Retrosuburbia:
a bottom up alternative pathway to water sensitive communities

David Holmgren
permaculture co-originator

Water Sensitive Communities
Inevitable or Pipe Dream?
Melbourne June 2018

The fate of suburbia; more low density infill, higher density redevelopment or...

Retro...

Suburbia?

Melliodora:
drought conditions
March 2018

1 hectare of permaculture productivity sustained by stormwater

Melliodora: RetroSuburbia

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Water Sensitive Communities
Inevitable or Pipe Dream?
Melbourne June 2018
Harcourt Park Bendigo: low cost stormwater detention wetlands for permaculture designed urban farm
Designed 2000,
Earthworks January 2001
2006
Permaculture, Transition & RetroSuburbia compared to Mainstream Sustainability

<table>
<thead>
<tr>
<th></th>
<th>Mainstream Sustainability</th>
<th>Permaculture, Transition &amp; RetroSuburbia</th>
</tr>
</thead>
<tbody>
<tr>
<td>View of future</td>
<td>Techno-stability</td>
<td>Energy Descent</td>
</tr>
<tr>
<td>Goal</td>
<td>Minimising impact</td>
<td>Increasing resilience</td>
</tr>
<tr>
<td>Strategy</td>
<td>Reform existing systems from top down</td>
<td>Build parallel system from bottom up</td>
</tr>
<tr>
<td>Process</td>
<td>Policies, planning &amp; economics</td>
<td>Self-organising, practical, cultural &amp; spiritual</td>
</tr>
<tr>
<td>Focus</td>
<td>Built environment &amp; technology</td>
<td>Biological &amp; behavioural systems.</td>
</tr>
</tbody>
</table>

Renewable Energy Economy

Financial economy

Monetary economy

Non-monetary economy (household, gift, barter, informal)

Economy of nature
Fossil Energy Economy

Monetary transactions dominate economy at Energy Peak

Non-monetary transactions dominate economy in Energy Descent

Bubble Economy (fossil economy in overshoot)

The Retro in RetroSuburbia ?...
Retro-fitting:
the addition of new technology or features to make existing systems fit for (new) purposes.

Retro: the styles & patterns of the past

Part A: Setting the Scene

- Key challenges and RetroSuburban responses
- Aussie St: the past and future of suburbia
- Where and how we live
A story of Australian suburbia from 'Golden Age of Growth' (1950s) to 2nd Great Depression (of 2020s)

Vital statistics of Aussie Street

Built Field: patterns of human habitats

- How to assess a property
- Warm in winter, cool in summer
- Wood Energy
- Electricity: special energy for specific functions, Water harvesting and storage
- Greywater and human nutrient recycling
- Facilities for food
- Retrofitting for bushfire defence
- Storage of Stuff
- Retrofitting for shared living
**Built Field: patterns of human habitats**

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**Retrosuburban Real Estate Checklist**

- Help in assessing existing or prospective properties for energy descent resilience and liveability
- A check list of 61 built and biological criteria and factors to consider
- Approximate scoring 0-5 allows summing factors to give a resilience rating (1 to 7 suns)

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**Case study properties**

<table>
<thead>
<tr>
<th>Built Field patterns</th>
<th>Melbourne</th>
<th>Ecuburb</th>
<th>Abbots House</th>
<th>Villas Plumane</th>
<th>Sharehouse</th>
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<tbody>
<tr>
<td>Regulatory freedom</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>2</td>
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<tr>
<td>Adjacent land</td>
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<td>Public transport</td>
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<td>Road traffic</td>
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<td>Vehicle access to property</td>
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<td>Pedestrian access from street to site</td>
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<td>Wide verge and street</td>
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<td>Side and back lanes</td>
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<td>3</td>
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<td>Short driveway/street parking</td>
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<td>Power</td>
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<td>Mains water</td>
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<td>Roof water harvesting potential</td>
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<td>Stormwater flood</td>
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<td>5</td>
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**Biological Patterns**

- Available land area
- Soil rooting volume
- High mineral fertility BCCEC
- Sweet water tables
- Moist climate
- Freedom from frost
- Freedom from problem plants

| Subtotal | 5 | 5 | 5 | 3 | 3 | 3 | 3 |
| Total Score | 112 | 243 | 148 | 222 | 115 | 217 | 129 | 186 | 141 | 163 | 0 | 0 |

**Sun Rating**

- <100 = 1
- 100-125 = 2
- 125-150 = 3
- 150-175 = 4
- 175-200 = 5
- 200-224 = 6
Opportunistic use of stormwater on 2ha urban market garden

Willow root mats cleaning stormwater
Spring Ck, Hepburn
Spring Ck, Hepburn

novel ecosystem absorbing and cleaning stormwater

**Behavioural Field:**

patterns of decisions & actions

- Ownership and living arrangements
- Changing habits for self-reliance and resilience
- Transport and Travel
- Creating your own livelihood
- Sustaining and sustainable diet
- Rearing self-reliant and resilient children
- Health, disability and aging
- Security in hard times
- Household disaster planning
- Decision making, interpersonal relations and conflict resolution

RetroSuburbia

The downshifter's guide to a resilient future

Melbourne 2046?
The Los Angeles Model
More than one million extra people – or 40 per cent of projected population growth to 2046 – will live on the city’s edge in 2046, under a planning scenario that sees unfettered low-density development.

Melbournians will rely more heavily on cars to get to work, with only 3 per cent of jobs accessible within 30 minutes by trains, trams or buses.

Infrastructure Australia

The New York Model
A compact, higher-density vision for Melbourne will concentrate jobs and housing within 15 kilometres of the city centre, and will drive up public transport use.

Infrastructure Australia

The London Model
A medium-density model that spreads the population growth more evenly and puts jobs closer to where people live.

Infrastructure Australia
**The Melbourne Model!**

**RetroSuburbia**

- Conserve existing private and public open space for garden and urban agriculture
- Maximise use of existing residential building stock ("take in a boarder" campaigns and support)
- Revitalise household and community non monetary economies
- Reduce commuting by home based and local livelihoods
- Retrofit unused commercial and other building stock when needed for a rising population

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**Implications For Stormwater Engineering**

Adapt to;
- **Property Bubble Burst:** harder access to credit, slowing or stalling housing development
- **Climate Change:** increase in extreme weather events

Opportunities for low built and biological retrofits to existing infrastructure to;
- encourage water quality and soil carbon building program (eg Keyline & Natural Sequence Farming)
- reward stormwater and greywater reuse on household level
- increase householder and community awareness and engagement

For example:
Guidelines to resolve issues to allow and support retrofits by residents that appropriately store, slow, detain, spread and sink stormwater on private and public land to; **(RetroSuburbia)**
- increase productivity of garden and urban agriculture
- reduce bushfire hazard
- rebuild floodplain ecosystems

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**Readings & Resources**

- **www.retrosuburbia.com**
  - RetroSuburbia: the manifesto
  - Feeding retrosuburbia: from the backyard to the bioregion
  - A short personal and global history of Retrofitting the Suburbs
  - History from the future: a story from 2086
  - RetroSuburban Real Estate Evaluation Tool (excel spreadsheet)
  - The Melbourne Model 2018

Books from **www.holmgren.com.au**
- RetroSuburbia: the downshifter's guide to a resilient future
- Permaculture: Principles & Pathways Beyond Sustainability
  - revised edition 2017
- Future Scenarios: how communities can adapt to Peak Oil and Climate Change
  - 2008