

THE LOCAL IDENTITY AND DESIGN CODE AS TOOL OF URBAN CONSERVATION, A CORE COMPONENT OF SUSTAINABLE URBAN DEVELOPMENT – THE CASE OF FREMANTLE, WESTERN AUSTRALIA

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Abstract

This presentation asserts that heritage conservation based on the philosophy and standards of the Athens and Burra Charters is no longer sufficient to ensure a viable future for urban heritage. While heritage continues to represent an essential aspect of the human condition and continuity, the current approach and methods of conservation fail to include sustainability of heritage as a component of human progress and evolution. In Australia, heritage conservation is still dealt with as separate from town planning and its role as a determining factor in the resilience and capacity of historic cities to endure into the future as viable urban capital is largely underestimated.

Key words: heritage management, town planning, resilience capacity

Urban heritage and sustainable development

In addition, until relatively recently the focus of the heritage conservation movement has been on preserving individual icons of the past. The urban expansion of the 21st century has definitely shifted the emphasis from individual places to urban heritage, broadening the field's vocabulary to embrace new and complex aspects of urban heritage, including its intangible and economic values. While initially conservation of urban heritage was seen as a constraint to the introduction of high-density developments into established inner city areas to contain urban sprawl, increasingly conservation of historic built environments is seen as a core component of urban regeneration, essential to ensuring the enduring and high quality sustainable development.

Management of change

This paper introduces a philosophical approach to urban heritage that aims to manage change in historic cities by ensuring that, while the regeneration and re-development of the built environment is taking place, the intrinsic identity of the existing urban character and architecture is not only protected, but is proactively used as a reference and city-specific guide for new development. The methodology adopted to define local identity employs geometrical characteristics that can be measured and defined numerically. Thus, managing change in a city with a well-researched and established identity ceases to depend on the subjective and ever changing views and political persuasions of the decision

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makers and employs an objective set of clearly defined ground rules that are well understood by all prior to considering and designing a change. Once established and documented, the information can be used as a Source Code of the city's urban identity and a community resource available to all stakeholders with interest in the city's built environment and urban landscape.

Urban Identity and Design Code for urban development strategy

The methodology employed for the Local Identity and Design Code (LI&DC) can also be used in the preparation of a long-term and sustainable urban development strategy by defining the *desired* Urban Identity (UI) and Design Code (UI&DC) for the whole city. When preparing urban development strategy it is important to make a distinction between a one-off urban design exercise in accordance with the prevailing attitudes of the day, and the Urban Identity Code's informed strategy. In the latter case its preparation must be preceded by the analysis and acceptance of the definition of the urban identity of the whole city. Having UIC in place is critical to informing an Urban Design Code that will guide development, which will retain and enhance that identity. The Urban Identity Code's role includes establishment of the 'big picture' by identifying the strategic city areas available for new development, followed by the individual urban design codes for each area. The big picture step is also critical component of preparing the strategy – the most damaging effect of new developments in historic cities becomes apparent only over time and after the accumulated deterioration of the urban fabric through a series of incremental impacts of individual developments has taken place and too much urban heritage has been forever lost in the process. Perth's globally generic model the CBD provides a classical example.

Currently the development approval process may, at best, take into consideration the immediate heritage context; rarely the whole area, and almost never the whole city context. So new buildings tend to be built largely opportunistically, if not randomly, and are preceded by proactive structure plans only incrementally, when certain parts of the city become available for redevelopment or regeneration. Since there are many supporters of 'spontaneity' of such idiosyncratically incremental developments, it is important to stress that the Code doesn't eliminate opportunities for spontaneity and creativity. Instead the objective clarity of an Urban Design Code for strategically defined areas with potential to accommodate higher density development is more likely to generate area-specific urban design solutions which maintain and enhance the overall harmony of the urban landscape.

The Urban Design Code (UDC) and quality development

The UDC can be used as a guide to incremental, individual developments on the basis that each adds value to the well-defined 'big picture'. It can provide greater quality assurance of good architecture in new developments than is the case with the conventional approach to planning. So instead of following a land use or individual developers' driven model of regeneration the Code can be used as a tool to achieve what Christopher Alexander defines as 'healing' the city through a process where every act of construction contributes to creating a better 'whole' (Christopher Alexander et al, 1977, *A Pattern Language*). In ideal situation the Urban Design Code has the potential to facilitate the evolution of an increasingly and intrinsically unique, attractive, rich, multi-layered, sophisticated and liveable city.

In the same way the Local Identity and Design Code can provide a local solution to the trend towards globalisation of the development culture, which relies on generic designs and mass production of urban sameness famously defined some 50 years ago by Arthur

Boyd as the 'ugliness of Australian suburban architecture'. Today this phrase can readily be applied to urban architecture in general, which more often than not has been desensitised to the local tradition, resulting in the incremental loss of urban heritage as an irreplaceable resource of the affected cities. The Code also clarifies the relationship between heritage conservation and sustainability based on durability and resilience of the traditional built environment, particularly local architecture. This way it can be used as a counter response to the prevailing globally generic development, which relies on the cyclical replacement of what has been built before; represents an excessive waste of energy and is rarely sustainable. In this respect the Code acts as a practical guide to extending the economic value of the surviving urban capital into the future by adding lasting value to what has survived to date.

Introduction – what is the Local Identity and Design Code

The concept of the Local Identity Code (LIC) was developed by Dr Jacek Dominiczak, one of the key speakers at the Port Cities Conference organised by AICOMOS in Fremantle in 2006. The delegates, who represented the heritage industry of Australia and the local community, enthusiastically received his presentation. The City of Fremantle seized the opportunity and commissioned Dr Dominiczak and his associate Monika Zawadzka to prepare in cooperation with Agnieszka Kiera, City Heritage Architect, and students of Curtin University, a Local Identity and Design Code for central Fremantle.



Figures 1 and 2: Port City Fremantle (Photos Agnieszka Kiera)

The Local Identity and Design Code (LI&DC) consist of two components: the Source (Identity) Code, derived from the rigorous analysis of the city's existing urban character (urban architecture), and the Design Code. The Source Code is urban architecture-specific, contextual and numerical as it uses geometry to define urban identity and prototype of a particular area. It describes all urban identity forming elements, from the city plan (grid of the streets, distribution of public spaces, urban 'grain'), through the key streetscapes (urban

interiors) to individual features of the city architecture (scale, façades) including such Fremantle specific architectural refinement and urban features as gaps and junctions between the buildings; inherently local architectural details; materials and colours.

The Design Code in turn is informed by and derived from the Source Code and therefore provides a specific and objectively contextual set of guidelines and defines the scope for compatible infill development. The specificity of the scope is important as it leaves little room for subjective judgments where objectivity is what matters most; it defines the compatible grain, scale and massing of new development, with a schedule of the recommended heights and proportions for new infill buildings. The recommended heights, scale and proportions vary in each precinct of the city with identifiable character, such as the West End, Fremantle Prison or the waterfront, and these features are objectively delineated through the Code’s analysis.

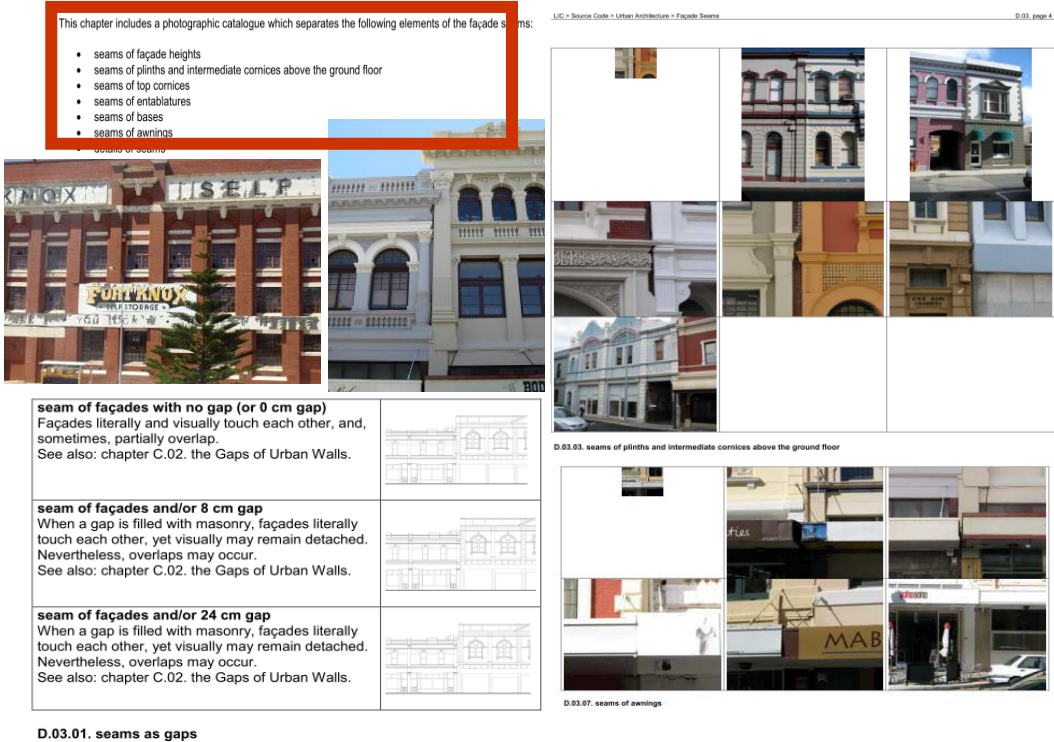


Figure 3: Dr Jacek Dominiczk and Monika Zawadzka – extracts from the Local Identity & Design Code for Central Fremantle, 2008, selected by Agnieszka Kiera

The Local Identity Code is often referred to as a ‘spatial code’ because it defines the detailed spatial characteristics of the city’s urban architecture.

Despite its focus on architecture and physical space, Dr Dominiczk’s theory recognises the influence of historical, cultural, social and economic factors on a city’s development. The Code subscribes to the theory (Sir Peter Hall, *Cities in Civilization*, 1998) that the characteristics of cities are not confined to the aesthetic attributes of the built environment, but represent the physical manifestation of the anthropological and social identity of generations of its builders, residents and occupiers, their culture and lifestyle, and their stories; its evolution as a society; and its economic affluence or lack of. Hence the geometrical parameters of the Design Code are often explained in terms of the social role of architecture as benefiting not only the individual but also the society, capable of providing quality to peoples’ lives; having the ability to uplift the spirit and engage the community. Therefore in Dr Dominiczk’s own words, ‘the Spatial Identity Code is about care’. The Code is also about complex (or as he calls it: ‘deep’) sustainability. The former refers to the care

taken of the old by the new by paying respect and fitting in. The latter is represented by the two intertwined (hence complex) components of sustainability: the survival of the natural environment that sustains life on earth, and the society’s culture of organising itself in cities built in harmony with nature, with its past and its future. Complex or ‘deep’ sustainability is based on the *dialogic* as opposed to the customary *evolutionary* paradigm. *Dialogic* sustainability refers to balance, i.e. ongoing ‘dialogue’ between the natural and man-made components of the environment, between old and new, between preservation and construction, between renewal and transformation. The conventional *evolutionary* paradigm defines changes to the environment through a sequence of developments, one after another, not necessarily connected by a harmonious, contextual evolution or consideration for the continuity of stories or the urban form and its architecture.

The Identity Code theory also asserts that sustainable endurance of a city depends on a moral code by which the society manages its urban environment in accordance with the local tradition and agreed culture of the whole community of city builders, which includes past and present property owners and developers, city administrators, and all other actors in the local market economy. This traditional societal ethics, at least in the Western world, allows individual city builders freedom to realise their personal development aspirations within the building’s private zones, while the city administrators’ role is to look after the social function of urban architecture represented by the building form and façades through local regulatory mechanisms; commitment to the community, and art of city building.

The most apparent component of the Design Code is the objective arithmetic precision with which it defines the compatibility of new infill development with the existing urban context. The Design Code uses the geometric data established by the Source Code to define the scope, form and architectural quality of new development.

The height of urban walls The Code recommends the following height for urban walls:

inland areas		recommended		accepted
area	zone	height	height deformation	minimum height
area 001	zone 1a - High St.	15.5 m	vibrations +/- 0.5 m	14.5 m
	zone 1b	12.5 m	vibrations +/- 1.0 m	9.0 m
area 002	zone 2	12.0 m	vibrations +/- 1.0 m	10.0 m
area 003	zone 3a	14.0 m	vibrations +/- 1.0 m	10.0 m
	zone 3b	17.5 m measured at Cantonment St.	vibrations +/- 1.0 m	10.0 m
area 004	zone 4a - High St.	15.5 m	vibrations +/- 1.0 m	14.5 m
	zone 4b	10.5 m	vibrations +/- 1.0 m	no limits
area 005	zone 5a	wall: 6.3 m; gabled roof: 9.0 m	vibrations +/- 0.5 m	5.8 m
	zone 5b	outside the study area		
area 006	zone 6	outside the study area		

waterfront: riverfront areas		recommended		accepted
area	zone	height	height deformation	minimum height
area 007	zone 7	wall: 8.0 m., gabled roof: 10.0 m	vibrations +/- 0.5 m	5.4 m
area 008	zone 8+9	8.5 m	vibrations +/- 1.0 m	7.4 m
area 009		for special buildings: 12.0 m	vibrations +/- 0.5 m	11.5 m
area 010	zone 10a	9.0 m	vibrations +/- 1.0 m	7.2 m
	zone 10b	west side of Marine Terrace: 10.0 m, gabled roof: 12.5 m	vibrations +/- 1.0 m	7.2 m
area 011	zone 11a	9.0 m	vibrations +/- 1.0 m	7.2 m
	zone 11b	west side of Marine Terrace: 10.0 m, gabled roof: 12.5 m	vibrations +/- 1.0 m	7.2 m
area 012	zone 12	north bay shore of Fishing Boat Harbour: 7.0 m., gabled roof: 9.0 m	vibrations +/- 1.0 m	

Figure 4: Dr Jacek Dominiczak and Monika Zawadzka - Extract from the Local Identity & Design Code for Central Fremantle, 2008

Yet within these parameters the Code leaves considerable opportunities for subjective design creativity. The existing urban landscape is treated by the Code as sustainable material and social capital worthy of long-term investment, which should add lasting value to what

has survived to date. Local architects are expected to care about their surroundings and have a sense of responsibility for the architecture they add to the existing city. The objectivity of the Code in this context is critical as it provides a high degree of certainty to developers/builders/architects with which to plan their proposals in a considerate and contextual manner. This is an important stimulus to urban development within the otherwise unpredictable economic and development market. By defining the scope of compatible infill development by reference to the existing urban environment, the Local Identity and Design Code reduces the likelihood of opportunistic short-term, erratic and/or rampant development driven by development pressures and controlled through a reactive planning approval system, which always comes at the cost of losing at least some community values and amenity.

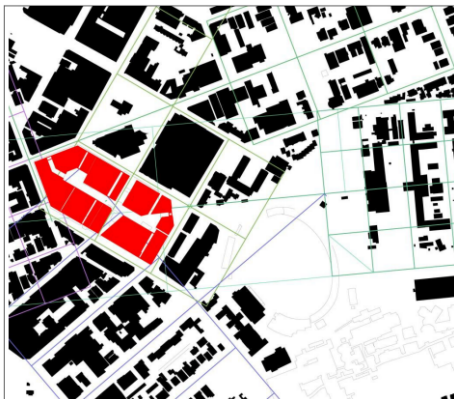


Figure 5: The Local Identity & Design Code's recommended development plan (marked red) for the underutilized, inner city block containing mix of the existing buildings, vacant sites and a pedestrian mall. Dr. Jacek Dominiczak & Monika Zawadzka, Urban Design Study of Spicer Site and Paddy Troy Mall, 2008

The Code can facilitate the creative pursuit by city builders of continuous refinement of the city's identity through complex rather than generic design solutions. On the one hand the Identity Code ensures understanding and appreciation of the urban identity of the city and on the other hand it informs the Design Code's scope and the criteria by which individual development proposals will be assessed by the City Council. In addition to providing essential certainty about what is expected, the Code gives to architects and developers time and freedom to explore their individual design solutions within the objectively defined scope. So instead of generic, globally practised solutions, which tend to produce the same buildings in different geographical regions, local architects are provided with the framework for continuing reinvention and refinement of the local architectural tradition, resulting not only in its reaffirmation but also in the ever-increasing sophistication, depth and creative evolution and reinforcement of the city's unique identity.



Point Street site - New infill development designed on the principles of the Local Identity & Design Code for Central Fremantle - Luis Vale and Luis Rodrigues, Design Project, Dominiczak Studio at the Universidade de Beira Interior, 2009.

Figure 6: Point Street site - New infill development designed on the principles of the Local Identity & Design Code for Central Fremantle - Luis Vale and Luis Rodrigues, Design Project, Dominiczak Studio at the Universidade de Beira Interior, 2009



Figure 7: Point Street site, current view (Photo Agnieszka Kiera)

The Local Identity and Design Code as a tool for the sustainable development of Fremantle

In his book on conservation and sustainability Dennis Rodwell defines traditionally built cities as: 'related to their topography and enjoying a balanced relationship to its locality. The sense of place and harmony is enhanced by the limited range of local materials and craft skills used in their construction, reinforced by strict building codes. Its scale is essentially human, and it functions socio-economically according to a commonly shared understanding of what constitutes urban life' (Dennis Rodwell, *Conservation and Sustainability in Historic Cities*, 2007). It is an accurate description of Fremantle indeed.

Rodwell explains development of a historic city in terms of the principles of sustainability and sustainable development in great detail, and substantiates the following assertion with many examples: 'Sustainability includes continuity of socio-economic and environmental functionality; continuity of use of the material resources and products in infrastructure and buildings that have already been extracted and manufactured; avoidance of unnecessary use of finite reserves of fossil fuels in the transportation of goods and people; and avoidance of all related waste and pollution. Embraced within these is respect for, and continuity of, cultural identity and diversity. ... Sustainable communities are places where people want to live and work, now and in the future. They meet the diverse needs of existing and future residents, are sensitive to their environment, and contribute to the quality of life' (Dennis Rodwell, *Conservation and Sustainability in Historic Cities*, 2007). It's interesting that the same narrative applies to individual buildings, including the principles of sustainability. This has been simply and succinctly summed up by Sir Bernard Feilden: 'Sustainability is about prolonging the useful life of a building in order to contribute to a saving of energy, money and materials' (Bernard M Feilden, *Conservation of Historic Buildings*, 1994).

It is also easy to apply the classic definition of sustainable development of natural environment to man-made cities: 'Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. The Local Identity Code adds another dimension to the sustainability debate. Rather than elaborating on the theory, Dr Dominiczak has developed the practical means of codifying the urban identity of the existing built environment in order to guide its sustainable development. The Design Code is a proactive tool of all decision makers and city builders to ensure the sustainable evolution of what exists as opposed to depending on replacement developments driven by the real estate and construction industries.

The Local Identity and Design Code as a tool for compatible development of Fremantle

The Code for Central Fremantle identifies 12 precincts of intrinsic individual character that combine to form a 'whole': a coherent cultural, urban and architectural landscape which includes but is not confined to the historic West End. The area's distinct identity as a colonial and Victorian port and port city, which has been shaped over the last two centuries by the complex political, social, economic and environmental influences has been translated by the Fremantle's Local Identity Code into the technical language of 'dialogic architecture'.



Figure 8: The prototype form of central Fremantle, Dr. Jacek Dominiczak and Monika Zawadzka

The Local Identity Code for Central Fremantle has established a 'language' for expressing the city's architecture, which defines visual perception of its urban spaces and creates the specific identity of the city. Extending the metaphor of language Dr Dominiczak introduces the concept of dialogic architecture, which is based on the premise that the identity of the city rests not only on the intrinsic quality of individual buildings but, more importantly, depends on the 'encounter' or 'dialogue' between the buildings (walls) that 'frame' the streets (floors) and define the perceptual character of urban spaces. While local planning and building laws have traditionally provided formal conditions for establishing such dialogue, the identity of the city was shaped by individual interpretations by city builders of these laws. Also by the individual design responses to the specific site/area context as the generations of city builders engaged in contextual problem solving within the framework of local regulations. The city builders range from the first town surveyor, who prepared the original plan for the town of Fremantle and decided the grid of streets overlaid on the natural landscape, the size of the town lots that define the urban grain, scale, density and uses of the buildings; through the governments' built infrastructure of the streets, wharfs and public spaces; to individual owners and developers who over two centuries have developed the locally specific architectural language of the buildings.

According to Dr Dominiczak local urban identity is not defined by either the urban or the architectural prototype described through analysis of architectural and spatial features, but by *deformation* or variation from the prototype. By revealing the range of *deformations* of the existing buildings from the perceptual *prototype*, the Code shows that design variation within certain limits helps to define the uniqueness of the inherent urban character. The difference between the well-defined identity and one lacking a well-articulated character is

the degree of deformation from the urban prototype. The deformation must remain within the defined limits to create a *dialogue* between buildings, including a dialogue between old and new, as opposed to an *argument*, which occurs when new buildings exceed the recommended limits of variation in height, massing and proportion creating *contrast*, not the *harmony*.



Figures 9, 10 and 11: Examples of infill developments representing an excessive margin of deformation according to the Code

The incidence and limitation of deformation simultaneously provide the conditions for both *dialogic architecture* and *urban conversations*. It is the Code's demarcation of an acceptable margin for deformation that reveals the scope for design creativity within which individual architects can explore and define the individuality of their designs. It is also this margin of acceptable deformation that defines the capacity of a city to absorb change while maintaining and enhancing the harmony of its urban identity. At the same time the Code allows individual architects freedom to come up with modern designs for new infill buildings that would fit in and continue enriching local identity. The architects don't need to get concerned with interpretation of the urban context, because the Code defines the contextual scope within which architects can explore new design solutions while ensuring continuity of perceptual *dialogue* between new and existing buildings and broader urban context.

The problem arises when the local development culture does not encourage searching for new ideas and complex architectural solutions to site/city-specific urban problems, where individual rights take precedence over the obligation to meet the aspirations of the community, which will have to live with the consequences. Even the administrative decision makers tend to forgo the community's desire for an increasingly refined, sustainably evolving city in favour of supporting development rights and less so obligations. Many statutory planning mechanisms, including residential planning codes and/or professional charters, are too general and broad, inviting discretion or blanket application of rules across the city. So policies and codes rarely provide practical guidelines for contextual developments such as adaptive reuse of the existing buildings or compatible infill developments specific to each, individual area of the city. Instead the Identity Code replaces generic and abstract concepts such as 'compatibility' or 'harmony', which are open to interpretation, with the objective attributes expressed in geometrical and numerical terms for each area of the city with an identified identity. These attributes describe what is known intuitively as the *prototype* and it also defines the acceptable degree of *deformation* of local urban architecture. This in turn serves as clear reference, guide and inspiration to city builders how to go about adding value to what exists within the defined design scope.

At its most effective the Code offers a framework for urban solutions at all levels, from individual constructions to the whole city, from individual owners, occupants, users and city administrators to all kinds of stakeholders and custodians, including those who will replace us.



Figures 12, 13 and 14: Examples of infill developments complying with the acceptable degree of deformation according to the Code (Photos Agnieszka Kiera)

The Code is most invaluable as a tool to guide the City Council's planning decisions when dealing with major development proposals for vacant sites within the historic core of Fremantle. It can also be used effectively to ensure that new architecture exhibits high aesthetic quality to match and/or enhance the identified lasting value of the old, such as heritage listed buildings and heritage areas.

Finally the concept and methodology of the Local Identity and Design Code can be expanded and applied to the whole city, at a higher level of proactive, strategic planning such as preparation of a sustainable urban development strategy for the whole city.

Local Identity and Design Code as a tool for the desired, next identity

The current challenge for urban planners is to deal with global urban development pressures on cities of unprecedented scale in human history, especially the projected doubling of the earth's population by 2070 and climate change. The need to curb urban sprawl and provide for a dramatic increase in population in inner urban areas is a major challenge for traditionally low-density Australian cities. This poses a threat to heritage conservation, as we know it, considering that historic centres often represent the valued urban heritage of most established cities. It also threatens the traditional amenity and lifestyle of the current population. Fremantle, like the rest of the globe, faces the predicted doubling of its population within the next 60 years and a corresponding challenge to accommodate a steadily increasing number of new residents within its historic core.

Although the Local Identity Code for central Fremantle has extended the boundaries of the city centre where it supports the retention and enhancement of the existing identity defined by the most historic area, it cannot in its current form guide the predicted dramatic transformation of the inner city into a much higher density urban environment, requiring a high degree of *deformation*. It's worth noting that global experience shows that the desired benefits of dramatic urban transformations come at a price. Except in the most advanced and protected European cities such as Paris, losses often outweigh the desired benefits, including loss of the city's urban identity, trivialisation and commercialisation of urban heritage and diminishing of the associated social capital. This is especially likely when the rules of such transformation recommend, as is the case in Fremantle, concentration of high-density developments within walking distance (500 m) from the public transport hub of Fremantle Railway Station.

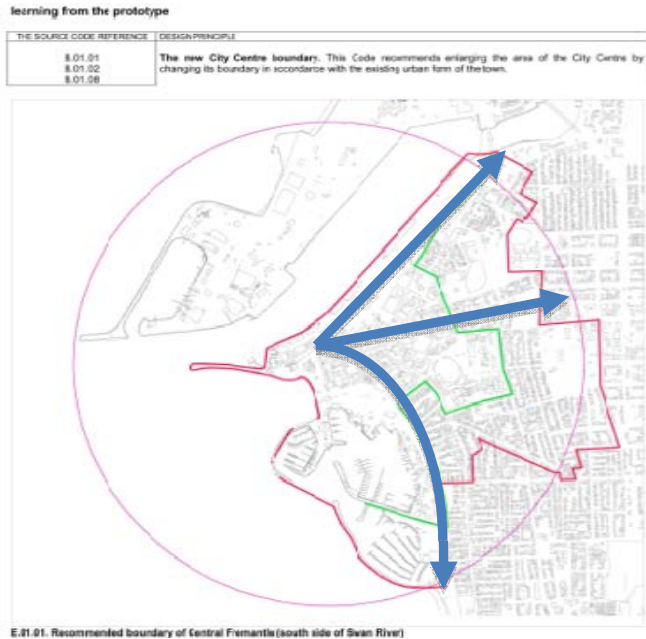


Figure 15: The boundaries of Planning Area no. 1 under Local Planning Scheme (green) and the centre of Fremantle as defined by the Local Identity Code (red) (Dr Jacek Dominiczak). The 1830's town grid was surveyed to fit the topography and this determined development of the port city equally balanced along three axes, two of each had been determined by the shoreline. This in turn influenced the associated areas' distinct, individual characters

Under the current standard practice, managing urban change rests with developers who proactively, and often opportunistically, decide the scale and form of new development to suit their individual plans, and local councils react to what is proposed by assessing it against the provisions of the planning scheme. While councils may and often do attempt to modify excessive aspects of the proposed development, this is usually confined to minor modifications and details rather than the principle or scope. The appeal tribunal and/or state authority can and often does overturn any major objections. Hence local councils in Australia rarely see themselves as urban planning authorities and Fremantle is no exception. While Fremantle Council has at times undertaken a proactive role in urban planning, it was mainly on a one-off, individual basis and in response to urgent external pressure such as departure of an industry or sale of state/ commonwealth land. In addition, managing change through ensuring compliance with the local planning scheme is also increasingly seen as too restrictive.

Reactive planning control involves a high degree of uncertainty and cannot define or ensure high architectural quality or the objective compatibility of new development with the existing urban context. So at best the resulting developments are of mixed relevance and quality as opposed to the 'orderly and proper' planning required under the scheme. Therefore adopting the same reactive approach to facilitating higher density developments in established cities is unlikely to produce the desired outcomes. Instead this approach carries an inherent risk of fragmentation, unpredictability and irreversible consequences, especially where shared community needs and wants are concerned. Yet a lot of the shortcomings of reactive planning can be resolved by the proactive approach recommended by the Code, assisting the City of Fremantle in developing a 'proper' strategy for sustainable urban development for the whole city. An ambitious and imperfect example maybe, but the Commissioners' Plan of 1811 for New York demonstrates the benefits of preparing a visionary strategic plan for the orderly urban development of the whole city at that time. Two hundred years later Manhattan has not only successfully accommodated much denser

development than originally envisaged, but has evolved into a sophisticated, vibrant, multi-layered urban landscape of high architectural quality without stifling the creativity of city builders or compromising the amenity of generations of its residents.



Figure 16: The current spread of the planned high-density developments is driven largely and arbitrarily by the property market, type of a 'developer' and individually defined briefs and scopes. The 'developers' include Fremantle Council, Fremantle Ports, State Government and private owners. The evident focus on the north axis and river shoreline creates unbalance i.e. deformation of the original urban structure (Photos Agnieszka Kiera)

Admittedly it would not be easy to develop the big picture considering many unknown variables without resorting to the superficiality and predictability of generic global solutions imported from other geographical regions of the world. Instead the strategy based on the Urban Identity Code defines what the community, planners and other decision makers know, understand and can agree to value as an urban capital worth investing in and continuing to improve in the long term. This is where the Code can be most useful – as a tool for informing the long-term urban development strategy for the whole city by defining its *urban* identity and the Fremantle-specific scope and criteria for sustainable development. Agreement on the big picture would create certainty and consistency of approach to incremental developments, an essential prerequisite to ensuring that each contributes to the bigger, denser and better 'whole' regardless of who is doing it at any particular time.

The methodology of the Local Identity Code can be used to define the scope and criteria for a *desired urban identity* with a balanced mix of low to medium and high-density areas. The aim would be to reduce the potential loss of values associated with arbitrary, piecemeal and often erratic large-scale urban regenerations, which tend to transform rather than enhance traditional cities. In Fremantle, which remains relatively intact in terms of urban structure, the concept of dialogic architecture in the historic core can be broadened to apply to the whole urban landscape. The generic prototype of a high density urban landscape consisting of medium to high rise buildings or blocks of flats could be modified to suit the specific local context and identity of Fremantle. This way the citywide urban identity can be defined by its compatible, visually perceived relation to the historic core.

The critical issue for the planned increase in density will be to determine the degree of deformation, which would allow the city to evolve into a denser yet compatible urban environment outside the historic centre. The Urban Identity Code should be prepared by the

same process as Local Identity Code, by identifying the strategic areas suitable for larger density developments; identifying attributes of the urban identity; defining relevant extensions of the existing pattern of streets into each identified development area and their individual urban character; and finally defining the Urban Identity of the whole city, which will inform the Urban Design Code. Its role is to design a modified urban structure and patterns that would integrate new densities with the existing urban landscape of Fremantle as well the immediately adjacent urban areas.

Maintaining and extending the existing street network and the pattern of streets and public spaces into the development areas is essential to maintaining and enhancing the city-wide identity. It is also critical to ensuring that urban transformation from low to medium and/or high density is compatible with retention of the existing unique features of the natural and built environment. These include but are not limited to the significant landmarks and natural landscape features by which people orientate themselves around the city (e.g. Monument and Cantonment Hills); distribution of public spaces and reserves and the existing urban infrastructure; significant vistas and the long-distance visual connections of various vantage points including views of the harbour and sailing ships; urban design features such as the symmetry of the city's spine (High Street) and the relation of the future higher density areas to the three axes of Fremantle's original urban structure (High Street; the southern axis of the ocean foreshore (South Terrace) and the river (Adelaide/Queen Victoria Streets)). These symmetries and urban design features are important aspects of Fremantle's urban identity and the Urban Design Code will need to adopt them as a framework for balancing the overall symmetry of the city's evolving urban composition with new areas of higher densities. The map on the right shows how potential (not yet available), strategically determined areas for future high-density development can be located along the three axes defined by Dr Dominiczak. To maintain the overall urban identity of the city, any future incremental planning and implementation of the higher density developments should be guided by and incorporate the Urban Identity Code's identified features of the city's urban landscape.

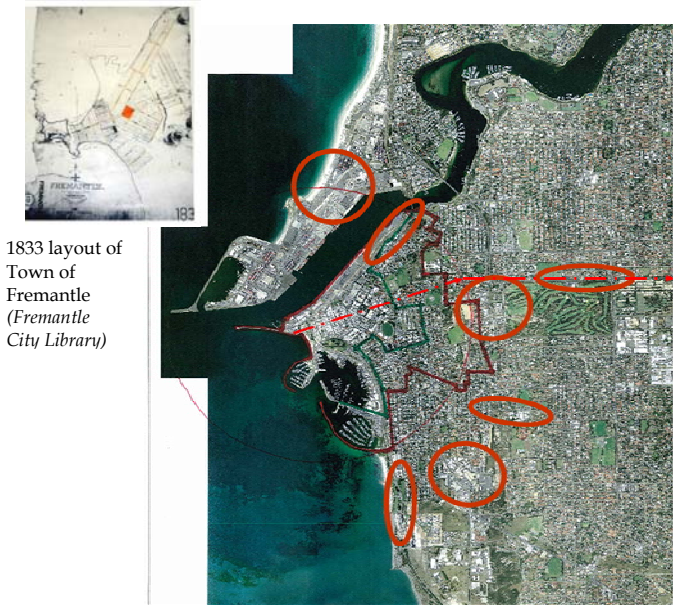


Figure 17: Urban Design Code's defined spread of the strategic sites across the whole city, which provide opportunities for higher density developments in the long term. The continuity of the original symmetry, and balancing the development opportunities equally along all three axis of the port city, create urban design harmony and a critical element of continuing the city's identity while maintaining the individual character of each area in relation to their respectively immediate urban context (Photos Agnieszka Kiera)

While the current Local Identity and Design Code promotes and defines continuation, reaffirmation and enhancement of the existing urban identity through compatible infill development within the city centre, the proposed Urban Identity Code will extend the application of the methodology and principles of the Local Identity Code to the whole city.

The Urban Design Code will define the means for integration of higher density developments with their surroundings, for example by ensuring that the existing and new streetscapes remain in a *dialogue* with each other.

The expansion of the original concept of the Local Identity Code for Central Fremantle into the Urban Identity Code for the whole municipality is still just a work in progress. The topographical map of Fremantle above is the first step and shows only an indicative and strategically desirable total 'picture' for higher density options. The areas of Fremantle marked in red might and should in due course become available for larger scale redevelopment. These include a mixture of private and publicly owned land, mainly former industrial areas, quarries and wharves that are increasingly becoming superfluous to requirements. These areas are located outside central Fremantle and their *desired compatible identity* has yet to be discussed, defined, analysed against the Code's criteria and agreed on by the community. It is the Urban Design Code's role to design the scope and compatibility criteria for new streetscapes of higher density buildings within the areas available for redevelopment. Once the street pattern is extended and integrated with the existing urban pattern of the surrounding, lower density suburbs by contextually designed 'seams', the Code would determine the acceptable margin of deformation for the greater density buildings for each of the vacant sites while maintaining the overall visual coherence in relation to the whole city and the respective immediate urban context.



Figures 18 and 19: The currently predominantly low-density residential area along the 'spine' of the city formed by High Street can be redeveloped for medium to high densities using the local architectural language and patterns. The existing undulated landform provides opportunity for integration of new development with the existing streetscape formed by two to three storey street frontages. In this design concept the extension of High Street's streetscape is formed by the two to three top levels of five to six storey buildings. (Photos and photomontage Agnieszka Kiera)

Application of an Urban Design Code may give rise to new and innovative solutions to urban design challenges. For example the currently mixed low and medium density residential areas along High Street east could, due to the conversion of the former West Australian Newspapers' warehouses and the undulating topography, be redeveloped for denser residential use while enhancing the existing identity, character and urban amenity of the area.

An additional benefit of the Urban Identity and Design Code is that it can also be used to inform and assist development of other strategically compatible solutions to the city's current urban problems - an example currently debated by Fremantle City Council and State Government is the need to upgrade the public transport system by the introduction of light rail in the city. The citywide urban development plan would show the planned future distribution and concentration of the residential population, living at the considerable distance of 1-2 km from the Railway Station. Knowing the location of all target areas and the estimated number of residents planned for each area that will need to be served by public transport would facilitate a more realistic and rational planning of the light rail system.

The conventionally recommended distance of 500 m from the public transport hub for high density development does not suit Fremantle, as it would deform its low to medium density and small grain urban identity of the colonial port city, with all associated costs and spill-over implications discussed earlier. The global approach to a transient orientated city should be adapted to Fremantle's specific circumstances and requirements. On the other hand departure from the generic model of high density developments 1- 2 km from the public transport hub could be seen as a challenge, but also as an opportunity for the government to plan and allocate adequate resources to light rail as part of an integrated transport system that would have a capacity to serve the current and future population of Fremantle with much greater efficiency than the current system. Without the Urban Identity & Design Code's informed urban development strategy the light rail system, like other fragmented developments, is likely to produce mixed rather optimal results including potentially more physical and economic costs than benefits to Fremantle community. At least in the short to medium term, i.e. until the impact of light rail and the associated, currently unforeseen problems, are solved by the future generations.