

# From Industrial Cities to Eco-Urbanity

## The Melbourne Case Study

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This paper was presented at the IHEA 58th National Conference 2007

### Introduction

The 20th century will go down in history as the century that lost the art of city making. In an overreaction to the Industrial Revolution city planners and designers followed a host of urban design philosophies, most of which led to the slow dilution of the urban fabric and experience. From the Garden City Movement which resulted in suburbia, to the CIAM Towers in a Park, that segregated out the city's activities and led to planning zones, all made a casualty of the public realm of our cities. Streets ceased to be the primary meeting spaces for people and became conduits for the automobile instead.



By the 1960s many of our new cities were becoming boring disjointed places that no longer nurtured the communities they housed. Jane Jacobs in her book 'The Death and Life of Great American Cities', was possibly the first to notice and document the change that was taking place. Since that time there has been an increasing recognition of the need for a new approach to cities. This has resulted in the development of urban design as a distinct discipline within many of the planning and architecture courses studied at universities.



*Bilbao, Spain*

Many cities have actively pursued and implemented urban design strategies to arrest their decline. These include the acupuncture approach of Bilbao, the public infrastructure of Bogota, the public spaces and social change projects of Copenhagen, the added cultural institutions of Temple Bar-Dublin, height limits in central Berlin, the sustainable agenda of Bo01 in Malmo Sweden, and the city-wide strategy of Melbourne. The results have seen an improvement in the social, economic and environmental indicators for these



Community Hall in Copenhagen, Denmark



Temple Bar, the cultural quarter of Dublin, Ireland



'The Age' in June 1978 described Melbourne as having "an empty, useless city centre".

cities. Bilbao has seen an increase in visitation which has made it necessary to expand its airport to handle up to 3 million passengers a year. The upgrade of its metro reduced travel times by 22 million hours and cut 9,000 cars a day from entering the city. Bogota increased its green space per person from 3.2sqm to 5.9sqm, bicycle usage increased by 900% from 0.5% to 5.0%, while 80% of the population now use public transport. Over the past decade crime has dropped by about 70% and kidnappings specifically by 87%. Melbourne has turned its central city from a mono-functional business centre into a multi-functional activity centre that has on numerous occasions won the most liveable city rating.

Excitingly, the 21st century is seeing the convergence of this new urban design approach with considerations of future urban sustainability. Factors such as density, mixed use, connectivity, adaptability, local character and a high quality of public realm now recognized as driving good liveability are identical to those factors responsible for environmental sustainability. The road that will lead to Eco-Urbanity is likely to parallel the roads to liveability and economic vitality. One of the cities leading this charge is Melbourne.

**From Liveability to Sustainability**

The turning point for Melbourne came in the 1980s when its citizens spoke out about the slow destruction of their city. Inappropriate international style developments, the invasion of the automobile, destruction of heritage areas and the decline of the central city saw new political forces emerge at both a State and Local Government level. Their success at the polls allowed them to reset the agenda for Melbourne. A simple vision to transform Melbourne's ailing central business district into a central activities district while retaining the physical characteristics that made it distinctively Melbourne was adopted and incrementally implemented over twenty years.

Since the 1980s both State and Local Government have pursued a strong city improvement agenda and while both levels have not always appeared to move in unison, the reality is that there has been a high level of co-operation. These include a joint vision to improve Melbourne's relationship with the Yarra River, shared planning powers and partnerships on key projects such as returning residential to the city using the Postcode 3000 project, the closure of Swanston Street to through traffic, development of Federation Square, Docklands and a new Plenary Hall. All of these have combined to bring significant improvement within the central city.

**Design Philosophy**

While both levels of Government developed parallel strategic documents, the articulation and implementation of the detailed design agenda fell to the City. This design philosophy outlined in the 1985 Strategy Plan was both modest and simple, possibly reflecting the limited resources available to the City at this time. In essence it called for the city to build on its existing strengths in a manner that reflected the local character. It also called for a turn around strategy and for the proactive increase of uses within the central city, namely turning it from a central business district into a central activities district. This would be best achieved by reintroducing residential uses. The existing strengths or physical patterns were identified in the strategy plan and



*The facade of the T&G Building, Collins Street, was incorporated into redevelopment of the site. This allowed the historic streetscape to be preserved.*



later elaborated upon in the publication 'Grids and Greenery' published in 1987. This document provided a vision for the future of Melbourne. It told the story of Melbourne's urbanisation, laid down generic urban design principles, and defined elements and relationships that characterise central Melbourne. It described city form in terms that Melburnians recognised and understood, showing how simple things like streets and boulevards, waterways, parks, transport infrastructure, the city centre and built form heritage interact to create familiar yet distinctive city features.

Today, this analysis of Melbourne's urban form is just as well placed as it was in 1985 to act as the driver for the city's continuing growth and revitalization over the next two decades. In an era of rapid change, with subtle modifications appropriate to a new social, economic and environmental context, the 'enduring assets' remain remarkably stable.

There are many examples of the incremental approach to the improvement of the city's major physical patterns, many of which are recorded in the 'Places for People' document produced by the City of Melbourne and Gehl Architects in 2004.

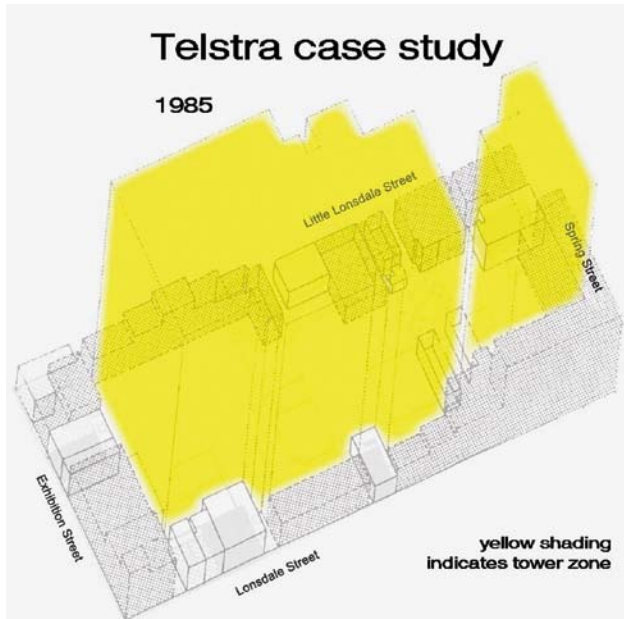
In telling the story of the transformation of Melbourne over the last twenty years I have chosen to structure the paper into five parts:

- Local Character
- Density
- Mixed use
- Connectivity
- High Quality Public Realm

In illustrating how Melbourne has developed these aspects of its city I will also conclude by covering some of the economic, social and environmental outcomes that have evolved from this approach.

### Local Character

As cities move towards globalisation there is increasing pressure from communities to protect their local identity so as to retain a point of difference. It is also becoming more apparent that in retaining and supporting local character, cities often retain and support local skills and materials. In Melbourne during the late 1970s there was an increasing concern about the gradual loss or modification of the City's heritage stock in both buildings and streetscapes. In response to this the City undertook a comprehensive survey of all its heritage assets and developed a system of ranking both buildings and streetscapes. For the first time the city was able to give a consistent response to developers or future owners



*The historic buildings around the perimeter of the Telstra site were retained to preserve the established streetscape character.*

as to the likely constraints covering the redevelopment of the properties. In the 1985 Strategy Plan this led to parts of the city clearly being categorised as either areas of stability, i.e. where heritage was a major consideration, or key development areas where development would be encouraged. This simple mechanism gave guidance to the market and allowed the city to become an early player in the development cycle. Heritage controls have been essential aids to retaining the historic amenity of much of the city and have, over time, contributed to a strengthening of local character and economic stability.

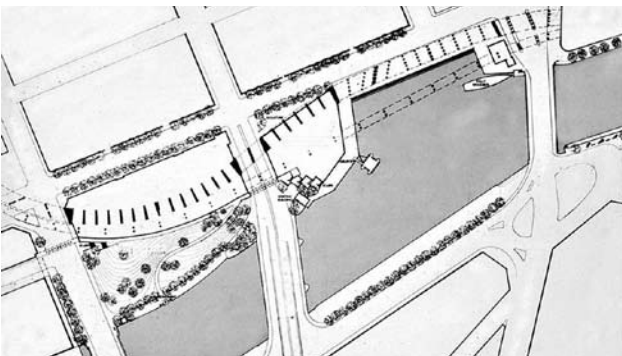
While conservation controls are a key tool in the development of local character one of the most powerful of the urban designer's strategies is the effective use of development controls. In the case of Melbourne's CBD the retention of height controls, working in unison with a requirement to build up to street frontages and to provide 75% active frontage onto main streets has, over 20 years, slowly reinforced the city's strong streetscapes. Undoubtedly one of the most successful processes has been when clear concise development control frameworks have been put in place prior to the development process commencing. Such an example can be seen with the Commonwealth block plan development for the Telstra Site in Exhibition Street. In this instance, a concise document produced prior to the architect's brief being finalised, allowed the City and the future developer to work closely together and thus minimise the disruptions through the approval process. The result was the retention of a quality streetscape incorporating a number of heritage buildings. It also provided the architect with relative freedom in the design of the office tower.

There is a strong argument that simple mandatory development controls are more effective than performance based controls and in most cases provide better urban design outcomes. This is clearly seen in many European City's such as Barcelona, Paris, Prague and Berlin where the effective use of fixed height limits has resulted in high quality streets and public spaces, and as will be seen later, have accommodated both high densities and mixed use outcomes.

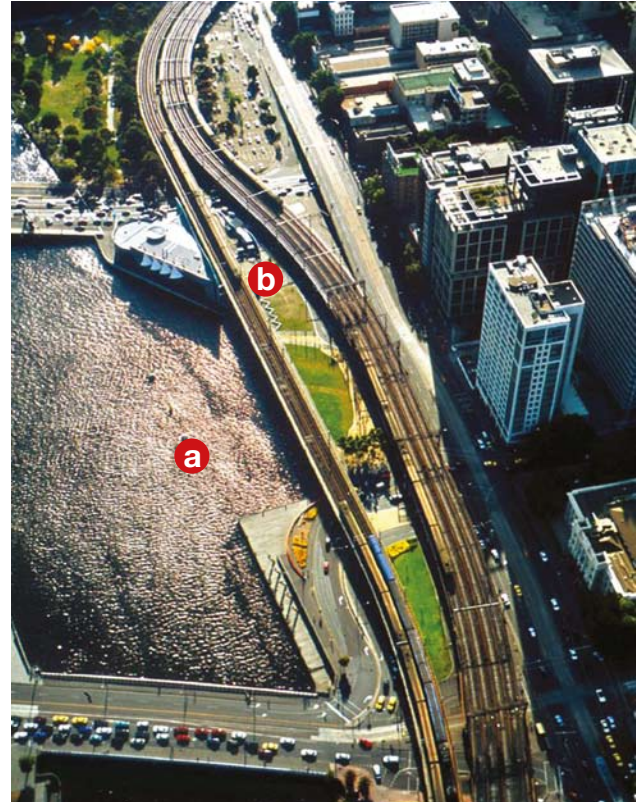
#### **The beneficial effects of implementing a height limit seem to work in the following ways:-**

- They clearly help to establish land values and therefore guard against inflated speculative land prices that force developers to seek greater development potential than the site can comfortably accommodate.
- They encourage a built form of building out to site boundaries with internal courtyard spaces, lanes or arcades. Not only is this built form highly efficient in generating usable floor area, it also usually results in a clear definition between the public and private realms in residential accommodation with living rooms facing streets and bedrooms facing the inner courtyards. This allows inner city residential to work well with the inevitable noise and activity of a successful city.
- They provide equitable access to solar energy which will become increasingly important as energy prices rise.

While conservation and development control were immediate tools that could be applied to the assessment of one off development proposals, there were large areas of Melbourne city that had been significantly degraded



Historic images of the north bank of the Yarra River showing the naturally occurring Turning Basin (top), its removal through land reclamation (middle), and the concept plan to restore the Turning Basin (bottom).



Batman Park ca.1980s-1990s (above), and the restored Turning Basin, ca. 2000. These 'before' and 'after' images show restoration of the Turning Basin (a) and replacement of roadway with public open space (b).

or were in need of gradual change or repair. To this end the city developed and put in place a series of master plans that could be incrementally implemented to ensure the return of special areas of the city. In the main, these consist of the parks and gardens, but also areas such as the river, which had taken on the role of an industrial drain with the city turning away from its banks.

Master plans tended to concentrate on the physical aspects of these areas and allowed for the forward budgeting and allocation of resources that otherwise may be formulated on an ad hoc basis. It is interesting to note that a large proportion of the expenditure on many of the city's major projects are not funded from Council's budget. The existence of a clear philosophy as outlined in *Grids and Greenery*, supported by achievable master plans, has enabled the easy and quick expenditure of monies sourced from other private and public sector partners. Master plans have also facilitated the consistent delivery of major projects that extend over many years or decades such as the North bank redevelopment in central Melbourne.

While many of the actions mentioned above and below were district wide programs, master plans tended to be very area specific and designed to mend the urban fabric.

If master plans were successful in dealing with and guiding the large-scale interventions, technical notes were needed to rein in the daily invention of new and ever more exotic details used at street level. In 1985 technical notes were introduced by the city to ensure consistency of treatment in many of the day-to-day details used through out the city area. These covered such things as street trees, street

furniture, kerbs and paving details. The early development of these details has allowed a consistent approach on all projects and easy dissemination of information to developers and the community. It has also allowed the City to produce a consistent range of street furniture which now generates an annual income from other municipalities registering to use the designs. The consistency of treatment experienced internally has also eliminated much abortive work between the development of a concept and the creation of the engineering plans for construction. As required, additional notes are produced and included in the series, the publication of which has moved from a paper based system to an online system.

### Density

There are many reasons cities will need to increase their densities. Here are some of them. First is the basic need to reduce the consumption of land needed for other uses such as agriculture, second is to reduce travel distances, third is to improve use of expensive infrastructure, fourth is to maximize casual knowledge transfer and skills, fifth is to improve safety through passive surveillance, sixth is to enhance vitality, seventh is to promote viable public transport and eighth is to reduce energy consumption. Melbourne, like many post industrial cities, suffers from very low densities and in the case of the central city, a lack of any significant residential population. Since the 1980s a number of strategies have been used to help increase the densities downtown. By far the most successful over the last twenty years was the introduction of Postcode 3000 in the early 1990s. This program, designed to reintroduce a residential population into the central city, was spectacularly successful. Using a suite of incentives such as changed regulations, financial assistance, improved street level environments and promotion, the city managed to reintroduce over 30,000 residential units in just over 15 years. This program not only saw the reuse of existing under-utilized building stock but also saw the redevelopment of under-utilized land close to the central core, such as the Docklands.

This successful program has now been adopted by the State Government in its Metropolitan Strategy 2030 where distributed Activity Centres, based on rapid transport routes, are being encouraged to follow a similar approach and thus form local, more easily accessible centres for their surrounding suburbs.

### Mixed Use

In addition to density, mixed use is seen as one of the cornerstones to healthy, vibrant and sustainable communities. There are many benefits to mixed use areas. They include their potential to provide a local skills base, to optimize the use of public infrastructure such as parking facilities due to temporal differences on demand, to increase the viability of local businesses, to reduce dependency on cars, to provide convenience, to increase personal safety and to promote walking.

Central Melbourne was by the 1980s becoming increasingly mono-functional. Retail was on the decline and lost to the suburban shopping malls, residential was almost non-existent with only 700 central city dwellings by 1992, and entertainment and leisure activities were on the decline with many of the old theatres closed or closing. In 1985 the Council



City of Melbourne's 'Technical Notes' were produced to ensure the use of a high quality and consistent suite of street furniture and paving, including traditional bluestone which has been progressively re-installed since the 1980s (refer plans above).



Melbourne's established tree avenues help to define the public realm and create attractive and high-amenity streets.



A map showing the extent of street tree planting in the central city of Melbourne.

symbolically changed the name of the Central Business District to the Central Activities District and commenced a program of encouraging the greater diversification of the centre. Alongside the successful Postcode 3000 program outlined above, the city developed retail, and events strategies. The combination of all these strategies produced a catalytic dynamic response to inner city vitality that saw 1500



The addition of floors to existing structures allows historic buildings to be retained while ensuring their conversion to apartments is economically viable.



1983

● = 5 Dwellings



2002

9,895 Dwellings

● = 5 Dwellings

● = Convenience Stores

Diagrams which illustrate the dramatic increase in residential dwellings in Melbourne's central city.

new bars, cafes and restaurants, numerous supermarkets and 400 sidewalk cafes open up downtown. This achieved one of the City's key objectives of turning downtown from a central business district into a central activities district.

One of the most underrated but successful programs was the city's arts and cultural program. This diverse program looked to sponsor arts and culture over the widest possible spectrum. The City of Melbourne has the largest arts program of any local government in Australia. It recognised very early on the importance of 'the creative culture' in stimulating the revival of cities. Other programs included the traditionally successful festivals and sporting activities.

## BREAKDOWNS..? UNDERCAPACITY..? UPGRADING..? MAINTENANCE..?

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Art installations in Melbourne's streets, laneways, and other public spaces.

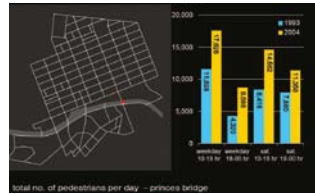
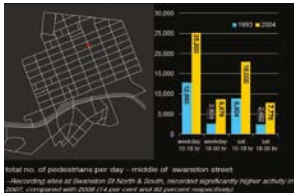
### Connectivity

Connectivity is the glue that holds a city together. Where connectivity fails, cities start to fall apart, barriers are formed and neighbourhoods become dysfunctional, disconnected and often hostile to their users. By contrast good connectivity promotes improved access to local facilities, and free movement within and out of the city. It improves land values, reduces vehicle emissions, encourages walking, improves natural surveillance, and provides greater choice of movement.

Melbourne in 1985 had many of the characteristics of a car dominated city. If not for the fact that it had retained its tram and rail infrastructure the city would have been almost entirely dependent on the motor car. Twenty eight thousand vehicles a day used its main street, Swanston Street, bisecting the central city and producing a heavily polluted and hostile environment. Both levels of government recognised the need for change. The first major improvement was to build an underground loop that provided three new underground stations. These combined with the existing two major stations surround the central core of the city with rail infrastructure. To complement this program, the City, in the 1980s embarked on a process of gradual pedestrianisation of the central city with the aim of redressing the imbalance between the motor car, public transport and the pedestrian. The expansion of footpaths and the restriction on cars in such streets as Swanston Street has slowly seen an increase of more than double the pedestrian numbers along with the removal of hectares of asphalt from the central city. This, combined with quality pavement finishes, tree planting, and distinctive street furniture, has seen Melbourne's streets achieve a new level of sophistication. More recently, the city has introduced an extensive network of bicycle links that have brought a rapid increase in the number of cyclists. Four thousand seven hundred people now choose to cycle to the centre of the city each day.



Art installations in Melbourne's streets, laneways, and other public spaces.



Data taken in 1993 and 2004 demonstrates that pedestrian numbers have increased in Swanston Street. This growth is attributed to improvements in streetscape amenity and vitality.

### High Quality Public Realm

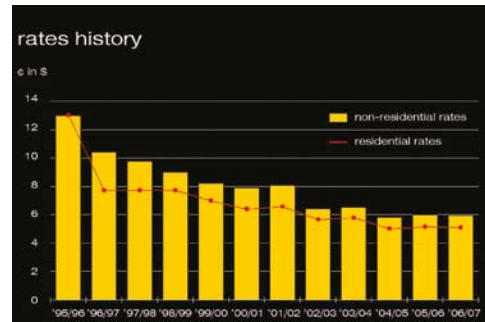
One of the casualties of our modern cities has been the quality of the public realm. The push to suburbia and the concentration of the modern movement in architecture on the design of the object rather than the space between buildings has resulted in a loss of understanding and skills in the design of public space, in particular the most important public space in our cities, our street space. The space between buildings has become left over space, poorly designed, seldom activated by adjacent uses and often dominated by the car. Belatedly, advocates for the public realm in the form of Jane Jacobs, Jan Gehl and others have recognised the importance of the public realm. A high quality public realm attracts people and activities, increases economic performance, encourages new forms of street activity, increases the pride of the community, and improves the potential for social engagement and cultural activities. Pride in the public realm can assist in reducing vandalism, encourage tree planting and reduce the waste washed into the storm water system.

Melbourne by the 1980s was seeing a gradual reduction in the quality of its public realm. Buildings were being set back from street alignments, blank walls were fronting footpaths, footpaths were being eroded and the general level of care and maintenance was poor. Recognising the problem, the city established an urban design unit and gave it control over the quality of the public realm. This small unit commenced a program to improve the physical amenity of the city; streetscape plans dealing with street tree plantings and open space were produced. A typical example would be the central city tree planting strategy, which, when combined with bluestone paving, streetlights and other street furniture, combine to give Melbourne's streets their distinctive character.

Working closely with the City's statutory planners, simple principles of requiring all new developments to build up to the property line and provide 75% active frontage, have slowly seen the return of quality streetscapes which contribute to the amenity and vitality of the city's public realm. These incremental changes applied through the development control process are highly effective but often neglected by city authorities.

### Conclusion

With over 51% of the world's population now living in cities, it is increasingly clear that cities will need to pay greater attention to becoming more successful in producing liveable, sustainable and economically viable built environments. The five factors outlined above, while considered the major components for achieving liveability, are also the key drivers for sustainability and economic viability. While Melbourne



Rates history of City of Melbourne, showing a consistent decline in both residential and non-residential rates between 1995-1996 to 2006-2007 financial years.

has successfully used these drivers over the last twenty years to turn its central city around, significant effort is still required over the remaining metropolitan area if the region is to remain viable in the changing circumstances brought on by climate change and the retreat of the fossil fuel economy.

As the central city has increased densities, encouraged a greater range of mixed uses, built on its local character, improved connectivity and access for pedestrians, bicycles, and public transport, and developed a high quality public realm, it has become more financially viable and started to reduce its environmental footprint. Local rates and taxes have declined by over 50%. Property owners in 1996 who had to pay 13 cents in the dollar on the value of their property are now only paying 6 cents in the dollar. The city has also set an ambitious environmental target of zero emissions by 2020 and has already taken a strong leadership position through the purchases of green energy, the replacement of street lighting with longer life and more efficient luminaires, extensive street tree planting schemes, installation of passive energy collectors, and greater attention to the design of its buildings, including the design and construction of Australia's first new 6 Green Star rated commercial office building CH2.

The success of Melbourne over the last twenty years has been through its ability to set a clear vision with ambitious but achievable targets and then put them on the ground. Where other cities have produced high quality documents, Melbourne has managed to achieve a high quality implementation program. Using a strong tradition of in-house professional skills in all aspects of its administration, it has mastered the art of successful partnerships and directed the resources of other levels of government and the private sector towards its vision. While working from a modest financial base it has consistently packaged up large and ambitious projects such as Federation Square, QV, Swanston Street, Postcode 3000 and, more recently, the environmental program. It has also successfully brought on board key partners in the financing and ongoing maintenance of these projects. It has recognized the need for quality design and delivery and the importance of remaining a leader rather than just a manager in the art of city making. Its projects have received over 80 Awards from the Architects, Landscape Architects and Planning Institutes and its views and opinions have been sought both locally and internationally.

Clearly Melbourne is one of the important case studies of how a city can take control of its destiny and plot a course for the 21st century.