SUBMISSION NO. 12

Secretary:

RECEIVED
OCT 2003
HOUSE OF REPRESENTATIVES
STANDING COMMITTEE ON
ENVIRONMENT AND HERITAGE

A SUBMISSION TO THE HOUSE OF REPRESENTATIVES STANDING COMMITTEE ON ENVIRONMENT AND HERITAGE DISCUSSION PAPER " SUSTAINABLE CITIES 2025 "

Prepared by: Dianne Davis – Permaculture Design Consultant.
Applied Diploma of Permaculture Design, Education & Site Development.

Web: www.users.bigpond.com/keithdavispdc.htm

Date: August 18th. 2003

* This submission represents my own personal views on this discussion paper and the subject material within, and in no way represents the views of any other organization that I am associated with.

I would like to provide some comment within my submission on the terms of reference of the inquiry into Sustainable Cities 2025 generally, and address some of the specific questions raised within the discussion paper.

The environmental and social impacts of sprawling urban development.

On this topic, many of the impacts are clear and present in all our lives, hence the need for this discussion paper, and the subsequent need for policies to be developed and actions to be urgently implemented. However it is the scale and severity of these environmental and social impacts that are less understood. Issues of the associated consumption of energy and natural resources by the continuation of the current patterns of urban sprawl or *" the Australian lifestyle "* are not usually in the discussion either, so I feel the whole debate needs to shift into high gear and tackle these impacts seriously.

When we talk of sustainability, we must first ask ourselves, **what is it that we are trying to sustain, and why?** If we are talking about preserving this Australian lifestyle of the quarter acre block, the motorcar dependant transport society and the high rates of energy, water and resource consumption, then this discussion starts and ends in the wrong place. While end-use energy consumption by the residential sector has increased by 60 percent since 1975, the population has only increased by 35 percent during the same period. This indicates that our current patterns of urban development are sustaining fewer people while consuming ever-increasing resources to do so. Hardly a model to continue on following if we are serious about sustaining the environment or equitable social access to those resources. In essence making and creating sustainable cities in involve looking at every aspect of our lives and hopefully going forward from this.

1 Preserve bushland, significant heritage and urban green zones.

The inclusion of green zones within cities does not have to add to urban sprawl and can only add to the liveability and health of a city. Green zone should be multi-purpose and at the same time providing habitat for nature to thrive. I would say it is appropriate to provide incentives and encourage partnerships to preserve remnant vegetation.
When we think of bushland, green zones and heritage areas we should be thinking how can be integrate these assets into our everyday lives and the for the advantage of the environment as a whole.

In Boulder Colorado an aggressive open space program has seen the city acquire over 25,000 acres to create continuous open space networks. This was funded by a percentage of sales tax. As a result of this program the people of Boulder have a wonderful quality of life living in an enhanced environment of preserved landscape. The positives are measured in many ways both environmental and socially.

The idea of needing to incorporate green belts into urban designs is not a new idea. People such as social reformer Ebenezer Howard could see looming problems as early as 1898 and designed plans with a balance of land uses including green belts for all sections of the community to enjoy.

The protection of green zones also protect cities from flooding as it provides more areas to filter excess water and makes cities on a whole more comfortable in climate extremes. Carbon dioxide levels are reduced leading to the further health of the city as trees act as carbon sinks. This is important as carbon dioxide levels need to be cut by 60% to stabilise atmospheric levels to try and avoid drastic climate change in the not so distant future.

We can make sure that built heritage sites and valued by making them useful and keeping as an important part of the community and by legislation which would also be important in making sure green zones are mandatory in new developments. I would say in the future the public might demand this for in fact this is what everybody really wants. You can see this when in cities where they are still trying to decrease their public space for a quick profit and local citizen group will quickly spring up in objection. Once the open space is gone it's gone forever and quality of life is diminished.

2 Ensure equitable access to and efficient use of energy including renewable energy sources.

The use of renewable resources or put simple what nature provides for us naturally without polluting the environment in abundance is something that we will have to embrace on a whole community scale.
The place to start is good passive design of buildings, which makes use of natural sunlight for heating, and lighting so decreasing use of energy. The use of the following principles in design will have to be law and will provide jobs both in the making and maintenance of new green services.
Some simple points to include in good city design in regards to renewable energy are as follows:

- Passive solar heating
- Solar hot water heaters
- Solar dryers
- Wind energy for pumping
- Compact homes to reduce heat and cooling needs
- Passive lighting
- Solar panels on roof areas especially in regards to industry which is fed communally into the grid
- Use of small local wind turbines where appropriate
- Good insulation
- Good use of tree plantings in all areas as they are the ultimate uses of natural resources and make buildings cooler in summer and warmer in winter.
- Run-off water could be used for irrigation, urban aquaculture and for power generation

These are just a few ideas that can be included in obtaining energy needs. I am a great believer that every household should be involved in producing some or all of their own energy needs. Large wind turbines are ugly and don't include people on a personal basis and become the property of large corporations instead on the individual.

There is a vast resource of empty roof areas ready to fill be solar panels that can be fed through our existing infrastructure. Some small energy uses buy using less than they make could even decrease their cost of living an incentive to use less energy.

This concept could be integrated by using existing power companies who just be running a slightly different business but still in the business of power generation. All consumers could be made to install a minimum system and pay it back in instalments though their power bills or solar panels could remain the property of the power generator who could offer discounts to customers who place them on their roofs. Power companies would be in charge of installation and maintenance. This would decrease the need to build any more polluting coal powered plants which could be over time phased out and replaced by these alternatives in conjunction with the overall reduction in energy use in the community.

This sort of idea where power generation is done more on a household or factory scale has the potential to create many jobs in the local maintenance and installation. Planning would be important, as buildings would have to be built as to not block out sunlight in neighbouring properties.

Public transport is an interesting issue if we were really to use natural resources for this the ultimate resources would be the simple horse, but I think an alternative to this would be electric powered trams and small transit vehicles that were powered by solar skin. In cloudy weather they could have batteries that could be recharged while not in use. Already the use of hydrogen buses are being tested in Perth which produce only water as waste so this could be another alternative.

3. Establish an integrated sustainable water and stormwater management system addressing capture, consumption, and treatment and re-use opportunities.

I think that future city development should develop and incorporate more localised systems for urban water management. This would be an advantage because smaller systems are easier to control and thus easier to capture, treat and reuse. The management of water in cities should start at the individual. Communities must capture and store water in their own catchment areas and not draw resources from often far-away areas at a detriment to the environment and the local population of these areas. We must understand what a catchment is, a catchment can be a roof, of a house a high rise building or a road, with treatment this water should be all utilised not seen as waste runoff.
We can encourage the use of new systems by legislation and by giving incentives to those that are willing to think ahead and be creative. In the community we can give incentives to individuals who use less water or install systems that reduce consumption of water or collect their own water by decreased rates or a more user pay system that has substantial benefits for those who use water wisely or invest in their own infrastructure, as they will in the long run save communities money.
Education is also important, we must tell the population the truth that if we don't look after our water and use it wisely we will be forced to anyway or run out, a very scary thought. Unnecessary items such as pools or spas must have an extra tax put on them to go towards initiatives to save water or they must be filled from runoff from the property not from outside sources.
Business must be given positive incentives to reuse water and a lot of companies are doing this some even have developed natural wetland systems to treat water and create healthy natural environments, an example being Mars confectionary.

It is important that all of these systems are not done by just anybody and it must be properly managed. Systems will need to be installed and designed by the appropriate people and be monitored on maybe a yearly basis by local government. This of course will cost money but at the same time save money in large-scale investments and the environment in the long run. These ideas also will mean a growth in jobs and business in these areas.

4.Manage and minimise domestic and industrial waste.

We can minimise domestic and industrial waste by simply not generating it in the first place. Australian generates the most waste in the world per individual so we have a lot of work to do.
A lot of waste is generated from households, which originates from the supermarket. We can minimise this by better design of packaging getting rid of it all together in some instances and encouraging manufacturers to be responsible for the products they produce even after the item is purchased. This would result in companies deducing packaging and fostering packaging that either breaks down naturally in the environment or can be reused, this must be done though legislation as has been done in some European countries. Again we could encourage this by giving generous incentives to manufacturers which again may cost at first but will well and truly pay for itself in the long-run.
As for the general population, because we have got used to our lifestyle it really must be forced to do things I don't believe the population on a whole will do these things willingly that's why I think that the source of the waste must be dealt with first. I also

think again that people who do the right thing and have deduced waste needs must be rewarded by a user pay system.
Most types of industry are appropriate within cities because that's where the in fracture and people are it just means that industries have to look after their own waste or outputs whatever they are, remember there is no such thing as waste just a unused resource All of the science already exists to do this be it air pollution or water all we have to do is to make sure this knowledge is used its just about being smart not just going on with what we have be doing. Industry that deals with their waste appropriately and does not allow pollutants to enter the local environment will find that they more openly embraced by the local community and will find it easier to do business and to grow their business.

Green waste is another area, there should be no such thing as green waste as this can all be used and again green waste on an individual scale should be almost non-existent. Waste such as lawn clippings should be left to naturally feed the lawn this again needs the public to change their ideas about what is beautiful. We must realise we are not living in England trying to recreate some image of affluence by our lawns we are Australian and we need to use every bit of green matter back into our soil. To deal with other green waste as already happens it is chipped and use for mulch I think this is already working. An area where I think their needs to be a lot more work done is our kitchen waste. There should be no kitchen waste leaving homes even blocks of flats that have some open space should be processing their own waste by things such as compost bins or worm farms and used on gardens or make potting mix this again should be encouraged especially in the education system so that young people will know how to do it properly and see it just as a fact of life. Such systems are already working especially in Canada where people living even in apartments are encouraged to have worm farms to reduce household waste.

5 Develop sustainable transport networks, nodal complementarity and logistics

There are many ways in which we can foster the reduction of automobile use and increase other modes of transport and moving place to place some of these are:

- Narrow streets that discourage traffic
- Providing safe pedestrian walkways and bikeways that are built into the community and given more importance than the car
- Design or walkways and bikeways so they directly lead to all important amenities such as schools, local shops and the such
- Encourage the community to use small cars
- Designs residential areas so that people can walk or ride without crossing roads
- All schools to be in walking distance of most homes
- Other public transport such as trains, buses to be easily accessed by walking and be reliable and safe to use
- The initiating of more small local taxis businesses that work locally and use small electric run cars these businesses would help offset carbon credits.
- Public transport should be cheap and reliable and safe, the cost of having a good public transport system will again pay for itself in the long-term as building new freeways are extremely expensive and in the long-run do not address problems they are supposed to alleviate they just add to the problem and actually encourage more use of the motor car.

- We must put people back into the public transport system to better control it and make people feel safe
- We must help create better transport systems for industry, which could be the better use of the train network to reduce the number of large trucks on the roads.

6. Incorporate eco-efficiency principles into new buildings and housing

Green construction and refurbishment techniques can be integrated into standard building practices by simply making them standard building practices which I mean you can't build a building unless it incorporates such techniques such as

- Passive solar design
- Double glazing
- Natural ventilation
- Good use of space
- The use of natural light
- Adequate insulation
- Equipped to use low energy appliances
- The use of solar hot water systems
- Incorporating open green open space
- The use of sustainable renewable building materials sourced from plantation timbers not from clear felling natural forests especially not from natural rainforests which will in the long run lead to the desertification of our tropical areas of the world and decreased rainfall.

I think there are really no impediments to eco-efficiency principles being taken up across new housing developments and commercial areas other than them not be required by law. Once these principles are required by law they will be implemented because they have to they will however not stop development. You would find that these new developments would be much sort after and inititally cost a little more but not enough to stop development.
Existing building standards and product labelling are not sufficient to make a big change as people will go along with what they know and these is no real need to change because the public on the whole are not fully aware of the real need to change and how their own lives impact negatively on the environment. You can see in any suburb or town at this moment inappropriate housing developments that are building inefficient housing and neighbourhoods that do not make the best use of the land or the environment and producing housing that requires copious amounts of heating, cooling and lighting all because they are designed badly as there is no regulations to stop this. I also think the building industry and the public need a lot further education on this but it needs to be inevitably more regulations.

7. Develop urban plans that accommodate lifestyle and business opportunities

There are many existing planning models that we could use but what whatever it is it must incorporate.

- Good efficient public transport systems
- Public open space
- Diversity in community being inclusive to all sections of society
- Sustainable housing development
- Access to education
- Access to local employment
- Sustainable business and manufacturing
- Local recreation opportunities

Existing areas will be transformed by appropriate regulations in which local council will have to over time implement. There needs to be some restrictions placed on councils who are sometimes the cause of problems such as reducing open spaces.
I don't think we are trying to decentralise cities we are just making sure of all areas of the city are being lived in evenly. In the future by not increasing urban sprawl we will be just using exiting land more efficiently this will lead to all areas being as I put it lived in not wasted.
We should be realising that man is not apart from nature we are part of it even in large cities there is no escaping this. All new urban centres should address all issues of human and nature's need, which we are closely, entwined. We should make sure that the community can support personal, recreational, business and biodiversity needs, which means trying to make sure by going on with our everyday lives we also end up with a clean environment that has room for all.

It Is also apparent that urban expansion into good agriculture areas cannot continue, as what is happening now our new cities must make better use of space be more users friendly as in the availability of transport and local jobs and incorporate open areas.
Business opportunities in city areas must also incorporate primary industries such as market gardens and orchards as it was in the past, problems such as herbicide and insecticide use can be minimised by the fostering of organic methods in built up areas and to make sure that primary produces do not get pushed out by urban development they need to be given concessions such as affordable access to water and rates not based on urban rates but rural rates. New urban which I can't say more strongly should not be eating up good agricultural land.

When designing new areas we must make sure we are not just creating areas that I call urban leisure deserts where people have to commute to somewhere else to have something to do this does not happen if you make sure there are local open areas and the community is provided which all the amenities they need as I have already stated previously in this submission.
We must also design for different age groups and cultural needs as by ensuring diversity we offer security and a diverse mix of skills.

New urban areas must also not encroach on existing natural forest areas or other significant natural areas, as there is already enough cleared land and for I really think people should not be building in forest areas and then complaining about the fire risk.

We should be really using what we have already developed more wisely as existing urban areas on the most part have been managed inappropriately as if our resources are infinite and there is an enormous scope to redesign our existing areas to be better places to live and incorporating more open space within these areas.

All I can say is that we already have the knowledge to create a more sustainable Australia, we have the skills and we already have the science in which our own csiro is a leader we just have to have the drive to do the right thing and be willing to be leaders and not just followers and by not going forward we will inevitably be going backward.

References:

David Holmgren Permaculture principles and pathways beyond sustainability Holmgren design Services Dec 2002

ACF Natural advantage a blueprint for a sustainable Australia Oct 2000

Timothy Beatley and Kristy Manning The ecology of place planning for environment, economy, and community Island Press 1997

Judy Corbett and Michael Corbett Designing Sustainable Communities Island Press 2000

Helen Caldicott MD If you love this planet W.W Norton & Company New York 1992

Paul Hawken,Amory Lovins, L. Hunter Lovins Natural Capitalism creating the next industrial revolution Little, Brown and company 1999