



28 March 2013

Professor Hansen  
Chair – Ministerial Advisory Committee  
Metropolitan Planning Strategy  
Department of Planning and Community Development

Dear Professor Hansen,

**Submission to Metropolitan Planning Strategy Discussion Paper**

Thank you for the opportunity to comment on the discussion paper prepared for the proposed revision of the Metropolitan Planning Strategy. Decisions made through this planning framework have the potential to enhance the livability and prosperity of Melbourne into the future.

This submission has been prepared by Parks and Leisure Australia, Victorian / Tasmania Branch. Parks and Leisure Australia (PLA) is the peak national organisation representing people working in the parks and leisure industry. Membership ranges from people working in management, parks, gardens, sports, aquatic, rehabilitation, aged hostels and recreation centres, at local and state government levels, students from tertiary institutions, academics, private consultants, private operators of facilities and many more.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Paul Jane".

**Paul Jane**  
President, PLA Vic/Tas Region

A handwritten signature in black ink, appearing to read "C McCarthy".

**Cormac McCarthy**  
President, Play Australia

and on behalf of the **PLA Open Space Planners Network**

**Vic/Tas Regional Office:**

Office 1, 655 Nepean Highway, Tel: 0498 029 575  
Brighton East VIC 3187 Email: [victas@parksleisure.com.au](mailto:victas@parksleisure.com.au)

**National Office:**

207 The Parade, Tel: +61 +8 8332 0130  
Norwood SA 5067 Email: [admin@parksleisure.com.au](mailto:admin@parksleisure.com.au) Web: [www.parksleisure.com.au](http://www.parksleisure.com.au)

**Parks and Leisure Australia (Vic/Tas Region)  
Submission to Metropolitan Planning Strategy Discussion Paper**

**The key points of this submission are:**

Melbourne's parks and open spaces and natural areas are a vital part of the economic health of Melbourne. They are also important socially and environmentally. Parks contribute strongly to all five outcome principles outlined in the Discussion Paper.

Melbourne's parks, open spaces and natural areas are an important part of Melbourne's distinctiveness as a world city. This legacy of 150 years still pays a huge dividend today.

Unfortunately, over the past twenty years, investment in the parks network has fallen away. While the inner suburbs and some middle suburbs enjoy well-maintained parkland, the outer suburbs in particular have struggled to protect natural areas, and to provide for active and passive recreation.

With the growing obesity epidemic and increasing cardiovascular disease and mental health issues, parks are the front line in preventative health measures. Yet in infrastructure investment, parks are at the end of a long list, despite their known effectiveness in health matters, and the relatively low cost of provision, compared to roads, schools and hospitals.

The statutory five percent open space contribution in new subdivisions is a very minimal level of provision, instituted under the Hamer government, and on the assumption that organisations such as the Melbourne and Metropolitan Board of Works and the National Parks Service would continue to invest in new parks and maintenance of existing ones. Sadly this is no longer the case.

What is needed is a complete understanding of the long-term value of a world-class parks system, and a plan for investment to match other urban infrastructure provision.

We have a number of points for your consideration:

## **1. The importance of parks, open space and trees to the health of people and cities**

Our key concern with the discussion paper is the lack of attention to the importance of parks, open space and trees to the health of people and our cities. Community health and environmental health are integrally linked and rely on adequate provision of quality parks, open spaces and trees.

The social, economic and environmental benefits of open space are significant and include:

- Healthy communities – both mental and physical health;
- The value of wellness (rather than illness) within a local community;
- The social value associated with community cohesion;
- No cost and freely available to visit;
- Places for people to meet (connected communities);
- Conservation of natural environments for future generations enjoyment;
- Spaces for a range of recreation, tourism and employment opportunities;
- Places to seek refuge from the urban environment and connect with nature;
- A critical role in storm water management (cleaning storm water, slowing its movement and absorbing water during intense rainfall events);
- Acting as permeable 'sinks' for groundwater recharge;
- Biodiversity and habitat functions;
- Providing shade (through trees) contributes to an overall reduction in temperature levels by up to 8 degrees C (which in turn reduces the energy demand for air conditioning);
- Reduction of roadway deterioration through shade protected area's;
- Trees sequester a significant amount of carbon;
- Trees reduce wind speeds (with climate change scenario of stronger winds this is important);
- Grassed areas cool, reduce CO<sup>2</sup> and noise, and
- Enhanced values of properties located within proximity to well managed and located open spaces.

## Refer Attachment 1 - Benefits of Open Space

Parks, trees and open space play a significant role in climate change adaptation. Street trees as well as parks provide essential cooling for the effects of the urban heat island, an important ingredient for healthy communities.

A further key point that we will expand on later in this submission is that research has proven that good access to quality open space is linked to increased participation in walking and physical activity.

### ***Planning for open space***

The community has strong expressed demand for provision of quality open space. There are numerous factors that influence priorities and change in open space demand and provision. These include changes in settlement type and increased residential density.

Increasing numbers of users within existing open space for more activities often leads to conflict. One of the constant pressures for our Park providers is the management of use. So understanding the need to provide for different types of use (a wide range of functions) is important when planning for open space.

Various approaches have been used over time to classify public open spaces and these have tended to focus on the following, or a combination of the following:

- land ownership (Crown land, State forest);
- use or function (sports field, biodiversity, conservation, drainage, heritage);
- vegetation/topography type (floodplains, ridgeline, bushland); and/or
- visitor catchment (state, regional, district, local).

The following table categorises open space by its broad primary land use and highlights that some open spaces:

- *can serve many different and /or secondary functions, thus addressing a broader range of community needs; and*
- *that are not primarily provided for recreation may have the capacity to meet important recreational needs.*

This highlights that the consideration of open space planning should not be undertaken in isolation from the wider land use planning process.

**Table 1 - Examples of Public Open Space Categories, Uses and Potential Secondary Uses**

Categories/Descriptions	Primary Use	Examples of Potential Secondary Uses
<p><b>Conservation and Heritage</b> Land primarily set aside to protect and enhance areas with significant biodiversity, environmental, or cultural value.</p>	<p>Conservation, protection or enhancement of a highly valuable environmental, cultural or biodiversity resource.</p> <p>Examples include:</p> <ul style="list-style-type: none"> <li>• national/state parks</li> <li>• regional/metropolitan parks</li> <li>• state forests</li> <li>• areas of remnant vegetation</li> </ul>	<ul style="list-style-type: none"> <li>• Unstructured recreational activities may be accommodated provided there is no impact on environmental/heritage areas, such as walking cycling,</li> <li>• Nature appreciation</li> <li>• Heritage appreciation</li> <li>• Fire management</li> <li>• Scientific study</li> </ul>
<p><b>Natural or Semi-natural, landscapes and amenity</b> Land set aside to add or protect the character of an area, including areas with some environmental or cultural value.</p>	<p>Enhancement or protection of the natural or semi-natural character or attractiveness of an area or resource.</p> <p>Examples include:</p> <ul style="list-style-type: none"> <li>• wetlands and stream frontages</li> <li>• historic areas</li> <li>• buffers between different land uses</li> <li>• ridge lines</li> <li>• habitat corridors</li> </ul>	<ul style="list-style-type: none"> <li>• Recreational activities compatible with the natural, semi natural or landscape values may be accommodated, such as walking, cycling, nature appreciation</li> <li>• Nature conservation, protection &amp; enhancement</li> <li>• Nature study &amp; other educational activities</li> <li>• Water management</li> <li>• Fire management</li> <li>• Scientific study</li> </ul>
<p><b>Linear open space and trails</b> Linear reserves often on or alongside rivers and creeks, drainage easements, habitat corridors, foreshores and some utility reserves (ie pipelines, railway reserves and power lines).</p>	<p>Primarily established to ensure effective functioning of natural processes; to protect fauna and flora corridors; and to provide off-road pathways and trails.</p> <p>Linear trails may also provide links to the broader open space network, community or activity hubs &amp; other areas of interest.</p> <p>Examples include:</p> <ul style="list-style-type: none"> <li>• River, creek, drainage easements</li> <li>• Coastal/foreshores reserves</li> <li>• Flood plains</li> <li>• Habitat corridors</li> <li>• Off-road paths / Rail Trails</li> </ul>	<ul style="list-style-type: none"> <li>• Walking, horse riding and cycling trails</li> <li>• Commuter travel</li> <li>• Nature appreciation</li> <li>• Informal recreation</li> </ul>

<b>Categories/Descriptions</b>	<b>Primary Use</b>	<b>Examples of Potential Secondary Uses</b>
<p><b>Parklands and Gardens</b> Land which may have some modifications to support community social interaction, unstructured recreation and well-being uses, including for natural appreciation and reflection.</p>	<p>Established for a range of structured or unstructured activities, community recreation or cultural activities. Examples include:</p> <ul style="list-style-type: none"> <li>• Landscaped parklands and gardens</li> <li>• Formal lawn areas / open areas</li> <li>• Play spaces</li> <li>• Pocket parks</li> <li>• Botanical Gardens</li> <li>• Passive spaces (nodes)</li> <li>• Picnic areas</li> </ul>	<p>Suitable for a range of recreational activities, including:</p> <ul style="list-style-type: none"> <li>• Community events;</li> <li>• Community gardens;</li> <li>• Weddings</li> </ul>
<p><b>Active Open Spaces</b> Land which has been modified to support structured sports and recreation.</p>	<p>Established primarily for structured team sports and active recreation in an outdoor setting, including training and competition. Generally includes built infrastructure to support competition.</p> <p>Examples include:</p> <ul style="list-style-type: none"> <li>• sports fields</li> <li>• bowling greens</li> <li>• tennis / netball courts</li> <li>• athletics tracks</li> </ul>	<ul style="list-style-type: none"> <li>• May accommodate unstructured community or individual use when not required for primary purpose.</li> <li>• May include informal lawns, play, picnic and other facilities in the peripheral</li> <li>• Community and cultural events</li> <li>• Emergency/fire refuges or meeting points</li> <li>• Buffering/amenity</li> </ul>
<p><b>Civic Spaces</b> Land which has been modified to support a range of informal activities. Examples include:</p> <ul style="list-style-type: none"> <li>• Civic squares/areas</li> <li>• Plazas and malls</li> <li>• Promenades</li> </ul>	<p>Established primarily to provide areas for family or community activities, gatherings and events.</p> <ul style="list-style-type: none"> <li>• Civic events</li> <li>• Passive use for lunchtimes for workers</li> <li>• Neighbourhood meeting spaces</li> <li>• Organised events</li> <li>• Place/ establishing community identity</li> </ul>	<ul style="list-style-type: none"> <li>• Alfresco dining or entertainment</li> <li>• Public expos</li> <li>• Temporary markets / retail</li> </ul>
<p><b>Utilities and Services</b> Land reserved for urban and non-urban infrastructure for utilities and support services.</p>	<p>Reserved primarily for infrastructure utilities and support services.</p> <p>Examples include:</p> <ul style="list-style-type: none"> <li>• pipe easements</li> <li>• retarding basins, dams</li> <li>• power line easements</li> <li>• railway line buffers</li> <li>• cemeteries/memorials</li> </ul>	<p>In some instances, such land may be available for community recreational use when not being used for its primary purpose.</p> <ul style="list-style-type: none"> <li>• Linear trails</li> <li>• Habitat corridors &amp; refuges</li> <li>• Sports fields</li> </ul>

Categories/Descriptions	Primary Use	Examples of Potential Secondary Uses
<b>Undeveloped/Proposed</b> Land acquired, zoned or proposed to be zoned for open space purposes to protect its assets or to meet identified or community needs.	May be identified in an Open Space Strategy or land use planning plan.	Sites for which future uses have not yet been identified, for example: <ul style="list-style-type: none"> <li>• Former school sites;</li> <li>• Industrial sites;</li> <li>• Former landfill sites</li> </ul>
<b>Coastal and Beaches</b> Open space areas that form part of a foreshore, and parklands.	Conservation of natural areas and coastal systems Beach related recreational activity.	Emergency fire refuges or meeting points
<b>Plantations</b> Land used primarily for tree growing	Forestry Water catchment	<ul style="list-style-type: none"> <li>• Wildlife habitat</li> <li>• Recreation</li> <li>• Carbon sink</li> <li>• Native vegetation offset</li> </ul>

One of the critical points to take from this information is that *all* types of open space for *all* types of use and function need to be planned for and provided by *all* levels of government. Local and neighbourhood parks are equally important as regional facilities and State and National Parks. *All* are part of an open space network that is incomplete without representation for each.

*Planning for regional sports grounds, regional parks and networks and linkages of paths and trails traversing Local Government boundaries is currently neglected.* Sports such as hockey and athletics are often provided only as regional facilities and these sports are not receiving attention in the current approach. We strongly support re-establishing a planned approach for regional open space and linkages, such as the “*Linking People and Spaces*” Strategic Plan (Parks Victoria 2002).

While new sites of regional significance are being identified in growth area planning, they often have various land owners and there is no discussion on who will take the lead responsibility for their management. This also raises the importance of adequate funding to facilitate the management of the sites, to provide *quality* experiences. Funding to agencies such as Parks Victoria and Melbourne Water, as well as Local Government, is required to ensure these parks can be appropriately planned, developed and maintained.

Planning for quality open space includes consideration of land capability, land suitability and understanding the limitations of encumbered land for use as open space.

## ***The importance of understanding use of parks when planning for open space***

With increasing numbers of people competing for public open space, existing levels of provision are already inadequate in many Council areas. Management of use is becoming one of the greatest challenges for public land managers.

The management of uses is not only important for protecting public assets. Managing competing public uses is critical to people being able to experience the benefits of recreation participation, without their activities adversely impacting on the activities of another.

The greatest challenge for public land managers is the conflict between legitimate uses of parks. The most frequent conflict with park users occurs with off leash dogs and with pedestrians or cyclists.

*From an open space planning perspective it is clear that*

- ***not all activities*** can be catered for ***in each space*** (many activities need to be allocated to different spaces), and
- *adequate space must be set aside for the recreation and health of increasing populations..*

### ***In summary,***

The investment in quality open space/s is a primary consideration on the preventative health agenda and ensures that opportunities to access no cost or low cost places to be active are available.

It is critical to plan well from the start for the provision of parks and open spaces – as it is extremely difficult to go back and acquire open space after a settlement is planned.

**Specific** planning **goals** for open space must be integrated within any planning framework. They must articulate the scope and complexity of the community's needs for open space and that open space is essential to healthy cities and healthy communities.



## **2. Increasing pedestrian activity through increased investment in public transport and initiatives to modify traffic movement**

Increasing pedestrian activity will have physical activity and health benefits, as well as providing opportunity for community development. Neighbourhoods and communities grow through opportunities for people to meet (it is not easy to meet people when you are all in cars!)

Melbourne is increasingly car dependent. This is strongly influenced by the shape of the city, low density urban sprawl and the lack of investment in public transport. Public transport options are extremely limited throughout most of Melbourne.

Yet "peak oil" will show real impact to individuals and the community in the next 10 years. Proactive interventions must be implemented within this planning framework to reduce car dependency.

A further major problem is the growing **lack of independent mobility** of children. There is growing evidence of a significant reduction in independent mobility, which has health, physical activity and developmental implications for children.

Children cannot be solely dependent on parents to take them to a place to play. As they become older they need to be able to independently get to local places to play, where other children and families gather. This is an important ingredient for building resilience.

*We need communities where children can playfully explore their own neighbourhoods, and learn valuable lessons about risk taking in the process. (Paul Tranter, UNSW)*

Supporting children to walk to school provides them with a more connected and detailed understanding of their neighbourhood. This may in turn increase the likelihood that they will move about it independently.

*Change requires increased investment in public transport (and not just road based buses); slowing traffic speeds and changing the emphasis in planning suburbs (whether greenfield, brownfield – or even in established areas) so that the pedestrian comes first.*

### **3. Children's healthy development**

In addition to the critical need to intervene to **encourage independent mobility**, children also **need access to local parks** to play. With the rapid growth of cities and increasing population densities, it is important to ensure there is adequate open space provided in local neighbourhoods for unstructured outdoor play, which is so important for healthy childhood development. The need for these spaces is escalated with the development of larger houses on smaller residential blocks of land with little or no backyard.

***Children are more physically active when they are outside.***

And children are smarter, more cooperative, happier and healthier when they have frequent and varied opportunities for free and unstructured play in the outdoors. (Source: Cheryl Charles, Ph.D. President, C&NN Editor, C&NN Research and Studies)

***Refer Attachment 2 "Designing neighbourhoods for play".***

### **4. Reconsidering the design of housing**

Different housing design can deliver higher density and more private and public open space. Research undertaken by Prof Tony Hall, Griffith University and author of "*The life and death of the Australian Backyard*, 2010, CSIRO publishing" (<http://www.publish.csiro.au/pid/6449.htm>), demonstrates that the current interpretation of planning schemes is resulting in poor urban form. The current model of delivery is resulting in the cheapest housing development (environmentally unsustainable design -single story, small windows, no eaves – and nowhere for big trees to grow); poor street frontage; poor open space outcomes (both public and private), and car dependency.

It need not be this way. The UK model of approvals ensures that higher quantities of open space are achieved, with improved urban design and sustainability outcomes. In this model, the Local Authority establishes further criteria.

Lessons can be learned from other international experiences. Jan Gehl (internationally renowned architect) describes how 'high density' does not have to mean 'high rise'.

Jan Gehl also promotes that Cities of the 21st century should be lively, safe, sustainable and healthy cities, and that all of these qualities can be achieved through the policy of making walking and cycling the preferred mode of movement in the city.

***See Attachment 3***

## 5. Consultation with Park Management Professionals

We were disappointed to note that consultation did not include the Parks and Leisure profession.

We would be happy to organise a meeting with your team to discuss this with our Open Space Planners network members or representatives from PLA. The Open Space planners network had a number of meetings with the project team from VEAC during their Melbourne Metropolitan investigation, which they found very informative.

## 6. Proposals

### Proposal 1:

We make the following proposal for your consideration:

***That the priorities in the vision be refocused to community and individual health and well-being.***

Page 46 of the discussion paper describes how the Activity Centre Policy which has underpinned Melbourne's metropolitan strategies takes the *location of retail premises* as the starting point. The paper then proposes that *jobs as the starting point for urban form* become the focus.

PLA and its members propose that with ***health and well-being*** as the starting point, all the proposed principles would be able to be achieved, but with much greater community and environmental outcomes.

The State Government currently spends 25% of its total budget on health care. This is only going to increase if we are not proactive in changing many things about our lifestyles, and the urban form is a significant influence.

With *health and well-being* as a starting point the priorities would focus on:

- Increased quantity and quality of parks and open spaces;
- Walkable streets, neighbourhoods and suburbs – *which encourages community building*;
- Increased investment in public transport to reduce the reliance on cars;
- Investment in quality, attractive public spaces close to the home – *which encourages physical activity*;

- Reduced traffic speeds – *which encourages children’s independent mobility;*
- Rethinking the way we build our houses – *to increase the public and private open space and household sustainability while increasing density;*

We expect that all the principles could be met using *health and well-being* as the core.

The principles would guide Melbourne’s ongoing livability

- *a distinctive Melbourne,*  
enhance Melbourne as a global and connected city
- *because people are healthy and want to live here;*  
foster social and economic participation
- *because people are healthy and more able to participate,*  
build strong communities
- *because people will have the opportunity to connect;*  
and encourage environmental resilience
- *because priority is given to care for the land, vegetation, biodiversity and water.*

**Proposal 2:**

We make the following proposal for your consideration:

***That a further principle be added – “A green Melbourne”.***

“A green Melbourne” would allow for more attention to the importance of parks, open spaces and trees. This is critical given that world-wide research has highlighted the important role green spaces play in urban liveability, and in particular in the physical and mental health and well-being of urban dwellers.

A major reason that Melbourne is considered to be one of the most liveable cities in the world is that Governor Latrobe and the early planners had the vision to set aside land to create magnificent green public open space. Unless there is a continued strong focus on provision of public open space in the Metropolitan planning strategy there is a great risk that the lifestyle and health benefits that Melbournians have enjoyed through good access to high quality open space will diminish. We need to show the same level of vision and leadership of Governor Latrobe and the early planners.

**Proposal 3:**

We make the following proposal for your consideration:

***That an increased and stronger co-operative partnership between State and Local Government be developed with regard to the use of existing public land for community public open space purposes, including school land.***

This is particularly important within current “activity centres” and in future “employment innovation clusters” due to:

- The higher population densities in such areas;
- the often very limited amount of existing public open space available within these centres, and
- the higher demand due to increased activity generally in such areas.

If you wish to discuss this submission, please contact:

Cathy Kiss            Ph 9658 9776.

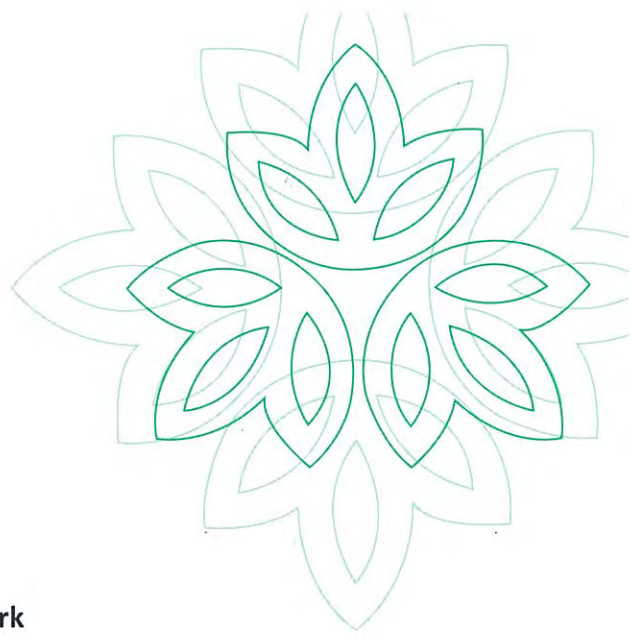
## Letters of Support

1. Nursery and Garden Industry Victoria
2. Sports Turf Association (Victoria) Inc. and VUGIA

### **VUGIA-**

VUGIA is an initiative of Victoria's green industries with the single goal of increasing the amount of greenspace and greenlife in urban environments. Its members include:

- Nursery & Garden Industry of Victoria (NGIV)
- Landscaping Victoria
- Turf Victoria Association
- Victorian Golf Course Superintendents Association
- Victorian Golf and Greenkeepers Association
- Sports Turf Association of Victoria
- Irrigation Australia



Dear Professor Hansen,

**Submission to Metropolitan Planning Strategy Framework**

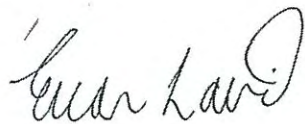
Thank you for providing the opportunity to comment on the discussion paper prepared for the proposed revision of the Metropolitan Planning Strategy.

It is NGIV's strong view that the priorities in the plan be refocussed to consider the well-being of our communities, individuals and environment as the starting point for urban design.

Central to this is access to not only open space but vegetated areas providing both amenity and economic contribution in energy reduction, carbon dioxide abatement and pollution reduction.

The NGIV is pleased to support and endorse this submission prepared by Parks and Leisure Australia and supported by members of the Victorian Urban Greenspace Alliance.

Yours sincerely



Euan Laird

Chief Executive Officer



Our Association provides support and technical assistance for the turf industry to deliver environmentally sustainable surfaces for sport and recreation



ABN: 63 545 014 618

Suite 5 / 35-37 Kitchen Rd  
DANDENONG SOUTH VIC 3175  
Phone 03 9791 6900  
Fax 03 9791 6055  
Email [vic@sportsturf.asn.au](mailto:vic@sportsturf.asn.au)  
Web [www.vicsportsturf.asn.au](http://www.vicsportsturf.asn.au)

26 March 2013

Dear Professor Hansen,

RE: SUBMISSION TO METROPOLITAN PLANNING STRATEGY DISCUSSION PAPER

On behalf of the STA (Vic) Inc Board, I would like to thank you for the opportunity to contribute to the discussion paper on the proposed revision of the Metropolitan Planning strategy.

STA (Vic) Inc fully supports the view that the objectives in the proposed plan be reconsidered in relation to the wellbeing of our cities, individuals' and peoples' open space environment for urban design.

The turf industry recognises the importance of open space; however STA recognises that open space areas also include plants, trees and **grassed** or **turf** areas. Grassed/turf areas provide the same benefits as trees and plants in cooling, reducing CO<sub>2</sub> and reduction in noise pollution.

STA (Vic) Inc is pleased to support and endorse the submission prepared by Parks and Leisure Australia and is supported by members of the Victorian Urban Green Industry Alliance (VUGIA).

Regards



Michael Walker  
FAIM, MMA, CSA (cert). NGIA-CNP, STA-PTM

Vice President STA (Vic) Inc



## **List of Attachments**

### *Attachment 1:*

*Appendix 3 - Benefits of open space*

### *Attachment 2:*

*Designing neighbourhoods for play*

### *Attachment 3:*

*Jan Gehl – "What are the three qualities that should characterise a sustainable city?"*

## ***Attachment 1 - Open Spaces Benefit the Broader Community***

Source: Appendix 3 **Open Space Planning & Design Guide**, *PLA Vic Tas, 2013 (soon to be released)*

Open space provides an array of social, health, economic and environmental benefits to individuals and to the community as a whole. In all its [forms](#), open space is an essential ingredient for enhancing the liveability of an area and improving the quality of life of its residents.

Increasing densities, population growth, climate change and resource depletion will place further importance on the provision of quality open spaces.<sup>1</sup> Easy access to well designed and diverse open spaces will assist in not only managing the impacts of these challenges, but also enhancing the benefits that open spaces provide.

There is a significant body of local and international research and knowledge of the wide ranging benefits of open space. Following are brief overviews and/or extracts of key research and literature reviews. Hyperlinks have been included to enable access to the reports and reviews where available online.

### **Social Benefits**

The social and health benefits of green open spaces are increasingly being recognised as important drivers in shaping future communities.

#### ***Open spaces connect and build strong communities***

Open spaces provide affordable leisure opportunities for local communities and families to come together for a range of leisure, cultural or celebratory activities, enabling relationships and connections to be strengthened whilst enjoying the benefits of interacting with the natural environment.

Community participation in structured and unstructured recreation is very important to the Australian sense of identity and social cohesion. Outdoor sport and recreation facilities provide a tangible focus for connecting with the local community and institutions. This connection is an important feature of community strengthening.<sup>2</sup>

A Victorian Parliamentary Inquiry into Country Football<sup>3</sup> found that, particularly in rural and regional Victoria, connections to sports clubs are important contributors to the development of "social" capital and community wellbeing.

#### ***Green spaces enhance liveability in urban environments***

---

<sup>1</sup> Parks Forum (2008). [The Value of Parks](#), produced by Parks Forum in partnership with IUCN World Commission on Protected Areas and The People and Parks Foundation, May 2008 (from SGS doc)

<sup>2</sup> Montgomery, J, (2005), "[Community, Place and Buildings: The Role of Community Facilities in Developing Community Spirit](#)". [Themes and issues emerging from the Better Facilities, Stronger Communities Conference, 15-16 August 2005, Melbourne](#), Australia. Prepared for the Department for Victorian Communities.

<sup>3</sup> Parliament of Victoria (2004) [Inquiry into Country Football Final Report](#), Rural and Regional Services and Development Committee, ISBN 0-9757058-0-6

The importance of public open spaces to improving liveability in the urban environment is widely recognised. As cities are planned to have increased density, so the maintenance, management and distribution of parks and other open spaces is likely to have increased importance for liveability.<sup>4</sup>

An extensive literature review undertaken by Deakin University<sup>5</sup> found that the health benefits of “green nature” cannot be over-stated, particularly for people in urban environments. It found that contact with green nature can reduce crime, foster psychological wellbeing, reduce stress, boost immunity, enhance productivity, and promote healing.

Public parks and recreational facilities enhance the liveability of inner-city neighbourhoods; they offer recreational opportunities for at-risk youth, low-income children and families; and provide places in disadvantaged neighbourhoods where people can feel a sense of community. Access to public parks and recreational facilities has been strongly linked to reductions in crime and in particular to reduced juvenile delinquency.<sup>6</sup>

### **Health Benefits**

The majority of health problems society will face, now and in the future, are likely to be stress related illnesses, mental health problems and cardiovascular health problems.<sup>7</sup>

There is a growing body of research that indicates that access to green open spaces, be it for experiencing the natural environment, community based activities or structured or unstructured physical activity, enhances physical and mental health, and helps reduce the risk of developing chronic diseases.

### ***Access to open spaces improves physical health and wellbeing***

Regular physical activity has been shown to increase health and reduce the risk of a wide range of diseases, including cardiovascular diseases, hypertension, diabetes and some types of cancers.

Increasingly research shows that that when people have access to quality parks, they exercise more. Research undertaken by the Atlanta Center for Disease Control and Prevention<sup>8</sup> found that the creation of or improved

---

<sup>4</sup> Victorian Competition and Efficiency Commission, (2008). [A State of Liveability: An Inquiry into Enhancing Victoria's Liveability](#), Final Report, October 2008

<sup>5</sup> Deakin University and Parks Victoria (2008). [Healthy Parks, Healthy People: The Health Benefit of Contact with Nature in a Park Context A review of relevant literature](#). School of Health and Social Development, 2<sup>nd</sup> Edition, March 2008,

<sup>6</sup> Sherer, Paul M., (2006). [The Benefits of Parks – Why America Needs More City Parks and Open Spaces](#), The Trust for Public Land, San Francisco – reprint of “Parks for People” white paper published in 2003

<sup>7</sup> Commonwealth Department of Health and Aged Care and Australian Institute of Health and Welfare (1999) Australian Institute of Health and Welfare (1998) cited in Townsend M and Weerasuriya R (2010). *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being*. Beyond Blue Limited: Melbourne, Australia. ISBN 978-0-9581971-6-8

<sup>8</sup> Centre for Disease Control (2001). *Increasing Physical Activity: A Report on Recommendations of the Task Force on*

*Community Preventive Services* (Atlanta: Center for Disease Control and Prevention, October 26, 2001) cited in Sherer, Paul M., (2006). [The Benefits of Parks – Why America Needs More City Parks](#)

access to places for physical activity led to a 25.6 per cent rise in the number of people exercising on three or more days per week.

Physical activity is also an important counter to the problem of obesity.<sup>9</sup> Obesity and inactivity can lead to significant detrimental health impacts including coronary heart disease, stroke, type 2 diabetes, breast and bowel cancer, depression and falls. A 2008 Medibank study<sup>10</sup> estimated the following costs of physical inactivity in 2007/08:

- gross healthcare cost were estimated over \$1.6 billion. When offset by the direct costs of being active, the total net cost of inactivity was estimated at \$719 million;
- an estimated 16,000 deaths were attributed to physical inactivity resulting in an estimated economic cost of over \$3.8 billion.

The study concluded that in 2008, the total economic cost of physical inactivity was conservatively estimated to be \$13.8 billion.

### ***Access to open spaces improves mental health and well-being***

In 2007, 45 percent of Australians aged 16 to 85 years (or 7.3 million people) had, at some point in their lifetime, experienced anxiety, mood and/or substance use disorders.<sup>11</sup>

It is well document that physical activity also relieves symptoms of depression and anxiety, improves mood, and enhances psychological well-being.

Beyond the benefits of exercise, a growing body of research shows that close proximity to, access to green spaces, and/or a view of the natural world is clearly associated with improved psychological health, and reduced prevalence of depression, anxiety and other mental health problems, particularly amongst children and people with low incomes.<sup>12 13 14</sup>

An extensive review of Australian and international literature on the links between mental health and well-being and contact with nature and green

---

[and Open Spaces](#), The Trust for Public Land, San Francisco – reprint of “Parks for People” white paper published in 2003

<sup>9</sup> [Montgomery, J, \(2005\). “Community, Place and Buildings: The Role of Community Facilities in Developing Community Spirit”. Themes and issues emerging from the Better Facilities, Stronger Communities Conference, 15-16 August 2005, Melbourne, Australia. Prepared for the Department for Victorian Communities](#)

<sup>10</sup> Medibank (2008). [The cost of physical inactivity](#), October 2008

<sup>11</sup> Australian Bureau of Statistics (2009a). *Australian Social Trends, March 2009*, ABS Cat. No. 4102.0, Australian Bureau of Statistics, Australian Government, Canberra, ACT. – cited in Townsend M and Weerasuriya R (2010). *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being*. Beyond Blue Limited: Melbourne, Australia. ISBN 978-0-9581971-6-8

<sup>12</sup> [Sherer, Paul M.,\(2006\). The Benefits of Parks – why America needs more city parks and open spaces, The Trust for Public Land, San Francisco 2006 – reprint of “Parks for People” white paper published in 2003](#)

<sup>13</sup> Townsend M and Weerasuriya R (2010). *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being*. Beyond Blue Limited: Melbourne, Australia. ISBN 978-0-9581971-6-8

<sup>14</sup> US Center for Disease Control and Prevention (CDC), *Increasing Physical Activity: A report on recommendations to the taskforce on community preventive services (Atlanta: Centres for Disease Control and Prevention, Oct 26, 2001)* Cited in : [Sherer, Paul M., \(2003\) The Benefits of Parks – why America needs more city parks and open spaces, The Trust for Public Land, San Francisco 2006 – reprint of “Parks for People” white paper published in 2003](#)

spaces was undertaken by Deakin University as part of the Beyond Blue Initiative. The project found research evidence to demonstrate the following assertions with certainty:

- There are some known beneficial physiological effects that occur when humans encounter, observe or otherwise positively interact with animals, plants, landscapes or wilderness;
- Natural environments, such as parks, foster recovery from mental fatigue and are restorative;
- There are established methods of nature-based therapy (including wilderness, horticultural and animal-assisted therapy among others) that have success healing patients who previously had not responded to treatment;
- When given a choice people prefer natural environments (particularly those with water features, large old trees, intact vegetation or minimal human influence) to urban ones, regardless of nationality or culture;
- The majority of places that people consider favourite or restorative are natural places, and being in these places is recuperative;
- People have a more positive outlook on life and higher life satisfaction when in proximity to nature (particularly in urban areas);
- The majority of health problems society will face, now and in the future, are likely to be stress-related illnesses, mental health problems and cardiovascular health problems;
- Social capital is decreasing and is likely to continue to decline;
- Exposure to natural environments, such as parks, enhances the ability to cope with and recover from stress, cope with subsequent stress, and recover from illness and injury;
- Observing nature can restore concentration and improve productivity;
- Having nature in close proximity (e.g. urban or national parks), or just knowing it exists, is important to people regardless of whether they are regular "users" of it.

Extracted from - Townsend M and Weerasuriya R (2010). *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being*. Beyond Blue Limited: Melbourne, Australia. ISBN 978-0-9581971-6-8

### **Open spaces benefit children's development and well-being**

Nature is important to children's development in every major way – intellectually, emotionally, socially, spiritually and physically. Kellert (2005 p.83) states "*Play in nature, particularly during the critical period of middle childhood, appears to be an especially important time for developing the capacities for creativity, problem-solving and emotional and intellectual development.*"<sup>15</sup>

This is supported by other researchers ([Burdette and Whitaker 2005](#); [Ginsburg 2007](#); Heerwagen 2009)<sup>16</sup> who believe that playing in outdoor settings at home, camps and schools has long-term benefits for physical, social, emotional and cognitive development in children. Results from Wells' (2000) study confirmed this, showing that children who experienced high levels of contact with nature reported higher global self-worth and higher cognitive function.

Play and motor development, developing a sense of identity, autonomy, psychological resilience and learning healthy behaviours are key elements of child development fostered through contact with nature. (HCNDACRSP (2004)<sup>17</sup> Kellert and Derr (1998)<sup>18</sup>

An Australian investigation conducted in Melbourne primary schools identified perceptions of the social and mental health benefits of nature-based activities (Maller 2005)<sup>19</sup>, and included:

- caring for living things which assists in the development of empathy;
- seeing the changes taking place in the cycle of life such as growth and change which builds resilience;
- improvements in neuro-behavioural disorders in children (e.g. ADD and ADHD)
- improved attitudes towards school and relationships with peers and adults;
- greater calmness and reduced disruptive behaviour;
- giving children a sense of freedom to be innovative, creative and make discoveries which enhanced their self-esteem and self-confidence; and
- increased enjoyment to the senses which increased perceptions of wellness and gave a sense of empowerment and achievement.

---

<sup>15</sup> Kellert, Stephen R. (2005) "*Nature and Childhood Development.*" In Building for Life: Designing and Understanding the Human-Nature Connection. Washington, D.C.; Island Press, [http://www.childrenandnature.org/downloads/Kellert\\_BuildingforLife.pdf](http://www.childrenandnature.org/downloads/Kellert_BuildingforLife.pdf) accessed on 18 Jan 2012.

<sup>16</sup> All cited in Townsend M and Weerasuriya R (2010). *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being.* Beyond Blue Limited: Melbourne, Australia. ISBN 978-0-9581971-6-8

<sup>17</sup> Health Council of the Netherlands and Dutch Advisory Council for Research on Spatial Planning Nature and the Environment [HCNDACRSP] (2004) *Nature and Health. The influence of nature on social, psychological and physical wellbeing*, Health Council of the Netherlands and RMNO, The Hague.

<sup>18</sup> Kellert, S. and Derr, V.,(1998), '*A national study of outdoor wilderness experience*', Yale: School of Forestry and Environmental Studies, Yale University, CT. <http://www.childrenandnature.org/uploads/kellert.complete.text.pdf> accessed in July 2012

<sup>19</sup> Maller, C. (2005), "*Hands on contact with nature in primary schools as a catalyst for developing a sense of community and cultivating mental health and well-being*" *Journal of the Victorian Association of environmental Education* vol. 28, no. 3 pp. 16-21) cited in Townsend M and Weerasuriya R (2010). *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being.* Beyond Blue Limited: Melbourne, Australia. ISBN 978-0-9581971-6-8

A review of research linking nature contact with children's development undertaken by Deakin University as part of the Beyond Blue Initiative found that:

- five-year-old children, who could not access the outdoor play areas unsupervised due to dangerous traffic conditions, displayed poorer social behaviours, less well-developed motor skills and had fewer playmates than their counterparts with better access to the outdoors.<sup>20</sup>
- the development pattern of 11- and 12-year-old children indicates on average that they are two to three years behind where children of a similar age were 15 years ago, in terms of cognitive and conceptual development.<sup>21 22</sup> It was suggested that the growth of TV and video game cultures, alongside the decrease in opportunities for experiential play, have taken away the type of active play which helped children experience how the world operates and make informed judgments about certain abstract concepts encountered during such play.<sup>23</sup>
- The sedentary nature of the lives led by modern-day children is very likely to be a large contributing factor to the global obesity epidemic reported in medical statistics locally and internationally (Burlis 2007a). The close links between obesity, depression, stress and anxiety indicates there is likely to be a high cost to mental health if the current generation does not change its sedentary, indoor lifestyles, as suggested by Louv (2008) and others (Burdette and Whitaker 2005; Burlis 2007b; Cock and Shaw 2006; Derbyshire 2007; O'Brien 2005a; Travlou 2006).<sup>24</sup>

Extracted from - Townsend M and Weerasuriya R (2010). *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being*. Beyond Blue Limited: Melbourne, Australia. ISBN 978-0-9581971-6-8

<sup>20</sup> Hüttenmoser, M., 'Children and their living surroundings: Empirical investigations into the significance of living surroundings for the everyday life and development of children', *Children's Environments*, 1995 vol. 12, no. 4, pp. 403-413. Cited in Townsend M and Weerasuriya R (2010). *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being*. Beyond Blue Limited: Melbourne, Australia. ISBN 978-0-9581971-6-8

<sup>21</sup> Shayer, M (undated). Research funded by the Economic and Social Research Council of the UK, and conducted by Michael Shayer, Professor of Applied Psychology at Kings College, University of London. Cited in Crace J., (2006). Cited in Townsend M and Weerasuriya R (2010). *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being*. Beyond Blue Limited: Melbourne, Australia. ISBN 978-0-9581971-6-8

<sup>22</sup> Crace, J., (2006) 'Children are less able than they used to be', *The Guardian* 2006. Cited in Townsend M and Weerasuriya R (2010). *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being*. Beyond Blue Limited: Melbourne, Australia. ISBN 978-0-9581971-6-8

<sup>23</sup> Research funded by the Economic and Social Research Council of the UK, and conducted by Michael Shayer, Professor of Applied Psychology at Kings College, University of London. Cited in Townsend M and Weerasuriya R (2010). *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being*. Beyond Blue Limited: Melbourne, Australia. ISBN 978-0-9581971-6-8

<sup>24</sup> All cited in Townsend, M. and Weerasuriya, R., *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being*. Beyond Blue Limited: Melbourne, Australia. 2010 ISBN 978-0-9581971-6-8

### **Open spaces benefit people with low incomes**

A feature of low socio-economic neighbourhoods may include higher crime rates, heavier traffic, poorer variety of facilities for physical activity outdoors, more unsafe play areas, and greater physical deterioration, as well as fewer natural elements compared to wealthier neighbourhoods.<sup>25</sup>

A number of studies have examined the relationship between low socio-economic neighbourhoods and people's mortality rate, including:

- An English study in 2007 that showed that deaths from all causes in income-deprived communities was lower for those living in the greenest areas and higher for those living in less green areas.<sup>27</sup>
- A Dutch study in 2009 investigated morbidity levels for 24 selected diseases and found that:
  - green spaces closer to home appeared to play a major role in morbidity prevention, relative to green spaces some distance away;
  - 15 of the 24 diseases studied had lower annual prevalence rates for participants living within a 1km radius of green spaces; and
  - The relationship was strongest for anxiety disorders and depression; and for people who were expected to spend more of their time closer to their homes, such as children and people with lower socio-economic status.<sup>28</sup>

The serious health and well-being implications of reduced access to green, open spaces for people living in socio-economically disadvantaged areas is significant and warrants serious consideration in future urban renewal and development projects.

---

<sup>25</sup> Coen, R., & Ross, N. (2006), 'Exploring the material basis for health: characteristics of parks in Montreal neighbourhoods with contrasting health outcomes', *Health and Place*, vol. 12, pp. 361-371. Cited in Townsend, M. and Weerasuriya, R., *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being*. Beyond Blue Limited: Melbourne, Australia. 2010 ISBN 978-0-9581971-6-8

<sup>26</sup> Evans, G.W. (2004), 'The Environment of Childhood Poverty', *American Psychologist*, vol. 59, no. 2, pp. 77-92. Cited in Townsend, M. and Weerasuriya, R., *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being*. Beyond Blue Limited: Melbourne, Australia. 2010 ISBN 978-0-9581971-6-8

<sup>27</sup> Mitchell, R., & Popham, F.(2007), 'Greenspace, urbanity and health: relationships in England', *Journal of Epidemiology and Community Health*, vol. 61, no. 8, pp. 681-683. Cited in Townsend, M. and Weerasuriya, R., *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being*. Beyond Blue Limited: Melbourne, Australia. 2010 ISBN 978-0-9581971-6-8

<sup>28</sup> Maas, J., Verheij, R., de Vries, S., Spreeuwenberg, P., Schellevis, F., & Groenewegen, P. 2009, 'Morbidity is related to a green living environment', *Journal of Epidemiology and Community Health*, pp. 1-7. Cited in Townsend, M. and Weerasuriya, R., *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being*. Beyond Blue Limited: Melbourne, Australia. 2010 ISBN 978-0-9581971-6-8



## **Environmental Benefits**

Green open spaces provide both aesthetic and environmental benefits. The trees and vegetation within local parks and gardens and along linear reserves improve the visual amenity of a suburb by providing a break in the urban fabric. The environmental benefits of open spaces and trees are both wide ranging and significant, and include:

- protection of areas of conservation, biodiversity or cultural heritage value
- assisting in mitigating and managing climate change impacts by:
  - providing shade and cooling
  - contributing to stormwater management
  - contributing to urban heat abatement
- reduction of air and noise pollution

These are discussed below.

### ***Open spaces protect areas of conservation or cultural heritage value***

Mature trees are significant assets to our environment and our society, regardless of where they occur or whether they are native or exotic.<sup>29</sup>

Trees and vegetation support native birds and animals, adding biodiversity to developed suburbs where Australian native habitat is often scarce. Avenues of trees planted along streets act as green corridors in highly developed areas, and help birds and animals to travel through to nearby green spaces or bushlands.<sup>30</sup>

National and metropolitan parks can contain sites of significance for indigenous communities, including remnant artefacts, rock engravings and artwork. Parks managed by Indigenous peoples can engender improved social and economic outcomes for their communities.<sup>31</sup>

### ***Contribution to Stormwater Management***

Green spaces provide a natural water retention and treatment system to manage stormwater. Tree canopies and root systems reduce stormwater flows and nutrient loads that end up in waterways.<sup>32</sup>

Trees intercept rainfall, and unpaved areas absorb water, slowing the rate at which it reaches stormwater facilities. Trees and vegetation more effectively and less expensively manage the flow of stormwater runoff

---

<sup>29</sup> Moore G M (2009) Urban Trees: Worth More Than They Cost accessed at <http://www.aiala.org.au/lapapers/papers/trees/Moore-UrbanTreesWorthMoreThantheyCost.pdf> - Feb 2012

<sup>30</sup> <http://www.ramin.com.au/creekcare/green-corridors-report.shtml> accessed in February 2012

<sup>31</sup> Parks Forum (2008) *The Value of Parks*. Produced in partnership with IUCN World Commission on Protected Areas and the People and Parks Foundation. Accessed at <http://www.parksforum.org/cms/pages/Economic-Values-of-Parks.html> in March 2010

<sup>32</sup> Melbourne City Council (2012), *Urban Forest Strategy 2012-2032: Making a great city greener Consultation Draft November 2011* - accessed at <http://www.melbourne.vic.gov.au/Environment/UrbanForest/Pages/About.aspx> in Feb 2012

than do concrete sewers and drainage ditches. This alleviates pressures on storm water management and flow control efforts.<sup>33</sup>

According to the U.S. Government Accountability Office, on land with natural ground cover, only 10 percent of precipitation becomes runoff. However, when 75 percent of the site is covered with impervious surfaces, 55 percent of precipitation becomes runoff. On paved parking lots, 98 percent of precipitation becomes runoff, resulting in greater amounts of storm water that must be managed, which can translate into higher municipal costs.<sup>34</sup>

"The Namadgi National Park provides up to 85 percent of Canberra's water from the Cotter Catchment in the ACT. The Economic value of this eco-service along is estimated to be at least \$100 million per year."<sup>35</sup>

As climate changes, the importance of green spaces and vegetation is paramount, as trees hold rainwater on their canopies and through transpiration significantly reduce the amount of water entering drains. According to Moore (2009), estimates suggest that trees may hold up to 40% of the rain water that impacts on them and that as little as 40% of water striking trees may enter drains.

A 2007 South Australian study of water filtration by permanent wetlands, many of which are protected in parks, calculated that they provide more than \$700 worth of water purification per hectare each year.<sup>36</sup>

### **Contribution to abatement of Urban Heat Island Effect**

Urban heat island effect is the build up of heat in built up areas. It results from the absorption and entrapment of heat on paved or built surfaces during hot periods.

Established research and ongoing studies confirm that the addition of trees and vegetation in the built environment provides the greatest benefit in terms of mitigating the urban heat island effect.<sup>37</sup> Examples of recent research include:

- Green open spaces (and the trees and vegetation within those spaces) provide a cooling effect, particularly during hot periods, through the

---

<sup>33</sup> Sherer PM. (2003). *Parks for people: Why America needs more city parks and open space*. San Francisco: The Trust for Public Land. Accessed at

[http://www.childrenandnature.org/downloads/parks\\_for\\_people\\_Jul2005.pdf](http://www.childrenandnature.org/downloads/parks_for_people_Jul2005.pdf)

<sup>34</sup> DiNapoli, T.P., (2010), *Economic Benefits of Open Space Preservation*, Office of the State Comptroller, State of New York, March 2010 access at

<http://www.osc.state.ny.us/reports/environmental/openspacepreserv10.pdf> in March 2012

<sup>35</sup> Parks Forum (2008) *The Value of Parks*. Produced in partnership with IUCN World Commission on Protected Areas and the People and Parks Foundation. Accessed at

<http://www.parksforum.org/cms/pages/Economic-Values-of-Parks.html> in March 2010

<sup>36</sup> Schmidt, C. (2007). *The valuation of South Australian wetlands and their water filtering function: A cost-benefit analysis*. PhD Thesis, The University of Adelaide. Cited in Parks Forum (2008) *The Value of Parks*. Produced in partnership with IUCN World Commission on Protected Areas and the People and Parks Foundation. Accessed at <http://www.parksforum.org/cms/pages/Economic-Values-of-Parks.html> in March 2010

<sup>37</sup> Melbourne City Council (2012), *Urban Forest Strategy 2012-2032: Making a great city greener Consultation Draft November 2011* - accessed at <http://www.melbourne.vic.gov.au/Environment/UrbanForest/Pages/About.aspx> in Feb 2012

natural process of photosynthesis and transpiration. A 20 per cent increase in a Melbourne's tree canopy can reduce ambient temperatures by 3-4 degrees Celsius.<sup>38</sup>

- Trees act as natural air conditioners, mitigating the heating effects of concrete and glass. The evaporation from a single large tree can produce the effect of ten room-size air conditioners operating 24 hours a day.<sup>39</sup>
- It is estimated that trees that drop temperatures by up to 8C, reduce air conditioner use and reduce carbon emissions provide savings of between 12-15% per annum.<sup>40</sup>
- Brisbane City Council has mapped the landscape assets of the city and identified that urban parks with shade trees provide greater cooling "services" (by up to 5°C) than those areas without shade trees.<sup>41</sup>
- Manchester University's Adaptation Strategies for Climate Change in the Urban Environment Project has found increasing green space in cities by 10% reduces surface temperatures by 4C due to water evaporating into the air from trees and other vegetation.<sup>42</sup>
- The presence of shady trees can increase the useful life of asphalt pavement by at least 30 per cent, which can be of considerable value in the hot climate of Australia where asphalt degrades quite rapidly.<sup>43</sup>
- The leafy canopy of trees reduces surrounding temperatures, provides natural shade and reduces ultraviolet radiation (UV) and the risk of skin cancer.<sup>44</sup> Shade alone can reduce overall exposure to UV radiation by up to 75 percent;<sup>45</sup>

### **Open spaces sequester carbon**

---

<sup>38</sup> Mc Pherson (1993) cited in Melbourne City Council (2012), *Urban Forest Strategy 2012-2032: Making a great city greener Consultation Draft November 2011* - accessed at <http://www.melbourne.vic.gov.au/Environment/UrbanForest/Pages/About.aspx> in Feb 2012

<sup>39</sup> U.S. Department of Agriculture, Forest Service Pamphlet No FS-363, cited in "Benefits of Trees in Urban Areas," Colorado Tree Coalition, <http://www.coloradotrees.org/>

<sup>40</sup> Moore G M (2009) *Urban Trees: Worth More Than They Cost* accessed at <http://www.aila.org.au/lapapers/papers/trees/Moore-UrbanTreesWorthMoreThantheyCost.pdf> in Feb 2012

<sup>41</sup> [www.brisbane.qld.gov.au/](http://www.brisbane.qld.gov.au/) cited in Parks Forum (2008) *The Value of Parks*. Produced in partnership with IUCN World Commission on Protected Areas and the People and Parks Foundation. Accessed at <http://www.parksforum.org/cms/pages/Economic-Values-of-Parks.html> in March 2012

<sup>42</sup> Fisher (2007) cited in Moore G M (2009) *Urban Trees: Worth More Than They Cost* accessed at <http://www.aila.org.au/lapapers/papers/trees/Moore-UrbanTreesWorthMoreThantheyCost.pdf> - Feb 2012

<sup>43</sup> Moore G M (2009) *Urban Trees: Worth More Than They Cost* accessed at <http://www.aila.org.au/lapapers/papers/trees/Moore-UrbanTreesWorthMoreThantheyCost.pdf> - Feb 2012

<sup>44</sup> Grant R, Heisler G, Gao W. (2002) *Estimation of Pedestrian Level UV exposure under trees. Photochemistry and Photobiology. 2002;75(4):369-376* accessed at <http://uvb.nrel.colostate.edu/UVB/publications/uvexposureundertrees.pdf> in Feb 2012

<sup>45</sup> Parsons et al 1998 - cited in Melbourne City Council (2012), *Urban Forest Strategy 2012-2032: Making a great city greener Consultation Draft November 2011* - <http://www.melbourne.vic.gov.au/Environment/UrbanForest/Pages/About.aspx> accessed in Feb 2012

During photosynthesis, trees convert carbon dioxide (CO<sup>2</sup>) and water into sugar and oxygen and store carbon within their biomass as they grow older. Urban trees therefore make an impact in absorbing carbon from the atmosphere. Chicago's urban forest annually sequesters 318,800 tonnes of carbon from the atmosphere, equivalent to the annual greenhouse gas emissions from over 50,000 passenger vehicles. (Ulrich, 1984)<sup>46</sup>

Moore's (2009) study on the value of urban street trees also highlights the importance of trees in reducing the level of carbon sequestered to counter the impact of Australia's reliance on coal powered generators that produce large volumes of greenhouse emissions. Moore (2009) also highlights a New York study in 1994 found that the value of the city's trees in removing pollutants was estimated at US\$10 million per annum.<sup>47</sup>

### **Open spaces reduce air pollution**

Open spaces make an important contribution to the reduction of air pollution, especially carbon dioxide particulate levels.

Trees act as the "green lungs" of our cities and towns. Their leaves naturally filter the air by stabilising dust<sup>48</sup> and absorbing pollutants<sup>49</sup>. A United States study estimated that dust levels in an urban park in Georgia were 60 percent lower than outside the park.<sup>50</sup>

Moore (2009) identifies the economic value of the air pollutants removed by Melbourne's 70,000 trees to be more than \$14 million per annum.<sup>51</sup>

### **Open spaces reduce noise pollution**

Open space vegetation has the ability to lower urban noise pollution levels.

---

<sup>46</sup> (Ulrich 1984 cited in - Melbourne City Council, *Urban Forest Strategy 2012-2032: Making a great city greener Consultation Draft November 2011* - <http://www.melbourne.vic.gov.au/Environment/UrbanForest/Pages/About.aspx> accessed in Feb 2012)

<sup>47</sup> Moore G M (2009) Urban Trees: Worth More Than They Cost accessed at <http://www.aifa.org.au/lapapers/papers/trees/Moore-UrbanTreesWorthMoreThantheyCost.pdf> accessed in Feb 2012)

<sup>48</sup> Beard, JB & Green, RL. 1994. The role of turf grasses in environmental protection and their benefits to humans. *Journal of Environmental Quality*, 23, 1-16. Cited in . Parks Forum (2008) The Value of Parks. Produced in partnership with IUCN World Commission on Protected Areas and the People and Parks Foundation. Accessed at <http://www.parksforum.org/cms/pages/Economic-Values-of-Parks.html> in March 2010

<sup>49</sup> Aldous, DE. 2006. Benefits of trees and natural green space for urban communities. International Federation of Park and Recreation Administration European Congress, Annecy, France. Cited in . Parks Forum (2008) The Value of Parks. Produced in partnership with IUCN World Commission on Protected Areas and the People and Parks Foundation. Accessed at <http://www.parksforum.org/cms/pages/Economic-Values-of-Parks.html> in March 2010

<sup>50</sup> Aldous, DE. 2006. Benefits of trees and natural green space for urban communities. International Federation of Park and Recreation Administration European Congress, Annecy, France. Cited in . Parks Forum (2008) The Value of Parks. Produced in partnership with IUCN World Commission on Protected Areas and the People and Parks Foundation. Accessed at <http://www.parksforum.org/cms/pages/Economic-Values-of-Parks.html> in March 2010

<sup>51</sup> Moore GM (2009) Urban trees: worth more than they cost. *Proceedings of the Tenth National Street Tree Symposium*. (Eds D Lawry, J Gardner and S Smith) pp. 7-14. University of Adelaide/Waite Arboretum, Adelaide  
Cited in "Working trees" key to urban resilience? Published in CSIRO Ecosmagazine 2009 accessed at [http://www.ecosmagazine.com/view/journals/ECOS\\_Print\\_Fulltext.cfm?f=EC151p34](http://www.ecosmagazine.com/view/journals/ECOS_Print_Fulltext.cfm?f=EC151p34) in March 2012

Trees, shrubs and grass along freeways can deliver a noise reduction of between 2-8db over short distances. In the EU it has been estimated that noise pollution may impose a total cost to the economy of between 0.2 – 2 percent of GDP.<sup>52</sup>

This method delivers an environmental benefit as a consequence of noise reduction and an economic saving through the use of vegetation as opposed to the construction of large walls.

### **Environmental Benefits in Dollar Values**

The environmental benefits of open spaces, trees and vegetation have for some time now been well recognised and documented.

Growing demand for housing particularly in major cities has led to an increased interest and recognition of the dollar value of the environmental benefits of open spaces. Following is an overview of recent research findings.

- Increasing tree cover by 10 percent or planting about 3 trees per building lot – saves annual heating and cooling costs by an estimated \$50-\$90 per dwelling unit because of increased shade.<sup>53</sup>
- Moore (2009) estimates that the cooling effect of 100,000 mature urban trees in a city could save around 3 million kilowatt hours of electricity annually. This represents around 3600 tonnes of saved carbon emissions, in addition to the 300 million litres of water that would have been used to generate that amount of electricity.<sup>54</sup>
- Research undertaken by Australian National University estimated the 2008 value of ecosystem services provided by Canberra’s 26 million square metres of street tree canopy to be:
  - \$23.5 million - \$6 million saved annually in energy and air conditioning costs;
  - \$12 million in pollution reduction; and
  - \$5.5 million in storm water mitigation and reduced infrastructure costs.

ANU research (Dr Chris McElhinny) points out that this figure does not take into account the carbon sequestration and storage value of these trees. Interestingly, because they are relatively young and fast-growing, Canberra’s urban trees have a high sequestration rate – around 0.6 tonnes of carbon per hectare per year, compared to 0.07

---

<sup>52</sup> Bolund, P. And Hunhammar, S. (1999) “Ecosystem services in urban areas”, *Ecological Economics*, vol.29, no.2, pp.293-302

<sup>53</sup> Mc Pherson Nowak 1997 cited in . Melbourne City Council, *Urban Forest Strategy 2012-2032: Making a great city greener Consultation Draft November 2011* at <http://www.melbourne.vic.gov.au/Environment/UrbanForest/Pages/About.aspx> accessed in Feb 2012

<sup>54</sup> Moore GM (2009) Urban trees: worth more than they cost. *Proceedings of the Tenth National Street Tree Symposium*. (Eds D Lawry, J Gardner and S Smith) pp. 7-14. University of Adelaide/Waite Arboretum, Adelaide  
Cited in CSIRO *Ecosmagazine* 2009 at [http://www.ecosmagazine.com/view/journals/ECOS\\_Print\\_Fulltext.cfm?f=EC151p34](http://www.ecosmagazine.com/view/journals/ECOS_Print_Fulltext.cfm?f=EC151p34) accessed in March 2012

tonnes of carbon per hectare per year for the mature native vegetation surrounding Canberra.<sup>55</sup>

- Benefits provided by open space, such as water preservation and storm water control, are often significant. In many instances, it is less expensive for a community to maintain open space that naturally maintains water quality, reduces runoff, or controls flooding than to use tax dollars for costly engineered infrastructure projects such as water filtration plants and storm sewers. When these benefits, also known as ecosystem services are overlooked, open space protection may be considered an expense rather than an investment that can mitigate property tax increases, leading to land use decisions that do not accurately weight costs and benefits.<sup>56</sup>

### ***The Value of Melbourne's Trees***

In formulating its Urban Forest Strategy Consultation Draft, the Melbourne City Council prepared a scientifically based amenity formula to calculate the value of its trees. The council used this formula and a US based tool called i-tree Eco, to roughly estimate the value of trees within a defined section of the municipality. The initial results show that the 982 trees studied:

- remove 0.5 metric tonnes of air pollution per year at a dollar benefit of \$3,820
- store 838 metric tonnes of carbon at a dollar value of \$19,100
- sequester 24 metric tonnes of carbon each year at a value of \$548 per year
- save \$6,370 in energy costs each year through shading buildings in summer and providing solar access in winter
- avoid carbon emissions by reducing energy use by \$114 per year
- are structurally worth \$10.4 million.

Extracted from Melbourne City Council (2012), *Urban Forest Strategy 2012-2032: Making a great city greener Consultation Draft November 2011* at

<http://www.melbourne.vic.gov.au/Environment/UrbanForest/Pages/About.aspx> in Feb 2012

### **Economic Benefits**

Local, regional and state economies benefit significantly from parks. They are a major drawcard for the recreation and tourism industries and

---

<sup>55</sup> McElhinny, C., Australian National University cited in CSIRO Ecosmagazine 2009 accessed at [http://www.ecosmagazine.com/view/journals/ECOS\\_Print\\_Fulltext.cfm?f=EC151p34](http://www.ecosmagazine.com/view/journals/ECOS_Print_Fulltext.cfm?f=EC151p34) accessed in March 2012)

<sup>56</sup> DiNapoli, T.P., (2010), *Economic Benefits of Open Space Preservation*, Office of the State Comptroller, State of New York, March 2010 access at <http://www.osc.state.ny.us/reports/environmental/openspacepreserv10.pdf> accessed in March 2012

significant sources of employment for local communities and of flow-on economic benefits.<sup>57</sup>

For ease of reading, the economic value of the identified social/health and environmental impacts of green open spaces have been referred to in the respective preceding sections. This section discusses the economic value of open space arising from the attraction of new residents, business and tourists; increased employment opportunities and workforce productivity; and increased property values.

- **Quality Open Spaces attract visitors and generate tourism**

Numerous international studies demonstrate that quality parks can boost local economies by attracting visitors and tourist and stimulating economic development opportunities.<sup>58</sup>

A number of Australian studies have found that recreation in natural settings is becoming increasingly important as evidenced by the growing number of people who travel to parks and wilderness areas for their annual holiday to “experience” the wilderness.<sup>59</sup>

A 2004 study found that across Australia the natural attractions offered by national and marine parks attract around 80 million visits annually. Visits continue to grow as more people are motivated by “the enjoyment and experience of nature”. Parks represent the greatest tourism assets in Australia – over 40 percent of all international visits take in a national park.<sup>60</sup>

A study into the economic contribution of Victoria’s parks found that the economic contribution of tourists to national parks is significant. By way of example, at the Grampians National Park, \$2.6 million was spent on park management services whilst expenditure by tourists generated a substantial economic benefit to Victoria’s economy \$246 million in economic benefit to the state’s economy.<sup>61</sup>

- **Open Spaces attract businesses and create employment**

In regional areas, national parks generate employment and provide regional economic activity through the management of the park.

---

<sup>57</sup> Parks Forum (2008) The Value of Parks. Produced in partnership with IUCN World Commission on Protected Areas and the People and Parks Foundation. Accessed at

<http://www.parksforum.org/cms/pages/Economic-Values-of-Parks.html> in March 2010

<sup>58</sup> Gies, Erica (2009) Conservation: An Investment That Pays

[http://www.brooklinegreenspace.org/pdf/EconBenefitsReport\\_7\\_2009.pdf](http://www.brooklinegreenspace.org/pdf/EconBenefitsReport_7_2009.pdf) accessed at March 2012

<sup>59</sup> Freimund and Cole, 2001 cited in Healthy Parks Healthy People Congress. Accessed at <http://www.healthyparkshealthypeoplecongress.org/images/stories/documents/hphp.pdf.pdf> in March 2012

<sup>60</sup> Griffin, T & Vacaflores, M. 2004. Project Paper 1 – The visitor experience, p7 in: *A Natural Partnership – Making National Parks a Tourism Priority*. Tourism and Transport Forum (TTF) Australia, Sydney. – cited in Parks Forum (2008) The Value of Parks. Produced in partnership with IUCN World Commission on Protected Areas and the People and Parks Foundation. Accessed at <http://www.parksforum.org/cms/pages/Economic-Values-of-Parks.html> in March 2010

<sup>61</sup> PricewaterhouseCoopers. (2003). *Economic contributions of Victoria’s parks*. Parks Victoria, Melbourne. cited in Parks Forum (2008) The Value of Parks. Produced in partnership with IUCN World Commission on Protected Areas and the People and Parks Foundation. Accessed at <http://www.parksforum.org/cms/pages/Economic-Values-of-Parks.html> in March 2010

Urban open spaces and associated facilities create opportunities for local volunteerism and paid employment and generate economic activity through local events, community use of the spaces, and ongoing maintenance and management.

Crompton (2009) found evidence that larger US employers, particularly high-tech companies, are attracted to cities with plentiful parks and open spaces in order to offer employees a better quality of life. These companies reported that the "calibre of employees that they wished to recruit cared as much about their quality of life as their pay cheque".

Crompton also found that companies based in less desirable areas generally pay "disamenity compensation" in the form of higher salaries to attract the same calibre of worker.<sup>62</sup>

Crompton asserted that "a strategy of conserving parks and open space is not contrary to a community's economic health, but rather an integral part of it."<sup>63</sup>

### ***Open spaces increases worker productivity***

It is well recognised that many factors, including psychological factors, affect employee's productivity in the workplace.

International research conducted over a 20 year period has demonstrated benefits for workplace mental health arising from green nature. Research indicates that the ability to perceive nature from office windows is a micro-restorative experience, which is believed to provide an employee with a brief respite from the demand for directed attention which functions at a high level during work.<sup>64</sup>

A Swedish study examining the effects of workplace greenery on worker stress levels considered four levels of greenery ranging from no view of and no access to a garden, to both view and access to a garden in the workplace. Both view and/or access to a garden improved levels of comfort, pleasure and well-being in employees while reducing their levels of stress. Those who had no access or views reported a worse perceived general health status<sup>65</sup>.

---

<sup>62</sup> Crompton, John (2009) *Competitiveness: Parks and Open Space as Factors shaping a Location's Success in Attracting Companies, Labor Supplies and Retirees*, in *The Economic Benefits of Land Conservation*, cited in Gies, Erica (2009) *Conservation: An Investment That Pays* accessed at [http://www.brooklinegreenspace.org/pdf/EconBenefitsReport\\_7\\_2009.pdf](http://www.brooklinegreenspace.org/pdf/EconBenefitsReport_7_2009.pdf) in March 2012

<sup>63</sup> Crompton, John L., *The Proximate Principle: The Impact of Parks, Open Space and Water Features on Residential Property Values and the Property Tax Base*, 2nd edition, 2004, National Recreation and Park Association

Cited in Neighbourhood Parks Council (2007), *Green Envy, Achieving Equity in Open Space*. A report prepared by Neighbourhood Parks Council, November 2007 accessed at <http://www.sfnpc.org/files/GE%5B1%5D.pdf> on 9 Feb 2012

<sup>64</sup> Kaplan, R., 1993, 'The role of nature in the context of the workplace', *Landscape and Urban Planning*, vol. 26, pp. 193:210. Cited in *Beyond Blue*

<sup>65</sup> Stigsdotter, U., (2004), 'A garden at your workplace may reduce stress', *Design and Health*, pp. 147-157.

[http://www.bordbia.ie/aboutgardening/GardeningArticles/ScientificArticles/Garden\\_At\\_Your\\_Workplace\\_May\\_Reduce\\_Stress.pdf](http://www.bordbia.ie/aboutgardening/GardeningArticles/ScientificArticles/Garden_At_Your_Workplace_May_Reduce_Stress.pdf) accessed in March 2012



Improved health is also closely linked to employee productivity and reduced absenteeism.<sup>66</sup> A healthier workforce is less likely to be sick and therefore, absent from work. Physical inactivity has been linked to increased incidences of a range of diseases.

The Medibank Private 2008 study found that the overall average labour productivity loss caused by physical inactivity corresponds to a direct loss of 1.8 working days per worker per year or a cost of around \$458 per employee per year. It was estimated that physical inactivity caused the GDP to be around \$9.3 billion lower than would otherwise be the case.<sup>67</sup>

***Properties located near well maintained quality green spaces have a higher market value***

Over 30 US studies demonstrate that residential properties located near green spaces have a higher market value than those further away. A meta-analysis of these studies shows that *well-maintained* parks result in a positive impact of 20% on property values abutting or fronting a passive park area. While the impact of the park was somewhat lower moving away from a park, there was still a positive effect on values two to three blocks away.

In addition, a 2001 survey for the national Association of Realtors found that 50 percent of respondents stated that they would be willing to pay 10% more for a property located close to a park or open space.

This in turn leads to an increase in property taxes paid by the homeowners. Often this increase in property taxes is sufficient to pay off the cost required to purchase the open space. However, Crompton explains that parks and open space can have a negative effect on surrounding housing values if the parks are not properly maintained, if traffic and noise becomes a nuisance or if it attracts deviant behaviour.<sup>68</sup>

Studies have also found that tree planting in streets that directly enhance and improve neighbourhood aesthetics also increase property values. Sander (2010) estimated that properties in tree-lined streets are valued around 30 per cent higher than those in streets without trees.<sup>69</sup>

---

<sup>66</sup> Van Amelsvoort, L, Spigt M, Swaen G, and Kant I, (2006), *Leisure time physical activity and sickness absenteeism; a prospective study*. Occupational Medicine, 56 (3), May, pp. 210-212.

<sup>67</sup> Medibank Private, *The Cost of Physical Inactivity* October 2008. Accessed at [http://www.medibank.com.au/Client/Documents/Pdfs/The\\_Cost\\_Of\\_Physical\\_Inactivity\\_08.pdf](http://www.medibank.com.au/Client/Documents/Pdfs/The_Cost_Of_Physical_Inactivity_08.pdf) in March 2012

<sup>68</sup> All sourced from - Crompton, John, "The Proximate Principle: The Impact of Parks, Open Space and Water Features on Residential Property Values and the Property Tax Base," 2<sup>nd</sup> edition. National Recreation and Park Association, 2004

Cited in Neighbourhood Parks Council (2007), *Green Envy, Achieving Equity in Open Space*. A report prepared by Neighbourhood Parks Council, November 2007 accessed at <http://www.sfnpc.org/files/GE%5B1%5D.pdf> on 9 Feb 2012

<sup>69</sup> Sander H., Polasky S., Haight R.G. (2010) *The Value of Urban Tree Cover: a Hedonic Property Price Model in Ramsay and Dakota, Minnesota, USA*. Ecological Economics 69(8), 1646-1656 - cited in Melbourne City Council (2012)- *Urban Forest Strategy 2012-2032: Making A Great City Greener Consultation Draft*

However, Crompton explains that parks and open space can also have a negative effect on surrounding housing values if the park is not properly maintained, if it is too secluded to discourage deviant behaviour, or if the park is so popular that foot traffic and noise becomes a nuisance to neighbours.

## **Attachment 2: Designing neighbourhoods for play**

Source: **Open Space Planning & Design Guide, PLA Vic Tas, 2013**  
(soon to be released)

Play is essential to healthy childhood development.

Unstructured play is important for brain development and optimal physical and emotional functioning.<sup>70</sup> Children are smarter, more cooperative, happier and healthier when they have frequent and varied opportunities for unstructured play in the outdoors.<sup>71</sup>

And, children are more physically active outdoors. There is a connection between learning lifelong habits of physical activity for health and wellbeing and positive outdoor childhood experiences.

Yet children today are spending less time outdoors in unstructured play than in any other time in history.

It is important when planning neighbourhoods that opportunities for outdoor unstructured play have a focus. Children need to have access to places to play outdoors – and places that are not solely dependant on a parent driving them to these places as they get older. Consideration of proximity of spaces to where children live and safe routes of travel for independent mobility, are all key ingredients to building neighbourhoods where children can play.

As play is integral to growth and learning for human development, providing for play (including play spaces) is an important service for children and families. Children will benefit from access to a wide range of play opportunities. Children need more experiences than they can get in the home. Planning neighbourhoods is an opportunity to extend their experiences.

We know:

- Children play wherever they are;
- As children grow they benefit from a graduated range of challenges and experiences;
- Children don't just play on equipment they play in all sorts of ways, and
- Unstructured free play near the home is an important part of childhood, and depending on the neighbourhood this could take place in the street, in laneways, up a tree, near the local shops, as well as in a local park.

---

<sup>70</sup>

<sup>71</sup> Cheryl Charles, Ph.D. President, C&NN Editor, C&NN Research and Studies

**So how do we know what to provide? The following points describe some of the variety of experiences and settings for play that children need exposure to:**

Children need a variety of experiences and settings for play in a public setting. They include:

- Choices in the types of activities that interest children of a range of ages and developmental stages;
- Graduated challenges;
- Balance of challenge and risk;
- Access to nature;
- Opportunities to manipulate the environment;
- Opportunities for people to meet and play together;
- Sensory qualities which provide interest to children;
- A comfortable physical environment (shade, shelter, winter sun);
- Places where more than one child can be supervised;
- Places that children can access independently as they grow older;
- Accessible environments which support participation and inclusion, and
- Amenities which are easy and comfortable to use.

Source: The Good Play Space Guide: "*I can play too*". Department for Victorian Communities, 2007.

**Planning for a range of experiences:**

In planning for play experiences across a neighbourhood and suburb, a strategic approach will assist in providing a diverse range of settings and consideration being given to all age groups.

It is important to provide opportunities for cognitive and imaginative play as well as physically active play. Some of the types of activities, experiences or settings which must be provided include:

- Places for physical development and active play. This includes all kinds of physical movement and motion such as places to run, hop, skip, jump, learn to ride, ride, skate, climb, balance, hang, swing and rock. Physical play will not just be equipment based.
- Places for ball play – unstructured play for a variety of ages such as flat areas, walls to bounce against, basketball rings, and "4 square". These settings allow for play by yourself or with others.
- Environments which stimulate cognitive play – using the imagination, ordering, categorising and manipulating objects to construct or create, sensory experiences and problem solving.
- Places for social play – experiences which involve another child or group of children, often involving games of the imagination, dramatic role play, rules and creative or physical activity.
- A combination of built and natural elements (eg cubbies among vegetation, sand, logs), spatial qualities which enhance activities (ie

partial enclosure or a sense of elevation), loose materials and fixed equipment, and texture.

Source: The Good Play Space Guide: *"I can play too"*, Department for Victorian Communities, 2007.

### **Attachment 3: Jan Gehl –“What are the three qualities that should characterize a sustainable city?”**

*Source Jan Gehl responded to the Ecotopedia enquete in an interview conducted in Copenhagen on 16th July 2008.*

To me, a sustainable city would be a very people-friendly city. It would be a city with good public spaces and a city that is rather compact. It would be a city that really invites people to walk and bicycle as much as possible. A good walking and cycling environment with a good public realm is also a good environment for public transport, so there is an important connection here as well. Strengthening public transportation will be essential in the future, in order to become less dependent on private cars and also in order for the city to become more people-friendly.

A further point and quality to emphasize is the bicycle. We have had the bicycle around for a good 100 years now, and in certain countries and cultures, bicycles are a widespread form of transportation. This goes for places like Holland and Denmark. Due to a welcoming infrastructure the number of cyclists have increased tremendously in Denmark for example. In Copenhagen, bicycling accounts for 36 % of all commuting to and from work. Many cities around the world could, to a much higher degree create more inviting circumstances for cyclists. We can see this in the US and Australia and in other places too, that people begin to become aware of the many positive aspects of cycling in the city.

A further, definitive quality to stress is that we need to make sure that cities become greener and that they have a substantial amount of vegetation, which can clean the air and help cool the city. Certainly, a sustainable city would be quite green. I am also aware that a sustainable city ought to have many green buildings as well. But, green buildings alone do not create a sustainable city. You could place an endless number of green buildings in Dubai, for example and yet it would hardly ever become a sustainable city, the way it looks now. It would only be a collection of sustainable buildings.

Source:

<http://www.dac.dk/en/dac-cities/sustainable-cities-2/experts/jan-gehl-making-healthy-cities/?bbredirect=true>