



Inquiry into Sustainable Cities 2025

Submission by STEP Inc.

October 2003

Written by Kate Read at the instigation of STEP Inc.

Introduction

The following sections respond to the terms of reference set out by the Sustainable Cities 2025 Inquiry, in addition to commenting on the issues raised in the discussion paper provided. The submission dedicates some time to focusing on innovative alternatives or models being used overseas with great success, which could aid Australian cities to become more sustainable.

In the first instance, Australia needs a national sustainable cities policy, to provide a vision and principles to guide planners, politicians and communities.

Such a policy might read as following:

The Commonwealth Government of Australia has a commitment to the development of sustainable urban centres which

- value and balance ecological, economic and societal spheres in order to achieve the efficient use of resources available to them
- work to reduce the total environmental burden caused by the use of materials and energy
- works to reduce dependence of its citizens on non-renewable resources and energy

STEP supports the sustainable city objectives for Australian cities cited on page 4 of the discussion paper.

To assist these principles into meaningful implementation and sustainable outcomes it is recommended that the Commonwealth Government structure its funding of State and Local Government resource, energy and waste management ventures in accordance with this vision for sustainable Australian cities.

Sustainable cities funding allocation could be tied to minimum mandatory benchmarks (as explained further in this submission), subject to 3 year review as technology improvements permit higher levels of efficiency. All ventures for sustainable cities funding must be monitored for effectiveness against project specific targets predetermined by a government funded Sustainability Committee, the project managers and Commonwealth Government environment auditors.

One problem that this enquiry is going to find is that the Commonwealth Government is 'hands off' for so many aspects of Australia's environmental welfare, and where the Commonwealth Government does intrude on State power it is generally to provide subsidies for infrastructure that

hamper sustainability outcomes (such as coal power generation and highway subsidies). There would be a strong argument for a 'Sustainable Cities' programme whereby Commonwealth Government could provide leadership and a unified direction on sustainability in our cities (after all 83% of us live in urban settings).

Many of the recommendations in this submission relate to the incorporation of mandatory minimum benchmarks and 'trigger' or seed funding for projects that are achieving sustainable outcomes overseas. The models shown have all been operational overseas for some time and have significantly reduced negative environmental impacts associated with urban living.

Responses to Terms of Reference

The environmental and social impacts of sprawling urban development

We live in cities because cities give us access to jobs, services, goods and communities. As cities sprawl, accessing what we need becomes more time consuming, more energy intensive and less economically efficient.

Environmentally, urban sprawl means that many of our major cities have encroached and swallowed enormous tracts of surrounding arable agricultural land, shifting the rural lands that provide food sources further and further from our cities where the food is consumed. This in turn, increases transport related air pollution, infrastructure transport needs and economic inefficiencies in getting food to its markets. Inefficient land use also means added pressure on outlying bushland and green corridors.

Additionally, there has been a significant amount of work done on increased costs of infrastructure such as electricity and water provision in urban sprawl settings as opposed to denser city forms, where there is generally spare capacity in already existing systems. If we accept these findings, it remains that the maintenance of systems in inner areas is not receiving adequate attention, given ever increasing densities and infill development.

The major determinants of urban settlement patterns and desirable patterns of development for the growth of Australian cities

Australia is one of the most urbanised countries in the world, with 83% of us living in urban centres. Indeed, 60% of Australians live in six cities and 40% reside in Sydney and Melbourne alone.

Sydney, our largest city, absorbs 50,000 new residents a year, the equivalent to adding a city the size of Wagga to its population annually. This is having many social, environmental, and lifestyle impacts. Other capital cities, while not receiving increases of the magnitude of Sydney, are nonetheless facing similar challenges as Sydney in working out how to manage impacts stemming from increasingly urbanised populations.

The demographics of our society are undergoing profound and rapid change. Smaller families, increased divorce rates, changing lifestyle choices and an aging population has meant that average housing occupancy ratios have declined from 2.92 in 1981 to 2.72 in 1996 and 2.68 in 2001. These changes mean that the traditional three bedroom stand alone home is not as relevant to residents as 20 years ago. Multi unit housing is more appropriate for many people looking for accommodation.

State Government policies across Australia are looking at in-fill style development. Increasing densities have caused vocal opposition in some sections of the community who believe that increased densities bring negative as well as positive social and environmental impacts that have not been adequately considered by government.

Transport provision is a major determinant of urban settlement patterns. Policies, planning and decision making which facilitated rapid car growth, and car dependence over the past 30 years have led to unforeseen consequences. The most detrimental, in terms of city form, has been that high private vehicle use escalated the scales that planners used when setting down townships. Rather than 'walkable cities' we have ended up with outlying suburbs where access without a car is almost impossible, a retail culture which necessitates driving to the next suburb's mall rather than walking to the local shop, and cities which swallowed one million hectares of land between 1980 and 1992.

Freeway development has been shown to facilitate sprawl style, inefficient development that is anathema to sustainable cities advocates, while rail nodes generate hubs of economic activity and higher levels of mixed use development which favour the walking neighborhood.

There is an urgent need for the Commonwealth Government to radically change its current transport policy and funding provision in preference for modes/approaches such as rail and transport demand management which will aid cities to develop in a more compact and sustainable manner.

A 'blueprint' for ecologically sustainable patterns of settlement, with particular reference to eco-efficiency and equity in the provision of services and infrastructure

Preservation of remnant urban bushland, urban green zones and city edge vegetation will require an acceptance of redevelopment and increased density in already developed areas. City planners need to consider built form *and* the conservation, recreation and aesthetic benefits brought by well managed open space and bushland provision. STEP urges that in-fill, redevelopment and increased densities must not lead to the destruction of remnant native bushland, the conservation of which is paramount.

Remnant bushland in urban areas should be viewed as precious refuges of biodiversity and a vital community resource, not as vacant areas available for clearing and development. There are numerous threatened species communities in our urban areas, and these should be prioritised against development. Such sites can form part of educational framework for schools and communities in the area.

Bushland plantings should extend into built areas, with obvious proviso of bushfire precautions. Plantings of invasive exotics should be illegal, and Councils given the capacity (funding) to remove exotic species from residences within their boundaries.

Members of STEP Committee have commented that there is a surfeit of indifferently managed ovals and greens that should not be increased at the expense of bushland. It was also commented that sports areas should be designated as such, and not as green space (for example netball courts do not constitute green space but may be listed as such).

With respect to the current push to increase densities, STEP urges that some suburban areas are better suited for increasing density than others. Australia's cities need to maintain the diversity within their boundaries, and will be better able to achieve this if it is acknowledged that the heritage and conservation value of some of our 'greener' old suburbs are important to maintain.

It is important that government agencies undertaking consolidation of existing residential areas acknowledge that to a large extent the existing infrastructure in those areas is woefully run down. An example of this is Sydney Water which is currently losing 10% of its water due to old leaking pipes etc. While the argument that older areas hold spare capacity and therefore decrease costs for some areas, there is no escaping the fact that our major cities need to have the infrastructure repair programs necessary to ensure that precious resources such as water are not captured and then lost through poorly maintained distribution systems.

Comments on built environment considerations arising from the discussion paper include:

- The need for appropriate heritage assessment at regional level
- Respect for diversity as a hallmark of the Australian urban landscape
- Government agencies to take the lead on issues such as heritage site management and ensure that they are properly conserving these sites
- The need to remain open to adaptive reuse as one method to conserve heritage landscapes
- Role of local Councils in educating developers and the need for adequate provision to be made for them to carry out such a role
- Stronger legislation for protection of heritage areas, with penalties for failure to comply
- Australian rather than European model as what constitutes heritage
- Environmental performance of structures and developments to be included in assessment processes. This could be achieved through Basix, a software programme developed in NSW to assess environmental and life cycle impacts. Such information would be of use to financial institutions as it could assist them on running costs for developments and offer some indication of overheads and financial implications for mortgagee.

In any discussion on sustainability, the issue of population growth must be discussed. The finite and limited capacity of the world and its resources cannot be 'solved' by recasting growth in terms of efficiency.

The capacity of the Sydney basin, and for our other cities is not unlimited. STEP would like the Committee to consider the following words of a STEP committee member:

"It may be convenient at present to ignore this limitation, since in the past we have always been "saved" by a techno-fix of sorts. But this attitude has got the world, and Sydney, to its current crisis point.

A view of an ultimate limit to the population of (our major cities) must therefore be taken, based on current known residential technology, services delivery, economic activity and transport. This does not preclude that limit from being extended at some time in the future on the basis of changes which are not currently identifiable. But that is vastly preferable to a situation of uncontrolled drift into degradation of built and natural environment.

Actual limitation of the metropolitan population will obviously require time, since it cannot be done by decree, nor by other heavy-handed Government intervention.

It is, however possible to devise pricing signals affecting further metropolitan development, and change the comparative advantages of metropolitan versus regional city development for industry, commerce and population. Particularly so as the physical size and total population approach the target limit.

Physical limitation of the area of Sydney was unsuccessful in the days of the County of Cumberland plan, but in today's climate of environmental concern setting aside open space and thereby limiting area for development would stand a much better chance of survival politically. Any limitation of ultimate population would, of course need to be debated widely, such debate would of necessity open up questions of State wide planning and indeed a national context. But the debate should be initiated immediately.'

Measures to reduce the environmental, social and economic costs of continuing urban expansion

Urban communities absorb material, water and energy inputs, process them into useable forms and generate waste. STEP has addressed the main areas of environmental consideration in the following comments, and we have offered some measures that need to be taken for cities to move towards more sustainable outcomes, and to reduce the ecological footprint of our urban centres.

The central premise behind many of the suggestions that follow is that the Commonwealth and the States, in policy making and decision making, need to move their focus away from the 'bigger is better' paradigm, and embrace the sustainability and efficiency gains to be won by focusing on demand management, resource re-use and locally provided provision systems (such as rain water tanks and photovoltaics).

Water

For most cities in Australia, the past decade has seen water shortages in our major dams, water restrictions implemented in an attempt to slow down water consumption, and new approaches to water use emerging (such as demand management education and water sensitive design in developments).

While our appreciation of the value of water is gradually showing up in policy making at State level, we are yet to see real change. Taking Sydney Water as an example: less than 2% of total water used is recycled, 1999 effluent recycling targets have been abandoned, mandated demand management targets for 2001/2002 were not met and 2004/5 targets are in serious doubt. The present approach by government provides few incentives for water agencies and the community to meet targets, and no effective penalties for agencies that fail to meet targets.

We need a national, unified approach on water provision and use in our cities. It is recommended that the Commonwealth Government facilitate a unified approach on water provision and use through a nationwide push for States to undertake:

- introduction of block pricing to encourage more efficient use of water by customers
- mandatory rainwater tanks on all new development and redevelopment
- greywater recycling and water efficient appliances on all new development
- water recycling targets with penalties for failure by water agencies to meet these targets
- water consumption targets, with higher prices for water supplied in excess of the target (extra funds raised going towards water conservation and recycling measures)

Local site collection of water mitigates effects currently affecting our cities such as damaging floods and excess water flushing pollutants into our sensitive waterways.

On that note, current stormwater management approaches have resulted in destruction of urban stream environments through channelisation and concreting of natural creeks. Traditional approaches have also failed to recognise the value of stormwater as a resource, treating it only as a waste product to be disposed of.

Creating sustainable cities will require a more enlightened approach that harvests stormwater for a variety of applications and restores degraded urban streams and canals to a more natural condition.

Energy

Australia emits over 542.6 million tonnes of greenhouse gas every year. Coal and gas power generation is by far the largest single source, and accounts for 48% of Australia's emissions.

We now know that the provision of energy through traditional means such as fossil fuels is having a major and worsening impact on climate change. The impacts of climate change include more extreme weather patterns (worsening droughts, storms), more severe and prolonged bushfire seasons and through these changes increased insurance premiums and less competitive and efficient economies.

Heating water accounts for 28% of our greenhouse gas emissions for households. The payback period for solar hot water is now around 4 years. Taking Sydney, by way of example: if each of the 1.8 to 2 million homes in Sydney installed a 1kilowatt solar power system on its roof, we would defer the need to build a new power station for 50 to 80 years.

Long distance electricity grids are hugely wasteful through power loss. Alternatives include minigrids based on local hubs using sustainable generating methods, that can be linked into the main grid, and private solar arrays that can also sell excess load to the grid.

Clean and green alternative energy sources are the way of the future, and Australia needs to join the rest of the world in embracing them. To assist new energy technologies, regulatory support is needed.

Recommendation: That the Commonwealth Government show leadership on this issue by creating a national alternative energy programme which

- augments the national renewables target to 20%
- bulk government purchases to replace old hot water system and exchanges them for solar hot water provision on government owned public housing
- mandates State governments to implement planning ordinances which make solar arrays mandatory on all new housing and commercial building with cash incentives for ramp up in existing developments
- mandates national appliance labeling scheme showing energy efficiency
- mandates energy efficiency targets for new housing and commercial buildings (eg 5 star rating)
- ties the first homeowners grant to having sustainable technologies in place
- sets the mandatory percentage of Green Power Accredited Products for retailers at industry leaders current performance and ramps it up over coming decade.

The discussion paper raises the question of whether renewable energy generation should be promoted at the single dwelling level or across city regions. These should not be seen as mutually exclusive options. Increasing the uptake of renewable energy will require a mix of decentralised options and larger scale renewable energy generation.

Environmentally sustainable buildings should represent the bulk of new development for the energy, resource, and waste benefits offered by 'green building' over traditional style construction. Achieving genuine sustainability will require changes to building codes (such as the Building code of Australia) and approval mechanisms. STEP welcomes the introduction of the BASIX system in NSW to assess building sustainability and recommends that the Commonwealth Government use the benefits of this technology to develop national requirements for its use in the development and construction process.

Public transport transfer to renewable energy should be attempted where practicable. Importantly, sustainability and long term environmental impact over life cycle needs to be investigated when purchasing new rolling stock. It is a worry that new generation trains in New South Wales were purchased despite using far greater levels of power than the previous models.

There is an urgent and vital need for increased training in the area of energy and waste water re-use. All education courses in the fields of building, construction and associated trades should include compulsory units in environmental plumbing and environmental energy saving systems.

Waste

STEP supports the comment of the Total Environment Centre that the sustainable city needs to be supported by sustainable materials policies and regulations.

Extended Producer Responsibility (EPR) is a key tool which encourages resource conservation and waste avoidance. EPR transfers responsibility for post-consumer products from ratepayers and councils to producers and consumers. Many EPR schemes overseas return products at the end of their life to producers. In doing so, responsibility for sustainable product design is transferred back to those in the product life cycle who are most instrumental in the determination of the environmental impacts of products – those who design and produce them in the first place.

By placing the responsibility back onto producers, EPR provides the incentive to design products for longevity, reuse, remanufacturing and recycling. Critical is the phase-out of hazardous substances from products, increased take-back and recycling on post-consumer goods and pricing that is reflective of environmental impacts.

South Australia, Germany and some states in the United States have implemented legislation such as container deposit legislation (CDL) which see big increases in recycling and return rates. The Commonwealth Government has thus far failed to implement a national mandatory CDL scheme and is invited to admit the failure of various 'voluntary' schemes negotiated with industry.

Recommendation: The Commonwealth Government is invited to undertake at a national level

- implementation of clear and substantial targets for waste minimization, re-use and recycling linked to specific timelines
- regulatory change to ensure a level playing-field for industry
- reduction or elimination of taxes on recycled and remanufactured products to balance massive and unsustainable subsidies to raw materials.
- higher charges for waste disposal, coupled with mandatory targets for recycling.
- Recognition that voluntary industry schemes are woefully inadequate and that the lead must come from Government.
- Taxation structures that penalize inefficient, wasteful, and environmentally damaging resource use
- National education schemes for more responsible resource use in urban communities.

Transport

Transport is a key area where current Commonwealth Government approaches are locking cities out of sustainable outcomes. Taxation, funding and decision making make Australian transport systems inefficient and certainly not sustainable.

Vehicle growth in our cities is the largest single threat to the maintenance of a healthy urban lifestyle and is responsible for:

- using one third of metropolitan land mass for roads and car parks
- congestion costs of \$12.75 billion per year that are expected to more than double to \$30 billion by 2015
- noise pollution costs of nearly \$500 million per year
- air pollution costs of over \$1.25 billion per year
- 85% of carbon monoxide (linked to heart ailments)
- 90% of air-borne lead (linked to brain damage, particularly in young children)
- 75% of nitrogen oxides that contribute to asthma
- 65% of ozone and other particulates that cause smog
- 99% of urban transport greenhouse gas emissions
- 50% of road transport greenhouse gas emissions and
- 7% of Australia's total greenhouse gas emissions

Demand management and more self-sufficient centres (to reduce freight haulage) should be key areas within Commonwealth transport policy and planning. In comparing the impacts of road and rail transport, rail holds several advantages over private motor vehicle in terms of sustainable outcomes (such as efficiency of resource use, conservation of land etc). Amongst other considerations rail can:

- reduce the total cost of urban transport because it is the most efficient way of moving large numbers of people with minimal environmental impact
- offer efficiency of urban space use as just one suburban train carrying 1000 people keeps 800 cars off the road
- provide immense benefits to our cities each year by reducing the amount of pollution, congestion, accidents, noise, land use and greenhouse attributable to motor cars

These are benefits that flow through to the whole community and are therefore rightfully financed within the public domain. It is particularly notable that the United States has recently injected enormous amounts of funding in urban and long distance rail infrastructure through its US Intermodal Surface Transportation & Efficiency Act (1998) (the United States now commits 20% of its land transport funding to urban mass transit, unlike the Commonwealth Government which has thus far failed to recognize its responsibility to provide urban mass transit investment) (given that most Australians live in cities after all!). The Federal Government has spent 20 times the amount on our road system as on rail over the past 25 years.

Alongside funding, STEP reminds the committee that after numerous reports recommending a nationally unified rail network, inadequate action has been taken towards such a vision. The following example is taken from the Australian Rail association website

A licensed truck operator automatically gains seamless open access to operate on the national road network. While the 1996 Intergovernmental Agreement on provides for a seamless single third party access regime applying throughout Australia, interstate rail operators still require accreditation from individual state authorities, either by separate applications or by mutual recognition.

The lack of coordination on a nationally unified rail system means that trucks are used for the bulk of haulage tasks. These trucks start and arrive at city locations and apart from causing 1000 times more damage to roads than the average car, bring diesel pollution and other particulate pollution into residential areas.

Recommendation: That the Commonwealth Government undertake the following steps to improve sustainable outcomes for our cities in the field of transport and accessibility:

- structure Auslink such that infrastructure projects compete for a pot of money (and include environmental impact/ social impacts and sustainability criteria for competing projects) rather than funding being dedicated for road upgrades
- seed funding for innovative community schemes such as the car share schemes which have been long established in Europe and America (70,000 members world wide) and have shown a 40%-60% reduction in car use amongst members
- national funding for demand management education programmes such as Travelsmart which, in a Perth trial, saw a 14% reduction in vehicle kilometres driven, a 25% increase in mass transit use and a 100% increase in cycling
- implementation of recommendations from the 1998 House of Representatives Neville Report which recommended an urgent investment of \$1 billion, followed by \$2 billion over the next (this) decade. The only provision made for rail capital works since the report was a conditional offer of \$250 million made in 1997, of which only about one half has been spent.
- Encouragement of the States to introduce congestion charging for their capital city centres, with net funds hypothecated to more sustainable transport approaches such as demand management programmes, mass transit, cycling and pedestrian networks (public opinion in London, is now showing that more of the community there supports the congestion charge than oppose it, and that it has caused considerable savings in congestion time terms).
- abolition, or gradually ramping back of taxation and company benefits which subsidise car use and provision (it has been stated that 40% of inbound car traffic in Sydney during the morning peak are company cars)
- encouragement of nationwide consistent mass-distance taxing for trucks

- implementation of a nationally consistent and sustainability focused push for new developments in cities which encourage walking and cycling and integrate communities with retail outlets and other services so journeys are cut
- legislative reform that sees 20% of national land transport funding directed towards urban mass transit investment (as per United States ISTEA)
- improved safety, reliability, and accessibility for mass transit services in urban centres through funding as per ISTEA (see above)
- school programmes that encourage car pooling and 'walking bus' schemes to reduce the impact of school children being ferried to school (it has been estimated that about 7% of peak hour traffic is children being taken to school in private motor vehicle).

Mechanisms for the Commonwealth to bring about urban development reform and promote ecologically sustainable patterns of settlement

With 83% of Australians located in urban centres there is a major need for a national sustainability programme to provide leadership and direction, funding for sustainability projects, and regulatory strength as articulated above.

If effectively implemented, such a programme would go some way to reversing the currently poor Commonwealth Government track record on sustainability issues. Australia can only achieve urban sustainability improvements across the spheres of economy, environment and social wellbeing for its people if the Commonwealth commits itself to providing the leadership, vision and financial backing that will assist us to create more sustainable cities.