Creating healthy, just and eco-sensitive cities

Prof. Tony Capon
National Centre for Epidemiology and Population Health
Population of the World
UN estimates (millions)

The urban and rural population of the world, 1950-2030

- World, total population
- World, urban population
- World, rural population
Dogon village, Mali, West Africa
Market, Xochimilico District, Mexico City
Gullholmen village, Sweden
Medical Officer of Health

- **NSW Public Health Act, 1991**
  - Infectious diseases
  - Environment health
  - Food safety

- **Syndemics – a case for healthy places legislation?**
  - Obesity – attendant risks of heart disease, diabetes, cancers
  - Depression and substance use
  - Asthma and other chronic lung diseases
  - Injury and safety
Three important problems

- Engineered physical activity out of environment
- Centralised food supply
- Persistent separation of residential areas from jobs
Three important changes necessary

- Improve conditions for walking and cycling (active travel)
- Return to localism
- Infrastructure and jobs in new areas

Meet daily needs within walking and cycling distance of home, or 30 minutes via mass transit – benefits for health of people and environment.
History

Some phases of concern about health and cities

- Roman times – public baths and sewer systems
- Edwin Chadwick – sanitary reforms
- Ebenezer Howard – garden cities movement
- UNESCO Man and the Biosphere program
- WHO Healthy Cities movement
- Eco-cities
Measuring the Health Effects of
SPRAWL
A National Analysis of Physical Activity, Obesity and Chronic Disease

Barbara A. McCann
Reid Ewing

Smart Growth America
Surface Transportation Policy Project
SEPTEMBER 2003
- Food security
- Air quality
- Water quality and re-use
- Noise
- Injury and safety
- Physical activity
- Mental health and the built environment
Obesity in Australia – projections

(Diabetes Australia, 2006)
Transport choices, systems and uses: integrated overview

Urban planning:
- values,
- preferences,
- theories

Transport system (inherited/evolved/planned)

Transport Modes
- public/private
- convenience
- costs

Energy needs

Air pollution
- GHG emissions

Global climate change
- Respiratory disease
- Asthma
- Cardiovascular disease
- Fetal/infant brain development

Noise

Easy personal mobility

Road safety

Urban/suburban landscape; local ‘walkability’ impacts on neighbourhood/community

History

Influences on green space
(heat island effect; visual calming; biodiversity)

Physical activity patterns
- Weight;
- Endorphins (wellbeing);
- Social contact

Social contact patterns; reliance on supermarkets (food choices); etc.

Stress (hypertension)
- Sleep disturbance
- Impaired child learning
Reduce carbon emissions.

Walk to the pub.
### Framework for urban sustainability and population health

#### Urban ecological footprint

<table>
<thead>
<tr>
<th>Economy and work</th>
<th>Transport and urban form</th>
<th>Housing and buildings</th>
<th>Nature and landscape</th>
<th>Media and communication</th>
<th>Culture and spirituality</th>
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</thead>
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<td>Air, water, noise, infection, chemical exposures, local climate</td>
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<td>Food access</td>
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<td>Physical activity</td>
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<td>Safety</td>
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<td>Family relationships</td>
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<td>Social capital</td>
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</tbody>
</table>

Human health and wellbeing
Checklist for healthy and sustainable communities

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Abstract: This paper describes a 10-point checklist for the planning and development of healthy and sustainable communities. The 10 domains in the checklist are essentially physical characteristics of places. Each domain has relevance to the health of people living in the place, and to the sustainability of the environment. The checklist is intended as a tool for those who plan, develop and manage urban environments. Such tools can be valuable for assessing the health and environmental impacts of decisions made by urban and transport planners, and businesses engaged in land development and infrastructure projects.

The urban environment is an important determinant of health.\textsuperscript{1} Obesity is a good example of how environmental factors can affect health. Obesity results from an energy the integration of human health considerations with environmental considerations when developing policy for urban and regional planning and sustainability. We present a 10-point checklist as a guide for the development of a healthy human habitat. The goal should be to minimise ecological impact while maximising the human experience, including health and well-being. The checklist focuses on characteristics of places rather than people because planners and developers can influence these.

Ten-point checklist for healthy and sustainable communities

1. Outdoor air quality

Air pollution in Sydney is known to exacerbate asthma.\textsuperscript{4} The main source of outdoor air pollutants in Australian urban environments is motor vehicle emissions. Improved motor vehicle emission controls have reduced emissions for each kilometre travelled; however, the total number of kilometres travelled is increasing. Until there is a reduction in the total number of kilometres travelled, air pollution will remain a health issue in Australian cities.

Urban planning and public health interventions to reduce dependence on motor vehicles and improve air quality include:

- locating jobs, services, schools and shops close to where people live;
- promoting active modes of transport (walking and cycling); and
- providing increased transit options.
Sick cities

Finding a cure for our sick cities

Fixing Suburbs

Suburban landscapes are often highlighted as negative examples when it comes to creating healthy, green and sustainable urban surroundings. Contrary to the ways in which suburbia was designed and built in the 1980s and 1990s, the early attempts to create well-functioning suburbs are positive examples of how prioritising mixed use and wide access to public infrastructure can create cities with high sustainability.

Good...
Traditional suburbs

- Grouping of services such as offices, shops, cafes, schools, child-care centres and other facilities provides an active and safe main street for communities.
- Good public transport options including trains and buses that encourage walking between home and the station or bus stop.
- Footpaths on all roads.
- Corner stores and village shopping strips within walking distance of most homes.
- Good mix of housing types to attract people of all ages and lifestyles.

...vs Bad
1980s-90s designs

- Shops, schools and other community facilities built on main roads surrounded by car parks.
- "Deadworm streets" - while seen as safe and neighbourly - can discourage walking because there is no direct route to destinations.
- Few jobs on offer in the local area; the majority of people use their car to get to work because it is so distant.
- Circuitous routes make public transport difficult and time-consuming.
- Can be redeemed with well-lit bike paths and lanes between cul-de-sacs.

Source: Sydney Morning Herald (2006)
COPENHAGEN AGENDA FOR SUSTAINABLE CITIES

10 PRINCIPLES FOR SUSTAINABLE CITY GOVERNANCE

1. Rediscover the City
2. Redefine City Value
3. Involve Everyday Experts
4. Break Down Silos
5. Redistribute Urban Decision Making
6. De-Design Urban Planning
7. Promote Corporate Urban Responsibility
8. Go Global
9. Embrace Chaos, Crisis and Change
10. Encourage Passion in Urban Leadership
Copenhagen Agenda for Sustainable Cities

- International Federation of Housing and Planning (founded by Ebenezer Howard 1913)

- Danish Government Initiative

- COP 15, United Nations Climate Change Conference

- City governance as integral to next climate protocol
Copenhagen Agenda for Sustainable Cities

50 urban leaders

thinkers and do-ers from industry, government, community and academe

- Enrique Penalosa – former Mayor of Bogota
- Chris Luebkeman – director Arup Foresight Innovation
- Jan Gehl – partner Gehl Architects
- Peter Newman – professor of Sustainability
- Colin Fudge – WHO Healthy Cities
Cities and Climate Change

- home to about 50% of people
- responsible for about 75% of CO$_2$ emissions
- clearly, there is an efficiency opportunity
- “Cities are the convenient remedy to the Inconvenient Truth”

John Norquists, Congress for the New Urbanism
Oil and Mortgage Vulnerability
(Jago and Sipe, 2008)
Transport for elderly citizens

[Image of a car with a license plate reading "OLD-TMR" and "NEW SOUTH WALES"]
Tata Motors, Nano
The future?

GLOBAL CAR OWNERSHIP
forecast for car ownership millions

United States
China
India

SOURCE: Goldman Sachs/Economist
### 5 Stages of urban environmental evolution and characteristic health issues

<table>
<thead>
<tr>
<th>Urban evolutionary stage</th>
<th>Characteristic environmental conditions</th>
<th>Characteristic health issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>I: Poverty</td>
<td>Contaminated water, poor sanitation</td>
<td>Infectious diseases, undernutrition, injury</td>
</tr>
<tr>
<td>II: Industrial</td>
<td>Air pollution and land pollution by chemicals and solid waste</td>
<td>Chronic respiratory disease, heart disease, injury</td>
</tr>
<tr>
<td>III: Consumption</td>
<td>High-consumption lifestyles</td>
<td>Chronic diseases (obesity, diabetes, heart disease, depression), injury</td>
</tr>
<tr>
<td>IV: Sustainable eco-city</td>
<td>Conditions of life in balance with nature</td>
<td>Maximum health potential</td>
</tr>
</tbody>
</table>
Some good news

Health “co-benefits” from mitigation

- Mobility – walking, cycling and mass transit
  - Physical activity, social interaction, air quality
- Food choices
  - Reduction in meat consumption (methane)
- Housing design – orientation, insulation, ventilation
- Energy generation – renewable sources

2010 AAS Fenner Conference
Why are there co-benefits?

Because “syndemics” (obesity, depression, asthma, injury) arise from maladaptative behaviour in our contemporary environment.

Biohistory (Boyden)
- Human place in nature
- Evolutionary health principle
From Vicious Circles to Virtuous Cycles

Promoting Active Transport

- Increased Physical Activity
- Improved Fitness
- Obesity Reduction
- Improved Wellbeing
- Social Connectivity
- Activation of Space
- More People on Street
- Improved Respiratory Health
- Reduced Climate Impacts
- Reduction in Pollution
- Less Cars
Win – Win – Win

Active travel
(walking, cycling, mass transit)

- Good for the environment
- Good for the budget
- Good for health
Cities – governance and responsibility

- Householder
  - Resident
  - Landlord
- Business owners and managers
- Civic leaders
- Civil society
- Educators and researchers
- Policy makers
- Financiers
- Members of parliament

There is a role for us all...
Health must not be a barrier to action

- Example of water tanks
  - Quality of water
  - Potential for mosquito-breeding
- Understand the risks
- Options for managing these risks
- Public health researcher/policymakers engaged
A way forward

- Systems understanding of health
- Adaptive management
Healthy Built Environments

- Research and workforce development program
- Funding from NSW Department of Health
- Established in the Faculty of the Built Environment, University of New South Wales
- Interdisciplinary
- Professional organisations (e.g. PHAA, AHPA, PIA)
- Local government
- Industry
Further information

- 2006 AAS Fenner Conference

- *NSW Public Health Bulletin*

  special issues on cities and health:

  special issue on climate change and health:
Cities as Healthy Human Habitat

- People and Place (sociological)
- Human and Habitat (ecological)
- Human-Environment interactions

→ Healthy People on a Healthy Planet
Imagine
THE ART OF REBELLION 2 – World of urban art activism by C100
THE ART OF REBELLION 2 – World of urban art activism by C100