

FUTURE CITIES
Riyadh, Saudi Arabia
10-12 November 2001

MELBOURNE, AUSTRALIA: A CITY POSITIONING ITSELF FOR THE 21ST CENTURY

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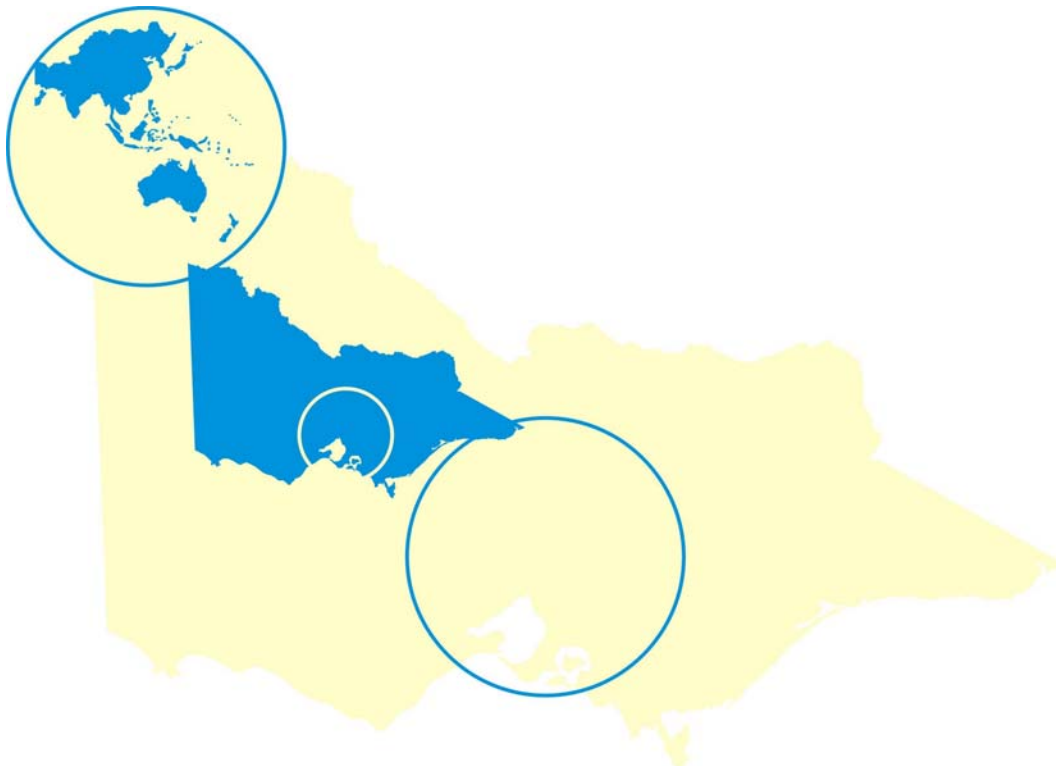
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Introduction

Melbourne, with a population of 3.3 million, is the second largest city in Australia and is the capital of the State of Victoria (see Fig. 1). The city and its surrounding region has a population of approximately 4.2 million and this is forecast to grow in the order of 1 percent per annum over the coming 20 years. As part of ensuring there will be sustainable growth over the coming decades, the State is developing a new metropolitan land use and transport strategy for the city and the region (see www.doi.vic.gov.au/metroplan).

Fig. 1 - Map of Melbourne and its context



The Melbourne City- Region

The Melbourne city-region plays an important national role and acts as a gateway for South East Australia. One of Melbourne's key strengths is as a major transport hub and this is combined with its leadership in the management of transport infrastructure. Victoria leads the nation in seaport infrastructure with the busiest container terminal in Australia. Melbourne's Airport is the second largest and busiest in Australia. Its competitive advantage over other Australian capital city airports relates to its curfew-free status and excellent transport links to Melbourne's Central Business District, the metropolitan region and regional Victoria.

Melbourne's high quality infrastructure supports its key role as a manufacturing centre. The city is building on its strong existing base to support growth in higher technology processing. The fastest growing products and services in world trade include cars, food, cultural, environment, medical, sports, software, advanced Manufacturing Technologies (AMTs) and biotechnology.

Melbourne is also a multicultural city, home to people from over 140 nations. About 25% of Melburnians speak a language other than English at home (ABS 1999). This multi-cultural environment fosters diversity, openness to new ideas as well as understanding and respect for other cultures. Consequently, the city has access to social, financial and business networks across the world.

Victoria is also a leader in research and development due to its skilled workforce, the high business expenditure in this area and the strong presence of universities, not for profit research organisations and government institutions.

Melbourne has a high quality lifestyle and environment. Voted the world's 'most livable city' (Camp 1990) over a decade ago, Melbourne continues to enjoy clean air, good quality water, quality historic and modern architecture, diverse entertainment opportunities, is a national centre for shopping and has beautiful parks and gardens. It has quick access to natural and historic areas of high tourism value within the surrounding region. Consequently, the city is experiencing high growth in leisure and tourism industries.

Victoria is part of the world market for goods, capital, skills and ideas. It is crucial that Melbourne's interface with the world is constantly reassessed, managed and directed. Otherwise there is danger of the State being left behind, responding to change, rather than steering a path and reaping its benefits. The Metropolitan Strategy is one part of the process of Government and the community setting its own direction. The Strategy will provide a bold vision for the Melbourne city-region built on broad support from community, government and business. It will present clear directions for achieving this vision.

During consultation the Victorian community and business called for a Strategy with a true vision for Melbourne, not just a forecast based on current trends continuing into the future. Enhancing quality of life for all Victorians and sharing the benefits across all communities were strong messages through this consultation.

The Strategy will adopt an integrated approach to address triple bottom line outcomes – social well-being, economic vitality and environmental integrity. However, working towards a sustainable future cannot be seen as a set destination involving a series of quick fixes. Instead it is a journey that embraces physical and community change, while recognising and protecting the valuable elements from today, such as the distinctive built form, community networks, and environment. Two prerequisites for a sustainable strategy are: firstly, a robust strategy which can cope with changing demands while maintaining broadly consistent objectives, and secondly, maintenance of consistency of actions over time. The latter requires broad political, community and business support of the strategy outcomes. Not all

the steps needed to achieved the strategy will be clear at the start of the journey and consistency of purpose over time will be required to achieve implementation in the face of changing circumstances.

Some of the key challenges that face Melbourne over the next twenty to thirty years, include (Department of infrastructure 2000a):

- Housing between 400,000 to 600,000 additional households;
- Meeting a growing market for diversity in household types and housing forms which is resulting from changing demographics and lifestyle expectations. These changes include a significant ageing of the population and a change to smaller households and new forms of household structures. (Burke and Hayward 2000);
- A widening social divide and the importance of distributing jobs where they are needed to curb disparity of access to employment and services;
- An uneven distribution of public transport services, where some areas have limited or no access to public transport;
- Catering for an increasing freight task, with volumes expected to grow faster than the economy;
- A spreading metropolitan urban area with uneven regional development (Alastair Kellock and Assoc. 2000); and
- Curbing an expanding environmental footprint caused by activities resulting from the city's operation (Buxton et al. 2000).

ICT Connecting Global and Gateway Cities

Major cities of the world have always been connected with other cities and regions. The only thing that has changed with the onset of globalisation is that today more cities can be connected to each other through a multitude of pathways. Developments in ICT are helping to break down barriers to trade, open up opportunities, and increase the pace of communication and interaction.

Likewise, opportunities for participating in the global economy are not confined to the top echelon of 'world cities', such as London and New York. It is often assumed that the commanding functions of the global economy are restricted to just a few world cities. While a select number of global cities may dominate international economic, social and technological development, this does not automatically relegate the remaining world cities to marginality or exclusion.

A second of tier of world cities have been identified as "gateway cities" (Grant 1999; Short et al. 2000). These cities act as an entry and exit point for the transmission of political, economic and cultural globalisation between countries and regions. They have the potential to develop into dynamic and vibrant centres which have individually distinctive characteristics. Within Australia, Sydney is the major gateway city due to its high international profile, its more extensive communications links with the world and its growing role as the home of many major companies. Melbourne is Australia's second most important gateway and it has particular areas where it is the national leader, for example as the major container port, and as the sporting/ cultural capital of the country. The Metropolitan Strategy is designed to support these strengths and to facilitate new opportunities for development.

ICT within the Melbourne Context

New patterns of job creation and job loss occur as restructuring such as the growth in ICT replaces old occupations. Over the period 1981 – 1996, there has been a radical transformation in the sectoral structure of jobs in metropolitan Melbourne. The most significant consistent trend for the entire period has been the loss of industrial employment and the rapid rise in commercial services (ie. communication, finance, property, business and personal services). The number of manufacturing, transport and storage jobs fell from

approximately 390,000 in 1981 to approximately 306,000 in 1996. Over the same period, commercial services increased from approximately 194,000 in 1981 to about 315,000 by 1996 (Ratio 2000).

Employment in manufacturing, transport and storage has fallen dramatically, from about 32% of total employment in metropolitan Melbourne in 1981 to about 22% of total employment by 1996. In the period 1996-2001, the industry trend indicates only a relative minor absolute increase in metropolitan jobs (see Fig. 2). The projection is for a further decline to about 19% of metropolitan jobs by the year 2021.

The significant absolute decline in manufacturing, transport and storage jobs in metropolitan Melbourne reflects the wider nationwide loss of manufacturing employment. The period corresponds to a significant relocation of certain types of manufacturing to South East Asia and the Pacific region (particularly clothing, textiles and footwear manufacturing). The manufacturing industry in Melbourne is shifting towards the high tech industries where the value adding is higher. This is illustrated in Fig. 3 where the number of persons employed between 1991-1999 is relatively constant but the turnover per person is increasing.

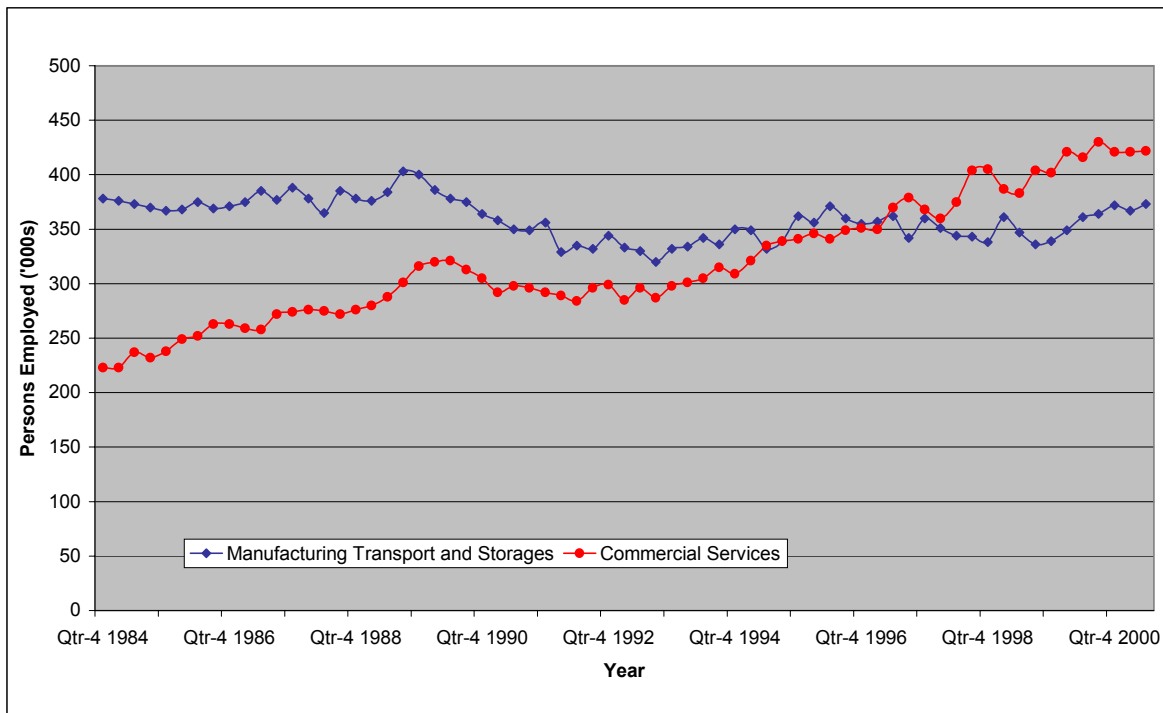
In 1981 commercial services employment constituted approximately 16% of jobs in metropolitan Melbourne and by 1996 it had risen to about 22% (see Fig. 2). In the period 1996-2001, commercial services continued to grow and in 2001, this sector accounts for about 24% of total employment in metropolitan Melbourne.

The ongoing growth in commercial services is likely to be spurred on by business-to-business (B2B) e-commerce and business-to-consumer (B2C) e-commerce, which is providing new bases of employment growth. The trend projection for commercial services indicates that the proportion of metropolitan jobs in commercial services is likely to slightly increase to about 27% by the year 2021.

The significant structure shift from a low value manufacturing to a high value adding (high tech) manufacturing and to a services-based economy has characterised the predominant sectoral changes in employment in metropolitan Melbourne over the last three decades. This shift has been consistent with broader national economic policy that has opened up previously heavily protected parts of the Australian economy to competition through deregulation and tariff reductions. The globalisation of services in the metropolitan economy and the impact of e-commerce will provide new generators to continue the absolute growth in commercial services as the largest single source of employment in metropolitan Melbourne.

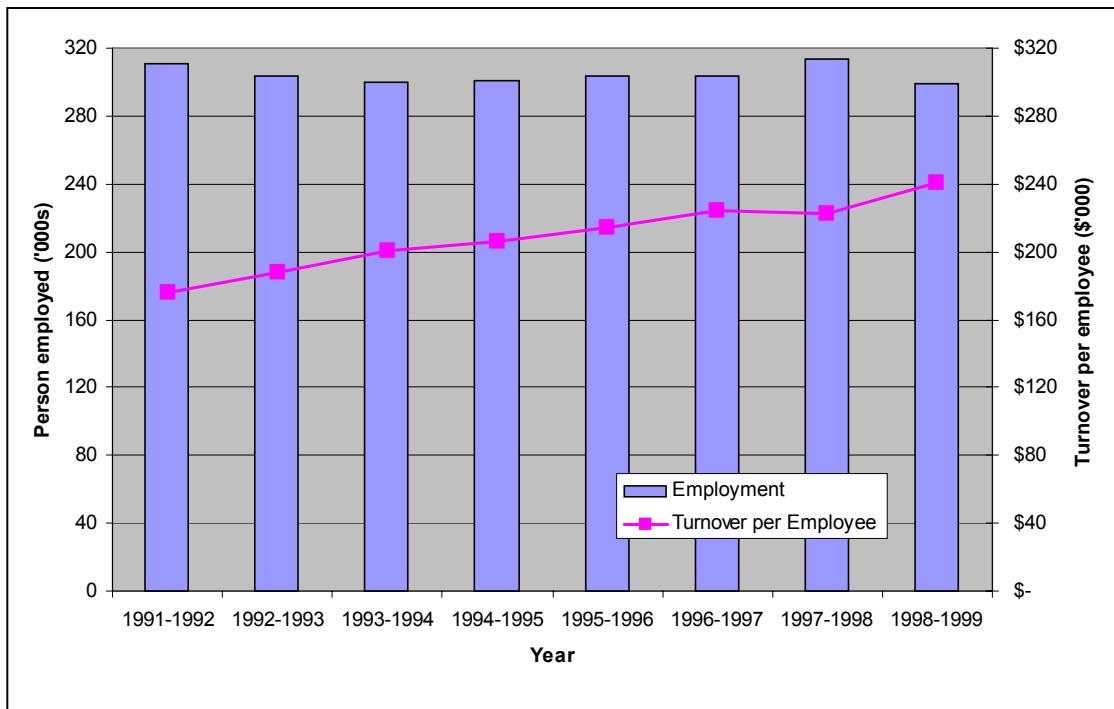
Both old and new industries are embracing new technologies. Melbourne needs to ensure that there is sufficient reliable ICT infrastructure in place to service the demand of all industries.

Fig. 2– Total Manufacturing Transport and Storages, and Commercial Services Jobs in Melbourne between 1984 and 2001



Source: ABS Catalogue 6291.0.40.001 – SuperTable Q1 (May 2001)

Fig. 3 – Number of persons employed in manufacturing and turnover per employees in Victoria between 1991-1999



Source: ABS Cat. 8221.0 & 8221.2

In the preparation of the metropolitan Strategy the pivotal role of communications networks is recognised. Opportunities and options available for a long term telecommunications infrastructure plan and potential implications for metropolitan and regional development from emerging telecommunications trends have been explored.

As a telecommunications hub, Melbourne is one of the best served centres across the Asia Pacific region. As a consequence, there is a high level of market participation with many of the major world players establishing a stake in the local market, in one form or another (Cutler and Company 2001).

Multiple high capacity optical fibre rings currently serve Melbourne's central city and the services offered are generally tailored to the requirements of larger corporate clients. Within the suburbs of Melbourne where demand is currently not high or concentrated the network is much sparser. Beyond the metropolitan boundaries, and in comparison with other Australian States, there is a relatively comprehensive coverage of installed capacity throughout Victoria, with strong competition emerging on trunk routes between major population centres. In addition to the 3,300 kilometres of currently installed fibre optic network, there are an additional 2,400 kilometres of proposed fibre optic network capacity scheduled for rollout across Victoria (Besley 2000). In terms of land area, due to its compact nature, Victoria has the highest proportion of optical fibre deployed per square kilometre of any State in Australia.

As it currently stands, Australia has failed to fast track the take-up of broadband services. The two competing high speed networks have only managed to attract 60,000 customers, despite passing 4.7 million homes. These are not nation-wide service offerings and competition is essentially limited to Sydney, Melbourne and Brisbane (Cutler and Company 2001). Both services are being held back by a range of factors including:

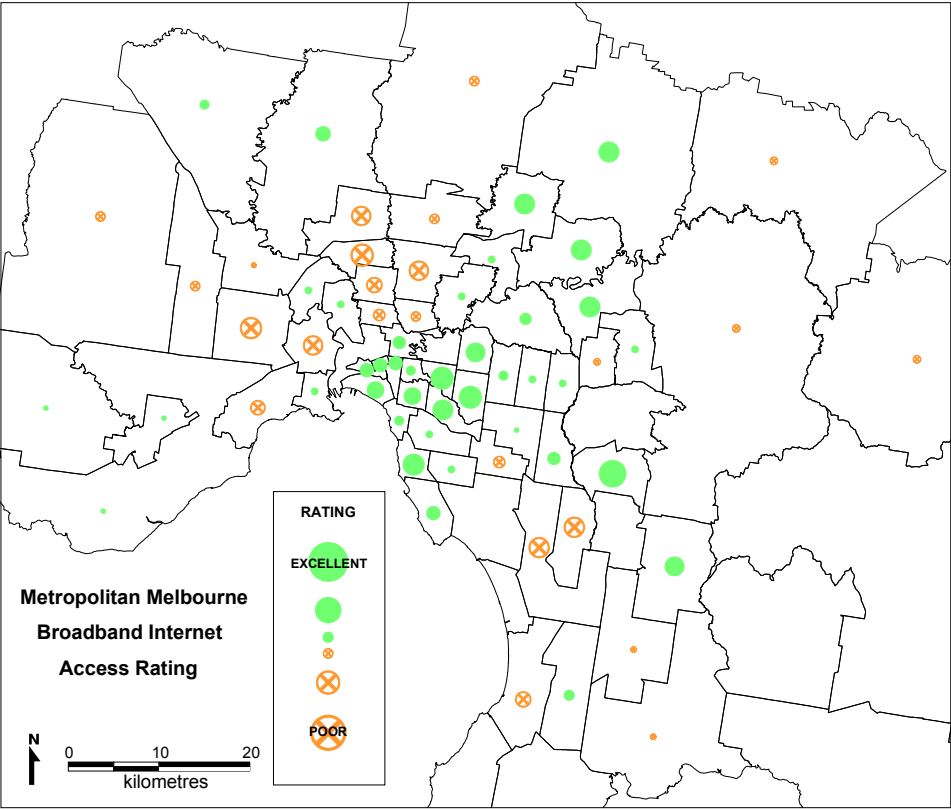
- the high cost of services;
- multi-dwelling buildings are often not served, despite the potential market given the demographics of urban apartment residents as operators appear to have focussed on the large corporate users in their service and pricing strategies; and
- a lack of competitive pressure in the supply of broadband capacity in all but the highest demand areas.

However, within Melbourne itself, the overall nature and distribution of economic and business activity will influence potential demand (and subsequently, the commercial focus of market operators) for communications services. For businesses the take up of broadband services will vary with the service level offered, cost and relevance of the technology to the business. In areas of the city with high quality access strong clusters of ICT services have developed, for example, in the development of multi media.

The ability of individuals to take advantage of advanced communications services varies widely within the Melbourne metropolitan area. In addition to the provision of affordable access to communications infrastructure, other variables such as educational and household income levels are important indicators of the diffusion of technology applications. Access to information and communications resources such as Internet connections by household are already very large and increasing very rapidly. In 1998, 15% of Victorian household has internet access and by 2000, the number of household increased to 34% (ABS Cat 8147.0)

A recent and comprehensive examination of the *Digital Divide* by the Australian Housing and Urban Research Institute (Baum et. al 1999) of structural adjustment throughout Australia shows widely varying patterns of vulnerability and opportunity within Melbourne's metropolitan area. The diagram below (Fig. 4) provides a map of the emerging digital divide within the Melbourne metropolitan region.

Fig. 4 – Assessing areas of opportunity and vulnerability in relation to the emerging digital divide



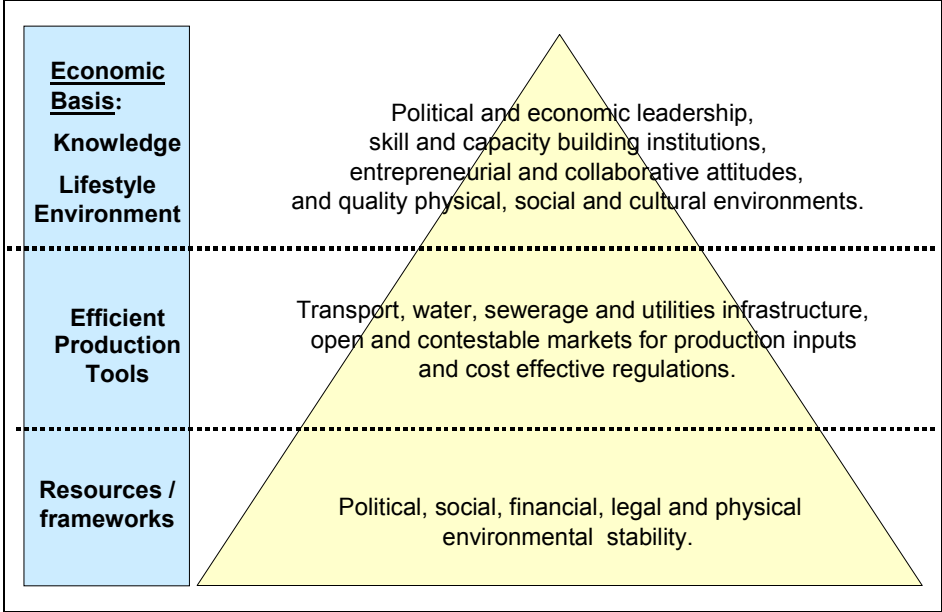
Source: AHURI (1999)

The role of ICT in a Competitive City

While ICT is important, it is only one of the building blocks required to develop a globally competitive city. Ensuring economic and social capital growth within our cities will not solely depend on the provision of high quality infrastructure. Other economic, social and environmental elements are all vital building blocks of a competitive region.

In moving towards the “new” global economy, knowledge and lifestyle is becoming as or more important than natural resources, labour and low cost production in importance as a source for wealth creation and economic growth. However, the foundations of a knowledge-based economy are built on an infrastructure driven production-based economy, which is underpinned by stable political and financial systems (see Fig. 5). In some respects, the differentiation between the “old” and “new” economy is blurring and perhaps, is no longer relevant. Traditional manufacturing industries are embracing technology in order to stay competitive in today’s market. The use of technology and the recognition of the need for a strong knowledge base is becoming ubiquitous across business.

Fig. 5 - Hierarchy of Economic Foundations



Source: Spiller Gibbins Swan (2000)

In the global economy, the competitive advantage will be created by urban regions that can stimulate, attract and retain talent. Florida (2000) suggests that economic opportunity (in relation to the availability of job and career opportunities) is a necessary but insufficient condition for our cities to attract knowledge workers and leading-edge high technology firms and industry. His research shows that providing a “Quality-of-Place” is essential. The amenity, lifestyle, environmental quality and natural assets contained in a place are the complementary attractors. Providing a high quality environment, diversity of experience and accessibility to these amenities and features will be crucial for cities positioning themselves within the global economy.

The Metropolitan Strategy for Melbourne

This new way of looking at the city and the driving forces of success means that the emerging Melbourne Metropolitan Strategy must address many issues which have not been given prominence in the past, particularly when considering economic development objectives. The Strategy is based on a vision for the future of the city and region which embraces the achievement of sustainable economic, social and environmental outcomes, enhances the quality of life and in which benefits are shared across all communities. The Metropolitan Strategy has set explicit sustainability outcomes which the city must move towards if it is to be inclusive and sustainable over the coming decades (see Fig. 6). All are necessary for a dynamic and competitive city.

Fig. 6 - Metropolitan Strategy Outcomes

Metropolitan Strategy: Requirements for Sustainable Outcomes	
Social	<ul style="list-style-type: none"> Meeting diverse community needs Building strong communities and supporting diversity Revitalising areas of social disadvantage and improving equity of access Improving personal safety Enabling a healthy lifestyle
Economic	<ul style="list-style-type: none"> Managing strategic infrastructure Providing responsive investment attraction and support Building on existing economic, social and environmental strengths Distributing employment opportunities
Environmental	<ul style="list-style-type: none"> Reduced resource consumption Bio-diversity restoration Sustainable use of water and improving the quality of bays and catchments

The outcomes established for the strategy will be achieved through a consistent and integrated set of policies and actions. They encompass factors such as the relationship of Melbourne with the economic and environmental region within which it sits, the macro shape and structure of the city, the drivers of economic, social and environmental development and the detail of planning local places and decision making (see Fig. 7).

Fig. 7 - Metropolitan Strategy Draft Strategy Elements

Metropolitan Strategy: Draft Strategy Elements	
The integrated development of Melbourne and its surrounding region	
Managing the basic building blocks of the city	
	<ul style="list-style-type: none"> • managing outward growth • improving the transport and communications system • developing major centres of activity • increasing housing choice • developing more livable neighbourhoods • developing metropolitan infrastructure, such as open space
Integrating actions to achieve	
	<ul style="list-style-type: none"> • social outcomes • economic outcomes • environmental outcomes

A few examples help to illustrate how the future role of ICT is woven into the Strategy and how it is not possible to separate out the technology from the full range of outcomes you are seeking.

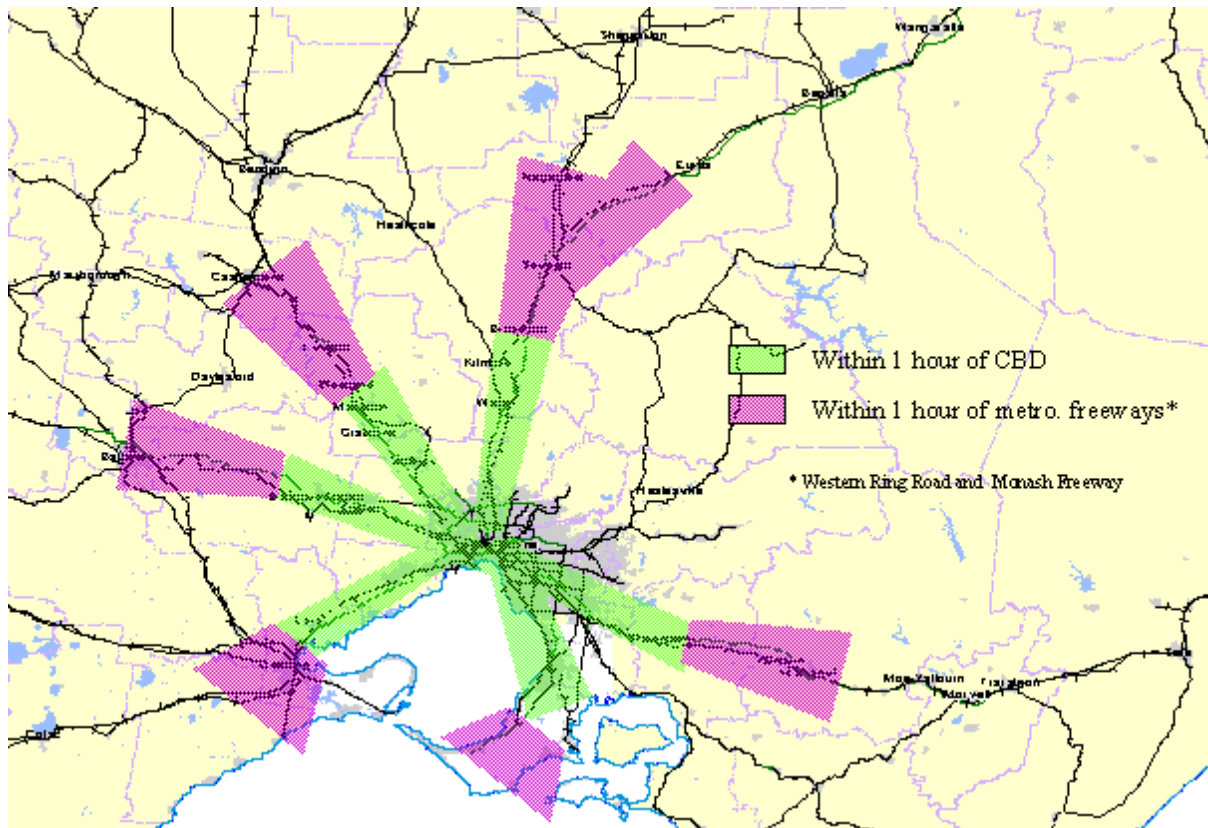
The integrated development of a city-region

Melbourne and the central region of the State is evolving as an integrated network of towns linked with high quality infrastructure (Department of Infrastructure 2000b). Within 1 to 1 ½ hours of Melbourne it is possible to access five of the State’s major regional centres (see Fig. 8). Between these centres are non-urban areas which contain many small towns and significant agricultural and environmental resources. This well connected region provides

residents and businesses options about where to live and/or do business in a wide range of urban and rural environments, all of which are connected to each other and the world.

Underpinning this ability to locate over an area is the State's investment in freeways and high speed rail to all the major centres, and its support for improved broadband ICT access. The State has the primary responsibility for the road and rail infrastructure and is investing in both freeway upgrades and new high speed rail.

Fig. 1 – Corridors within 1 hour of Melbourne



ICT services on the other hand are generally provided by the private sector and the State government's capacity is primarily in influencing the market. In many areas the cost of access to broadband services is a more prohibitive barrier to use than line capacity. What the State Government has been able to do is to offer opportunities for the private sector to build broadband capacity along rail corridors as part of the communications infrastructure upgrades for its high speed rail investment. This will provide both additional capacity and greater cost competition for regional telecommunications.

The counter side from the investment in transport and ICT communications is that the region could increasingly become a commuter belt for Melbourne, with the high quality transport making living in the region and travelling to Melbourne a viable option. This could lead to economic activity draining out of regional areas. Growth in small towns and rural residential developments could also occur in ways which compromise highly valued non-urban uses such as agriculture and tourism.

A complementary component of the Metropolitan Strategy is therefore the development of regional development strategies for the major regional centres. The purpose of these strategies is to maximise the regional benefit of the investments and build regional economic

activity. Similarly managing the growth of small towns and rural residential development will be necessary to protect the non-urban uses.

Strengthening Melbourne's Role as a Gateway City

Building on the potential synergies between telecommunications, transportation and travel (TTT) will play a major part in maximising Melbourne's role as a gateway city. Improving access to services and facilities, regardless of the means, is fundamental in providing dynamic and vibrant centres with a high quality lifestyle and efficient business practices. There are also possibilities to use substitution between the three access modes to achieve the best outcomes, eg. telebanking, teleworking.

Combining improvements to broadband capacity to regional areas in conjunction with fast rail links is just one example of how the planning of these three elements can be brought together. The integration of transport, logistics and information technology is another means of bringing the access elements together.

The freight industry is increasingly managing a total logistics chain. Production, inventory management, transport and product management are integrated to ensure efficient stock management and delivery of goods. B2B and B2C e-commerce provide a more immediate and less geographically bound link between elements of the chain. At the end of the day the efficient movement of physical products will be an important part of the State's economy. High quality ICT services go hand in hand with improved infrastructure efficiency for physical logistics chains.

Although ICT can break the need for business to be located in particular geographic areas, evidence is emerging of the continuing power of personal interaction and the importance of "place" in how business works. This highlights the importance of ensuring fast and efficient regional and international travel networks, for instance access to Melbourne's airport is being improved through a dedicated rail or transit link.

Integrated actions being considered or in development to improve logistics chain efficiency and to protect Melbourne's gateways, include:

- intermodal developments in regional areas in Melbourne, which range from road/rail transfer points through to 'inland ports' that provide quarantine and customs services;
- protecting transport corridors and land around future possible port development;
- protecting Melbourne Airport's 24-hour curfew-free operations to allow for better scheduling and improved overseas connections by limiting development in its surrounding region;
- protecting the land adjacent to the Port of Melbourne from encroachment from non-port related uses, such as residential development, which may compromise its position in the future; and
- increasing telecommunications capacity across the State and internationally, combined with skills development and industry facilitation.

Clustering of new industries

Innovation is assisted by sharing of information between researchers and even competing firms. Industries find synergies by clustering, both physically as in manufacturing industries, or virtually through the use of IT networks. Evidence to date in Melbourne is that even research and ICT based clusters - which could use ICT to overcome separation - tend to co-locate in parts of the city which have high quality infrastructure and urban amenity.

Several clusters are establishing in the inner city where broadband capacity is high, alternative housing options are offered, a wide diversity of social venues are available and related uses are able to locate close together. From an urban planning perspective this

means that adequate high quality infrastructure and planning support needs to be provided to support cluster development. This will include broadband capacity, public and private transport networks, high quality urban design and planning regulations that maintain urban amenity while facilitating innovative development.

The Strategy has identified areas with the potential for new economic clusters to develop. These areas will be the focus for investment programs which could include infrastructure provision, urban design, development facilitation and service provision. One example is near Monash University. Here a free-standing university campus in Melbourne's suburbs which is disconnected from its surrounding area and the metropolitan transport system has the potential to build into a significant regional centre based around research. The State is investing in a synchrotron as a national focus for research activity and a new fixed rail public transport link to the site. Potential for significant housing and business developments have been identified and the next step is to facilitate the integrated development of the various elements.

Integrated delivery of services and improving social equity

Cities are about people and the Metropolitan Strategy is ultimately about improving community and individual well-being. Strong economies, good city 'structures', transport and land use planning are means to an end. That end is about making people happier, healthier and more prosperous, in the widest sense.

Just one example of the level of inequality is access to the internet, a medium which is increasingly becoming an important and low cost way of doing business and accessing services. Within Melbourne 34 percent of residents have access to the internet but only 18 percent of lower income groups do compared with 51% on higher incomes (ABS Cat 8147.0). This disparity is even higher for access to broadband capacity.

This lack of access to services and information can be addressed from different fronts. The Metropolitan Strategy will facilitate the co-location of services, residents and businesses in activity centres, which are connected by improved public transport services across the city. This will provide people with improved physical access to services. Alternatively programs are in place to improve access to dispersed ICT networks through financial assistance programs, training, and provision of public facilities in local community centres.

Ways of sharing the success of a growing economy

Increasing prosperity for one part of the city does not necessarily address the problem of areas with special needs. Parts of Melbourne have undergone major economic restructuring that have resulted in unemployment and social difficulties. Often in these areas the cause of the problem is multiple – as well as underlying factors, low employment levels, lack of public and private services, low quality urban environments and perceptions of poor safety all compound the problem. One of the elements of this multiple disadvantage is the lack of ICT services, both for businesses and residents.

Revitalisation of these areas needs to be tackled on multiple fronts and a place management based approach is being proposed. In this approach the resources of multiple arms of government, local government and the private sector are coordinated so that the broad causes of concern are tackled together. Communities themselves also take a lead in determining the actions most appropriate to them. The strategy is identifying areas of particular need so that economic and social development initiatives can be focussed.

The examples above demonstrate the interrelation of policies and actions within the Metropolitan Strategy and the need to treat elements of the strategy and particular technologies, such as ICT, within a framework of economic, social and environmental objectives.

Implementation

Implementation processes and accountabilities must be clear. In the case of the Metropolitan Strategy the breadth of the project means that implementation will involve many branches of State government, local government, business and the community. One of the keys to success will be the level of buy-in from these groups and their ability to work cooperatively to achieve a shared vision. A focus of the strategy development has been the involvement of these groups in shaping the project as it evolved rather than the Department selling the product once it was completed.

A broad view of the instruments available for implementing the strategy's objectives is needed. These instruments include policy, financial investment, fiscal measures such as pricing, advocacy by State government, legislation and regulation, projects and programs, and leadership. Just as no one area of government can tackle all urban development issues so no one instrument will be capable of achieving the full range of outcomes expected of the strategy.

Conclusion

Digital infrastructure is a fundamental prerequisite for effective participation within the new global economic framework. Over the coming decades, information and communications technology will continue to exert a profound influence over the commercial, environmental and social patterns of urban life. However, ICT in itself is not sufficient for a vibrant economy and society and metropolitan planning must become wider in its thinking rather than narrower.

In the past, the provision of high quality infrastructure was sufficient to drive a mass production economy. Today, a competitive advantage will be won by urban regions that can stimulate, attract and retain talent coupled with basic infrastructure and services. While economic opportunity is important, providing a high quality environment, diversity in culture and experience, and accessibility to amenities and features will be also be key attractors for knowledge workers and leading-edge technological industries.

This new outlook on globally competitive cities and the driving forces of success means that the emerging Metropolitan Strategy for Melbourne must address a range issues, many of which have not been given prominence in the past. The Strategy will provide, within the context of social, economic and environmental sustainability, a bold vision for the Melbourne city-region that will actively position itself within the global economy throughout the 21st century and beyond.

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