Urban Ecology Australia Inc

Centre for Urban Ecology
105 Sturt Street, Adelaide
SA 5000 Tandanya Bioregion

Phone/fax: (08) 8212 6760
urbanec@urbanecology.org.au
www.urbanecology.org.au

Ecological Cities are about balance within human society as much as they are about balance between humans and nature

To the:
Committee Secretary
Standing Committee on Environment and Heritage
House of Representatives
Parliament House
CANBERRA ACT 2600
AUSTRALIA
Phone: 61 2 6277 4580
Fax: 61 2 6277 4424
email: Environment.Reps@aph.gov.au

Urban Ecology Australia

Submission to the House of Representatives, Standing Committee on Environment and Heritage, Inquiry into Sustainable Cities.

(http://www.aph.gov.au/house/committee/environ/cities)

Submitted on behalf of

Urban Ecology Australia
105 Sturt Street, Adelaide, SA 5000.
08 82126760
email:urbanec@urbanecology.org.au
webpage: www.urbanecology.org.au

by Matt Fisher, Convenor, Urban Ecology Australia.
W: 08 8362 1022
Mob: 0414 641 026

Contents

1. Recommendation
2. Urban Districts
3. Urban Precincts
4. Housing Clusters
5. Buildings
6. Other Tools
7. Conclusion

1. Recommendations

- Federal, state and local governments should work together with business and the community sector to undertake a "sustainable communities" program that develops (or redevelops) numbers of urban communities to best-practice sustainability levels in all States, and in both major cities and smaller regional cities. These communities will act as working examples of urban form that allows people to have a good quality of life in balance with nature, relying predominantly on renewable resources. They will also have the effect of developing a skills and industry base for larger scale urban conversion.
- Medium density urban precincts and districts should be built around railway stations and bus interchanges, to create or improve urban centres, and to give residents and workers easy access to other parts of the city without need for cars.
- Urban precincts should be developed on vacant land, or by retro-fitting existing buildings and streets. Where projects are undertaken within major cities they should occur within existing metro area boundaries, used to build up urban density near existing centres or major public transport corridors; not as extensions to urban sprawl.

2. Urban Districts

- 5,000 to 10,000 residents on a 50 to 100 hectare site.
- Centred on a railway station and/or a tram or bus interchange linked to other districts.
- Compact to allow walkability, with no part more than 15 minutes walk from the centre.
- Includes a wide range of economic and community activities, to provide work, social and recreation opportunities within walking distance of homes so that fewer residents need to use motorised transport, especially on a daily basis.
- Includes light industries, with those requiring frequent truck access at the district periphery, facing onto main roads.
- Composed of several (eg 15-20) identifiable precincts, each with distinct character and a well-defined centre.
- Precincts are connected by a web of car-free, pedestrian and cycle paths that link up with path networks beyond the district.
- Includes green areas at the periphery for natural habitats, recreation, wetlands, urban food farms, fuelwood plantations, and larger wind turbines.
- All internal paths and streets are used as "green corridors" for birds and other wildlife.

3. Urban Precincts

- 300 to 600 residents on a 4-6 hectare area.
- A mix of housing types and tenure forms, and workplaces; designed to provide a variety of housing and work opportunity.
- Design to allow passive surveillance, eg children's play areas within view of dwellings and workplaces
- Precincts composed of several (eg 20) housing clusters within a network of paths and other public spaces.
- Use cogeneration to generate local electricity from solar, wind, gas or fuelwood, using the waste heat for other purposes; eg light industry or water heating.
- Use of adaptable and affordable housing, to foster mixed communities and aging in place.
- Provides a mixture of shopfronts and other workplaces, to encourage a diverse range of business and community activities.

4. Housing Clusters

- Several residential buildings clustered around a landscaped, car-free courtyard.
- 15-30 residents on an 0.1-0.2 hectare site.
- Should include some workplaces, eg facing onto adjacent streets and paths.
- Allow sharing of some facilities between residents, and with workers and other visitors; eg internet services, laundries.
- Onsite recovery of water from sewage and greywater for reuse in toilets and for garden irrigation.
- Rooftop gardens provide building insulation and extend communal green space.
- Incorporate small wind turbines for renewable electricity.

5. Buildings

- Designed to provide a comfortable temperature range inside with minimal (ongoing) use of imported energy.
- Stabilise and control internal temperatures using sunlight, shade, natural ventilation and air convection, thermal mass, insulation from walls and double-glazing, vegetation to create pleasant internal and external microclimates.
- Incorporate solar hot water systems.
- Designed to accommodate photovoltaic panels (now, or in the future when prices come down).
- Constructed from renewable, recycled, recyclable or abundant materials.
- Multi-story and designed to minimise floor space for given functions. To free up urban land for green space.

6. Other Tools

Community Facilities

- A cluster of community facilities should be placed at district or precinct centres, to increase social contact and attract pedestrian traffic.

Community Gardens

- Of varying sizes. Allows residents and visitors to cooperatively maintain food and ornamental gardens, or to engage in other backyard type activities. Large communal gardens located at the district periphery for more extensive planting and other activity. Smaller communal gardens in green streets and at precinct centres to improve public space.

Community Work-spaces

- Places with tools and other equipment where people can come to work side by side on personal or group projects.

Stormwater Capture

- All water from roofs is collected for reuse. Water run-off from roadways and other paving is collected in nearby wetlands and surface aquifers, to feed nearby soils or filter down to natural underground aquifers.

Green Streets

- Highly vegetated corridors with narrow (<3 m wide) roadway shared by pedestrians, cyclists, and cars limited to slow speeds (<20 km/h). Water run-off from the road surface is absorbed by roadside land.

Local waste recycling

- On-site reuse of off-cuts on building sites.
- Local (precinct and housing cluster) composting of food-wastes and vegetation clippings.
- Local (district) sewage treatment plants for nutrient and (further) water recovery, and to generate methane for local use.

24-Hour District Centres

- With a variety of late and all-night activities so that the conviviality never stops.
- Used to complement 24-hour public transport.
- Used to anchor other nightly activity in the district and thus extend passive surveillance.

7. Conclusion

We believe that sustainable cities are achievable, and need not depart from the Australian spirit of practicality, common sense, and egalitarianism. However, the physical and social structures of sustainable cities, as per the above, are in some ways quite different from the norms of the past 200 years. We believe therefore that key to achieving significant shifts towards sustainable cities lies not in incremental change to whole cities, but in *concentrated* change occurring in well-selected, relatively small 'pieces' of our current city structures. In fact, we would suggest, it is only by such targeted, step-by-step changes that the necessary integration and synthesis of social, economic and environmental factors can be achieved.

As we have already become aware through the development of the Christie Walk ecological housing project (as mentioned in your discussion paper), these working examples are powerful tools to change public perceptions and aspirations, and to inform and change industry practices. They educate and inform school children, home-owners, international visitors, elected representatives and many other people. Even at the very small scale to which we have been limited so far, these benefits still accrue.

How much more then might be achieved by a strong inter-governmental sustainable cities program, strongly led at the Federal level, managed at State level, and engaging local resources, expertise and enthusiasm?

We look forward to the conclusions of your inquiry.