SOUTH WEST GROUP

6th Making Cities Liveable Conference and Sustainable Transformation Conference

17 to 19 June 2013 in Melbourne, Victoria

Report prepared by Mick McCarthy, Director South West Group
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Background

Previously held as separate conferences, the 6th Making Cities Liveable Conference and Sustainable Transformation Conference were brought together for the first time as a combined conference event from 7 to 19 June 2013 at the Novotel Melbourne in Saint Kilda, Victoria. This combination of themes provided the opportunity for a diverse sector of professionals and industry to come together to discuss emerging trends in liveable cities, sustainability and increased density in city centres and activity centres.

Key Messages and Learning

Some of the key take home messages and learning from the conference, based on the sessions attended by the Director South West Group and those with a regional context, are outlined below.

- Public Transport Infrastructure
- Healthy Cities and Density
- Urban Reform
- Knowledge Hubs and Precincts
- Innovation and Systems Thinking
- City and Outer Metro/Rural Connections
- Waste Reduction and Resource Recovery

Public Transport Infrastructure

The growth and sustainability of successful cities is closely linked to the productivity and mobility of its people. Cities with an effective and well connected public transport system are able to move large numbers of people efficiently, therefore connecting their cities centres with people, activity centre and areas of employment.

The investment in public transport infrastructure is therefore essential. Traditionally, public transport infrastructure requires significant capital and operational costs, with rates of revenue in most Australian cities lucky to achieve 30% revenue recovery.

Although primarily a State Government responsibility, the Federal Government has co-invested in public transport infrastructure as part of its Nation Building Program through Infrastructure Australia. The criteria for funding used by Infrastructure Australia is based around satisfying a range of national objectives such as strategic alignment (goal definition), problem evaluation (identification, assessment, analysis) and solution selection (option generation and assessment, social evaluation)

The cost benefit analysis work commonly supporting business cases to Infrastructure Australia include traditional asset assessment factors (i.e. travel time, reliability savings, fare revenue etc.), however other factors now presented by proponents and being considered in business cases presented to Infrastructure Australia include productivity and jobs, agglomeration, labour force input and impacts on imperfect competition.

These other factors are not always included in submissions to Infrastructure Australia, but can support business cases that may not be as strong based on traditional assessment criteria. Infrastructure Australia has acknowledged that these and other emerging factors are starting to feature more in business case submissions are attracting serious consideration as important contributions to the business case decision making.

The emerging factors just starting to be included in business cases to Infrastructure Australia include social inclusion, health benefits, greenhouse gas emissions (whole of cycle), water efficiency, improved amenity, avoided costs and value capture.

Value capture seeks to put a value on the investment in public transport based on increasing land values, development opportunities (residential, commercial) employment and other factors. This seeks to reconceptualise public transport to be a city shaper, not just a mode of transport.

For example, the £7.8B London Rail Crossing project business case included value capture benefits in the order of £200M in developer contributions, £100M in landowner agreements, £300M in community infrastructure and £1.4B in indirect tax revenue. This collectively accounted for around £2B (25%) of infrastructure costs. Included in the cost benefit for the London Rail Crossing were lower discounting rates (3% rather than usual 7%) and a longer appraisal period (50-60 years rather than 25-30 years) to better reflect the expected life of the public transport infrastructure, which supported the investment decision.

These emerging factors and alternative cost benefit analysis should be included in business cases to support a more holistic assessment of public transport infrastructure that considers the wider economic benefits, or as a minimum, used in the sensitivity analysis to determine their potential contribution compared to typical cost benefit analysis.

Healthy Cities and Density

The recently released Sustainable Australia Report 2013 shows that there have been positive and negative trends over the last 30 years. Australians are living longer, have higher levels of education attainment and have benefited from a strong economy with low unemployment and increasing incomes. Alternatively, inequality has increased and there has been decline in the health of our natural environment.

Australians has the third highest levels greenhouse gases emissions per capita in the world, with the average person emitting 28 tonnes of CO_2 equivalent per year, compared to the United States (23 tonnes), Japan (11 tonnes), China (6 tonnes), India (2 tonnes) and the world average of 6 tonnes per capita.

As cities continue to accommodate a greater share of population growth in a consumption driven economy, where obesity is increasing to alarming levels and the proportion of our ageing communities continues to rise, the health of its citizens and the location and way we chose to live become critical factors.

Active lifestyle and access to facilities and services are becoming increasingly important. Studies have shown that people with access to public transport and open recreational space are less likely to suffer from obesity and heart disease. The dispersed nature of our cities and the transport related affordable living impacts associated with cheaper urban developed land on the outskirts of cities are unsustainable from social and economic perspectives.

Increasing the density of housing close to the city where there is better access to public transport, services and facilities is a key aspiration of most Australian cities. The scale and extent of housing density is subject to various studies indicating that 3 to 6 storey residential developments with access to public transport, set backs from busy roads, safe open recreational space and fresh food conveniences are likely to result in better social, health and affordable living outcomes.

Urban Reform

The Warren Centre for Advanced Engineering has recently completed research on urban reform, with specific reference to delivering successful infrastructure to connect people, jobs, goods and services. This consultative work led to the facilitation of the Urban Reform Round Table involving senior leaders in the development sector and government agencies.

It was identified through this process that the most successful urban infrastructure projects require four key criteria being met, namely:

1. Governance
2. Vision and Policy
3. Strategic Planning
4. Implementation

Three case studies were examined under the key outcome areas of connectivity, planning for growth and resilience. The connectivity outcome area examined a number of major urban infrastructure proposals/projects including:

- Greater Sydney Airport
- High Speed Rail
- Sydney M7 West Link (completed project)
- Victoria Regional Rail Link
- South East Queensland Road and Rail Program

The analysis found that the Greater Sydney Airport and High Speed Rail proposals did not satisfy the four key criteria. The lessons learnt from the assessment identified a number of success factors that contributed toward, and should be considered for, future major urban renewal projects.

1. All the projects required extensive inter-governmental and inter-agency cooperation and strong political leadership
2. A long term vision and commitment focussed on outcomes (not outputs), which is understood and articulated
3. Part of a strategic plan incorporating land use and community requirements. This is important in shaping sustainable communities and the economy, but needs to have the flexibility to modify to meet changing circumstances
4. Continuous and extensive community and stakeholder consultation
5. Policy and regulatory framework established early, recognising that major projects are long term and multi-jurisdictional
6. Alternative procurement processes should be widely considered

Some of the work undertaken by the Warren Centre drew upon the Grattan Institute "Productive Cities Report 2013".

Knowledge Hubs and Precincts

The world's economy has progressed from agriculture pre-1900, through the industrial revolution post-1900 to the current knowledge and digital age. There has been a significant population shift through this time from predominantly rural to city centric, with over 70% of people now living in cities. Professional services and the agglomeration of knowledge centres in the cities is fundamentally shaping modern and emerging economies.

The establishment of knowledge hubs around high performing universities and employment centres have the potential to create vibrant precincts with social and economic benefits well beyond the traditional retail/commercial hubs. The concept revolves around the university being a major attractor of students and employees, as well as having a research and development institute linked to commercial enterprises in the catchment. High density and affordable residential developments integrate well within the knowledge hub and ensure a high level of self sufficiency.

Examples of projects that have successfully adopted the knowledge hub model include the Clayton Innovation Project and Parkville Biosciences Precinct. The Federal Government's Industry Innovation Precincts (IIP) program has recognised the importance of anchoring precincts around universities as undertaken for the National Manufacturing IPP (Clayton/Monash University) and the National Food IPP (La Trobe University).

In order for the knowledge hub or precincts to be successful, a number of factors have been identified that require a new approach including:

- Pro-active engagement of Local Government by the university
- Partnerships with the State Government and industry
- Provision of affordable housing, supported by land use strategies that foster commercial zones and higher residential density
- High quality amenity for walking and cycling to accommodate student mobility

Some of the local benefits through this concept include increased employment, shared land and facilities, partnerships in the delivery of public and active transport, as well as the stimulation of the local economy.

City and Outer Metro/Rural Connections

The connection with a city and its outer metropolitan areas and regional hinterlands is becoming increasing important as urban sprawl replaces key land uses for food production and rural based industries.

The idea of clusters of family run businesses working together to produce food for city markets and wholesale retail outlets was the inspiration for the Garden of Villages™ concept.

Garden of Villages™ is an integrated system that aims to deliver sustainable regional development, whilst leading innovative and taking a holistic approach to tackling the issues of food and water security. It is a paradigm shift in the way that village and farm development is integrated and facilitated by new funding structures, whilst incorporating advanced training programs and the application of clean technologies to farming methods.

Garden of Villages™ has been designed to transition regional and rural areas close to growing cities into vibrant, secure food growing, processing and distribution centres.

Three key elements are central to Garden of Villages™:

1. Production of high quality fresh food, sustainably.
2. Production and distribution of non-grid clean renewable energy.
3. Effective capture, treatment and reuse of water to regional areas.

These elements are integrated with the purpose of providing food and water security to fast growing primary and secondary cities and represent a financially sustainable system and makes efficient and productive use of capital to satisfy a number of needs including regional economic development.

These village scaled “food baskets” aim to achieve the following outcomes:

- protect and enhance land of high agricultural value
- produce high quality clean fresh food for fast growing cities
- catch rainfall and reuse water after appropriate treatment
- generate energy from solar and gas sources
- are hubs for light food processing and preparation of food for market that minimises waste in rapidly growing cities
- provide quality employment in regions.

The Garden of Villages™ has established a project in the Mary Valley, which is located on the western areas of the Sunshine Coast in South East Queensland. The project is planned to be a global exemplar for sustainable farming and regional renewal.

Waste Reduction and Resource Recovery

The waste reduction and recovery issues included consideration of food waste and resource recovered from the general waste stream.

Food Waste

There are around 4 billion tonnes of food produced globally each year, with between 30% and 50% wasted due to a number of factors. There are also 1 billion people starving in the world, which raises issues regarding the reallocation of food suitable for consumption to areas needed and the implications for more efficient food production in the future.

The greatest potential for reductions in food waste is during production and in the home. Both these phases incur the highest food waste and require the greatest energy demands. Australia wastes about 5.2 million tonnes of food waste each year, with 2.7 million tonnes from the home and 1.5 million tonnes from the commercial sector. This represents about $5.2 billion of waste annually.

There are a range of initiatives underway aimed at addressing the social, environmental and economic cost of food waste. Continued research on waste sources and the identification of lifecycle/systems solutions is required. Government investment in measures to reduce food waste through policy and regulation is also necessary, as well as research in food services, customer focus and communication.

There are opportunities for the recovery of food waste at the household and commercial levels through initiatives such as the introduction of a three bin system (food waste/green waste, recyclables, rubbish/non-recyclables) and dedicated storage and collection systems for food waste from commercial and hospitality sectors.

Municipal Solid Waste and General Waste

The cost of sending waste to landfill is increasing (e.g. NSW is currently $300/tonne), which is helping to drive the cost competitiveness of resource recovery technologies as an alternative to landfill. The lower cost and less mechanised methods for sorting municipal solid waste and processing organic waste (e.g. dirty materials recovery facilities and organics composting) generally have a lower risk than the more expensive, advanced technology resource recovery facilities (anaerobic/aerobic digestion, gasification, pyrolysis

etc..). It has been estimated that a three bin waste collection service for households may achieve up to 70% resource recovery. There has been a history of failed resource recovery facilities in Australia and therefore a track record of proven technologies is yet to be established, noting that a number of pilot trails have proved successful and are in the process of expansion (e.g. Anaeco's Dicom System in Shenton Park, WA).

There are some innovative techniques being used to recover problematic wastes such as mattresses and wood waste. Some states have also had success in recycling high levels of construction waste when linked to higher landfill fees. More recently, there has been a growth in the recovery of niche wastes where it can be demonstrated that it is economically and technically feasible. It is likely that these types of waste recovery operations will increased over time and provide a more diverse variety of local solutions to resource recovery.