA centroid (km)

- <5
- 5-10
- 10-15
- 15-20
- 20-25
- 25-30
- 30-35
- 35+
TRANSPORT AMENITY: Public Transport Access Levels
## TRIPS PER DAY PER PERSON BY AREA, MELBOURNE

<table>
<thead>
<tr>
<th>Area</th>
<th>Car</th>
<th>Transit</th>
<th>Walk/Bike</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>2.12</td>
<td>0.66</td>
<td>2.62</td>
</tr>
<tr>
<td>Inner</td>
<td>2.52</td>
<td>0.46</td>
<td>1.61</td>
</tr>
<tr>
<td>Middle</td>
<td>2.86</td>
<td>0.29</td>
<td>1.08</td>
</tr>
<tr>
<td>Outer</td>
<td>3.92</td>
<td>0.04</td>
<td>0.81</td>
</tr>
</tbody>
</table>

Source: Trubka et al, 2008
HOUSE PRICES BY DISTANCE FROM MELBOURNE CBD

Median House Price by Year

Source: Valuer General
2. The challenge of regenerating the middle suburbs: What are the options?

(apart from fragmented infill)
Current Greyfield Precinct Redevelopment Approaches

Activity Centres  Transport Corridors  Housing Precincts
ACTIVITY CENTRE FOCUS FOR GREYFIELD REDEVELOPMENT
**Major Activity/Central Activities Centres: focus for high rise commercial and residential construction, transit oriented development, employment centres…. alternative to CBD**

**CAA Objectives**
- Significant CBD-type jobs and commercial services;
- A strong and diverse retail sector;
- Specialised goods and services drawing on a large regional catchment;
- Significant opportunities for housing redevelopment in and around these centres;
- High levels of accessibility for walking, cycling, public transport or car by being located at a junction in the Principal Public Transport Network; and
- Vibrant centres of community activity and public facilities.
GREYFIELD REDEVELOPMENT:
TRANSPORT CORRIDORS

SOURCE: Adams 2009
GREYFIELDS PRECINCT REDEVELOPMENT
CORRIDORS:
PRECINCT VISUALISATION (CofM)

Source: Adams, 2009
Development Patterns: Planning versus Reality
Infill development in the City of Monash 2000-2006
Current Greyfield Precinct Redevelopment Approaches

Piecemeal Infill
Mums and Dads

Greyfields Redevelopment Precinct

Activity Centres Vicurban
3. Why precincts? …and what are they?
Potential of Greyfield **Precinct** Regeneration

- **HOUSING**
  Delivers mix of dwelling types, styles and costs, at higher densities, with some mixed use, while at the same time delivering a more aesthetically pleasing higher amenity neighbourhood than its predecessor.

- **ENERGY**
  Achieves carbon neutrality or zero carbon status with the introduction of distributed (renewable) energy and micro-generation technologies as new elements of ‘hybrid buildings’, capable of generating energy for precinct and national grid.

- **WATER**
  Integrated urban water systems involving water sensitive urban design are best implemented at precinct scale, enabling appropriate mix of technologies for local water capture, storage, treatment and end-use to be introduced in an eco-efficient manner.

- **WASTE**
  Precinct scale re-development can optimise reuse of demolished stock and minimise waste stream from new construction as well as automate waste disposal and maximise recycling from occupied dwellings.
Potential of Greyfield Precinct Regeneration

- **HEALTH**
  Opportunity to reduce land assigned to car transport and reconfigure to encourage active transport modes (walking, cycling).

- **CONSTRUCTION**
  Linking off site manufacture and on-site modular assembly to reduce negative impacts of a traditional construction site, reduce time to ‘construct’, reduce cost of delivery, increase quality to align with manufacture process.

- **SENSE OF PLACE & COMMUNITY**
  Opportunity of creating a distinctive physical neighbourhood and social community, with distinctive look and feel.
Greyfield Precinct Regeneration: Transition to a Co-ordinated Approach

Current “piecemeal” redevelopment

Alternative models for ‘precinct’ redevelopment

Consolidated

Dispersed

Hybrid
Current Attempts at more Consolidated Infill Development
Boisdale Case Study
Current Infill Development
Boisdale case Study
'Based on the plans before the tribunal (VCAT) and the conclusions above, it follows that we will affirm the decision of the responsible authority and direct that no permit issue...'

- Page 13, VCAT reference No. P1867/200
Number of Planning Appeals to VCAT: 2005 - 2010

Median: 465
4. The challenge of retrofitting the middle suburbs: creating a model for greyfield residential precinct redevelopment?
Needed: a New Model for Greyfield Precinct Regeneration

“... with residential development becoming increasingly synonymous with regeneration – is a different model required to generate shareholder value?” (Jones 2008)

- Property Developers
- Government Regulators
- Community of Property Owners
- Urban Designers and Planners
- Financial Investors
- Manufacturing and Construction
- etc

How do you play the “RE- “ game in greyfield suburbs?
Transition Process for ‘Wicked’ Urban Issues

Source: Adapted from Loorbach (2007)
Methodology

Investigative Panel

- A new research vehicle for AHURI comprising a series of facilitated workshops designed to bring about direct engagement between experts from the research and policy communities, and practitioners from industry and community sectors, to interrogate a specific policy or practice question

- 3 panels; over 70 experts, including a continuing core group

- Mind-mapping: real time, transparent

- 3 Background Research Papers; 3 Panel Reports

- Final Report
Inhibitors to regeneration of middle suburbs/areas

1. Consolidation of Sites
   - Constraining
     - Inhibits design
     - Lacks incentives for better outcomes
   - Growth Area Authority - no equivalent
     - Poor specs or excessive/inappropriate standards
     - Least resistant approach

2. Regulatory System
   - Planning &
   - 8. NIMBY
     - Emotional
   - 9. Existing Infrastructure
   - 7. Cost of Density

3. Lack of Leadership
   - 3.
   - Lack of plans for an area
   - Lack of local champion
   - Local governance inhibits change

4. Lack of Success Stories
   - 4.
   - Exemplars of quality
   - Lack design quality

5. For Baby Boomers
   - Financial Disincentives
   - 5.

   - Place making
   - e.g. Pension means test
     - Higher cost
     - Lack of support

10. Consumer Preferences
   - Transport
   - Limited housing topography
Solution pathways

- Tenure alternatives
  - Housing topologies
  - 10. Affordability

- Education
  - Values and context
  - Discussion At Local
    - 9. Community Level

- Economic accounting
  - Reconfigure Accounting of Good Built Environment & 8. suburbs
  - Remove State Govt & Federal Govt To Have 7. Urban Renewal

- Early initiator of change
  - Demonstrate projects/investment
  - Employment opportunities
  - Innovation pilots

- 6. Catalytic Development

- Solution Pathways
  - 1. Invest In Amenities
    - Continually
    - Give clarity on where and what
      - Strategic agency
      - Independent of politics
      - Implementation process

  - 2. Reform Planning System
  - Financial Incentives
  - 3. For Transfer

  - 4. Divide Existing House Into Two
  - Micro Economic Reform For Higher Density
  - 5. Housing

  - Domestic delivery
    - Cost effective and competitive
What would the initial narrative need to be?
Innovation and 'Future logic' for Greyfield Residential Precincts

Greyfield residential precincts

Where?
- Identifying greyfield precincts
  - Shared spatial urban info system
    - Mobility intentions
    - Property redevelopment potential
  - Mobility intentions
    - Property redevelopment potential

What?
- Design
  - Design/construction interface
    - Integrated Precinct design: housing typology, open space, ESD infrastructure

- Construction
  - Multi-skilled workforce
    - Community training and skilling
  - Industrialised construction processes

Who?
- Community: existing landowners/future residents
  - Community engagement
    - Brokerage for land assembly
    - New tenure and ownership models
- Developers/financiers
  - New finance models
- Governance/authority
  - New urban policy
    - New urban redevelopment authority
  - Regen Code
5. Locating Greyfield Housing: Where are the Greyfields?
An urban spatial information platform (distributed and integrated across different data layers) to support stakeholder envisioning opportunities for greyfield residential precinct regeneration.

[ focus for current research project GREENING THE GREYFIELDS, CRC for Spatial Information, 2011-2]
The middle suburbs are where we find the greatest concentration of greyfield dwellings (220,000+ properties where land value represents ≥ 80% of total asset).

“Greyfields” are those ageing but occupied tracts of inner and middle ring suburbia that are physically, technologically and environmentally failing and which represent under-capitalised real estate assets"
RESIDENTIAL REDEVELOPMENT POTENTIAL
OUTER SUBURBS OF MELBOURNE

RDI = Redevelopment potential indicator; ratio of land value to capital improved value of residential property
RESIDENTIAL REDEVELOPMENT POTENTIAL
INNER SUBURBS OF MELBOURNE

- Residential Properties in 2004
- Residential Properties in 2008
RESIDENTIAL REDEVELOPMENT POTENTIAL
CITY OF MELBOURNE

Properties

RDI

- Residential Properties in 2004
- Residential Properties in 2008
Area Housing Life Cycles in Metropolitan Areas

<table>
<thead>
<tr>
<th>Intensive</th>
<th>Re-generating</th>
<th>Ageing</th>
<th>Maturing</th>
<th>Youthful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Localities with maximum utilization of site value; high intensity development (eg. CBD high rise apartments)</td>
<td>Significant regeneration underway; old stock with high re-development potential being replaced by new housing at higher yield</td>
<td>Locality indicative of an ageing housing market, where most value is bound up in the land</td>
<td>Locality indicative of a maturing housing market, little re-development occurring at this stage</td>
<td>New residential development dominant in locality</td>
</tr>
</tbody>
</table>

Source: Newton et al 2011
STONNINGTON
REDEVELOPMENT POTENTIAL INDICATOR (RDI) 2006
6. Precinct Redevelopment – Design Issues
Existing Development Patterns
City of Monash

Dispersed = Easy
Consolidated = Difficult
Hybrid = Possible
Program Distribution

- Dwelling
- Live/Work
- Community Rooms
- Flexi-car/Shared parking
- Heath
Connectivity and Open Space

Consolidated

Dispersed

Hybrid
ESD and shared infrastructure systems

- Energy Generation
- Stormwater/Greywater
- Waste Management
- Communications

Consolidated  Dispersed  Hybrid
The Precinct Model
Indicative Plan
The Precinct Model
Indicative View
7. New Models for Financing and Delivery: Is it possible to deliver medium density in the middle suburbs at price points that are attractive to owners of (greyfield) detached housing?
Innovative Finance Models

e.g. ‘Downsizing’
INFLATION ADJUSTED MEDIAN HOUSE AND LAND PACKAGES 1973-2006

Source: Moran (2008)
### Building Cost per m² by Region

<table>
<thead>
<tr>
<th></th>
<th>Inner</th>
<th>Middle</th>
<th>Outer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detached sole occupancy</td>
<td>1 794</td>
<td>1 152</td>
<td>898</td>
</tr>
<tr>
<td>Detached dual occupancy</td>
<td>1 806</td>
<td>1 298</td>
<td>1 026</td>
</tr>
<tr>
<td>Total detached</td>
<td>1 797</td>
<td>1 177</td>
<td>901</td>
</tr>
<tr>
<td>Low-rise medium-density</td>
<td>1 749</td>
<td>1 218</td>
<td>1 050</td>
</tr>
<tr>
<td>Mid-rise medium-density</td>
<td>1 893</td>
<td>1 637</td>
<td>--g</td>
</tr>
<tr>
<td>Total medium density</td>
<td>1 794</td>
<td>1 233</td>
<td>1 049</td>
</tr>
<tr>
<td>Mid-rise high-density</td>
<td>2 351</td>
<td>1 993</td>
<td>--g</td>
</tr>
<tr>
<td>High-rise high-density</td>
<td>2 732</td>
<td>--g</td>
<td>--g</td>
</tr>
<tr>
<td>Total dwellings</td>
<td>1 825</td>
<td>1 188</td>
<td>903</td>
</tr>
</tbody>
</table>

- a) 1 dwelling/1-3 storeys; b) 2 dwellings/1-3 storeys; c) 3-9 dwellings 1-3 storeys; d) 10-30 dwellings 3-8 storeys; e) 30+ dwellings 3-8 storeys; f) 8+ storeys; g) insufficient dwellings

**Challenge:** reducing cost of delivering **mid-rise medium density** in the middle suburbs (currently 33% more expensive per m² than **low-rise medium density**).
Prefabricated concrete panels
Modular Construction

It took approximately 6 hours to assemble this 3,200 Square Foot Home.

Within 3 weeks the HVAC, plumbing connection, electrical connection, garage and miscellaneous site work was complete and the new owners moved into their new home.

(From Hallmark Homes Website)
Construction and Delivery: FACTORY – BUILT APARTMENTS (Little Hero, Melbourne, 2010)

> ‘Little Hero’ apartments (Melbourne CBD)
> 63 apartments, 9 storeys
> modular construction
> halves time to delivery
8. Where’s the Demand? **Who wants to live in medium density / compact city environments?**
Australia’s city dwellers have traditionally lived in low density garden suburbs where detached housing has been the norm. What are the current revealed preferences for ‘compact city living’?

![Bar chart showing the percentage of dwellings by distance from CBD to LGA centroid and type of housing.](chart.png)
Preference for Garden City vs. Compact City

<table>
<thead>
<tr>
<th>Preferred location</th>
<th>Inner</th>
<th>Established</th>
<th>New</th>
<th>Total % (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garden city</td>
<td>15.9%</td>
<td>28.1%</td>
<td>56.0%</td>
<td>42.4% (516)</td>
</tr>
<tr>
<td>Compact city</td>
<td>61.1%</td>
<td>24.0%</td>
<td>15.0%</td>
<td>57.6% (701)</td>
</tr>
<tr>
<td>Total % (N)</td>
<td>41.9% (510)</td>
<td>25.7% (313)</td>
<td>32.4% (394)</td>
<td>100.0% (1217)</td>
</tr>
</tbody>
</table>

Source: *Living in Melbourne* survey, 2009 (Swinburne and Monash Universities)

Table derived from response to question:

“If you had to choose between the two living environments below, which would you prefer?
• separate dwelling with a garden in a suburb where there is poor public transport
• medium density dwelling with no garden but close to public transport “
Household Revealed Preference for ‘Garden City’ OR ‘Compact City’ Living Environment

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Significance level</th>
<th>Categories associated with a preference for:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Garden City</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Compact City</td>
</tr>
</tbody>
</table>

1. Current Housing Context

<table>
<thead>
<tr>
<th></th>
<th>***</th>
<th>Detached 1+2 storey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td></td>
<td>Medium/high density (1-7 storeys)</td>
</tr>
<tr>
<td>Garden</td>
<td>***</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of bedrooms</td>
<td>***</td>
<td>At least 3</td>
</tr>
<tr>
<td>Tenure</td>
<td>***</td>
<td>Own with mortgage</td>
</tr>
<tr>
<td>Importance of a large home with space</td>
<td>***</td>
<td>Important</td>
</tr>
<tr>
<td>Crowding index: persons/bedroom</td>
<td>***</td>
<td>&lt;1 person per bedroom</td>
</tr>
</tbody>
</table>

2. Mobility

<table>
<thead>
<tr>
<th></th>
<th>***</th>
<th>Move likely in 10+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future mobility intentions</td>
<td></td>
<td>Move likely in 1-3 years</td>
</tr>
<tr>
<td>Move house to travel less</td>
<td>***</td>
<td>Not likely</td>
</tr>
</tbody>
</table>

3. Satisfaction level

<table>
<thead>
<tr>
<th></th>
<th>***</th>
<th>Satisfied, non-committal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with location</td>
<td></td>
<td>Very satisfied</td>
</tr>
<tr>
<td>Satisfaction with dwelling</td>
<td>ns</td>
<td></td>
</tr>
</tbody>
</table>

Note: Levels of significance ns p>.05, * p<.05, ** p<.01, *** p<.001; based on univariate Chi-square analysis

Source: Newton et al (2011)
Household Revealed Preference for ‘Garden City’ OR ‘Compact City’

Living Environment

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Significance level</th>
<th>Categories associated with a preference for:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Garden City</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Compact City</td>
</tr>
</tbody>
</table>

### 4. Demographic Context

- **Age**: ns 25-40, Under 25
- **Gender**: ns
- **Birth place**: *** Australia, Overseas
- **Education**: *** Completed year 11, TAFE, diploma, certificate, University degree
- **Occupation**: ** Sales, clerical, technical, labourer, Manager, professional
- **Household income**: *** <$119,000, >$119,000
- **Current living arrangements**: *** Family with children under 18, ageing couple, Single living alone, other types of household

### 5. Transport Context and Preferences

- **Registered vehicles in household**: *** 2+ cars, 0-1 cars
- **Locational context**: *** Outer suburb, Inner suburb
- **Increased public transport use**: *** Not likely, Likely, already have

### 6. Environmental Concern Scales

- **Importance of environmental action**: *** Lower, Higher
- **Environmental concern scale**: * Lower, Higher
- **Carbon intensity sensitivity**: *** Lower, Higher
- **Water sensitivity**: ** Higher, Lower
- **Energy sensitivity**: * Lower, Higher
- **Travel index**: *** Higher, Lower

Source: Newton et al (2011)
BABY BOOMERS: A KEY SEGMENT OF FUTURE DEMAND?
(Population Aged 65+ Melbourne 2006; note concentrations in middle suburbs)

9. Pro-Active Community Engagement: Is there a new business opportunity for site assembly in the middle suburbs?
Proactive Community Engagement
Locating Concentrations of Greyfield Housing (that are spatially contiguous)
Mobility Intention

Maroondah, Potential Land Redevelopment Index

Maroondah, ‘Intent to move’ - INDICATIVE ONLY

Legend:
- RDI 0.8 - 0.89
- RDI 0.9 - 1.0
- Looking to move now / next 12 months
- Expect to move in 1-2 years time
- Not likely to move in next 3 years
9. In Conclusion: what prospect a new urban planning logic for Australian cities?
A Future Logic for a Sustainable Growing City

Source: Adapted from Schwartz (2010)
Towards a new development model for housing regeneration in greyfield residential precincts

authored by
Peter Newton, Shane Murray, Ron Wakefield, Catherine Murphy, Lee-Anne Khor and Tom Morgan

for the
Australian Housing and Urban Research Institute

Swinburne-Monash Research Centre

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THANK YOU

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