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Charting a Changing Waterfront: A Review of Key Schemes for Perth's Foreshore

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Charting a Changing Waterfront: A Review of Key Schemes for Perth's Foreshore

ABSTRACT Twenty-one years have elapsed between an international design competition held for the redesign of Perth's Swan River foreshore and the commencement of construction of a small, but significant, section of the this river's edge. This extended period of design proposition allows an opportunity to reflect on trends in waterfront design in Perth, and shifting notions of what Perth is, and could be, as expressed by the proposals. Trends identified include a growing appreciation of urban values, increasing aspirations to produce symbolic capital, increasing production of stylized urban imagery and the corresponding dominance of the architectural discipline. Perth's foreshore has been until recently a vast expanse of typically unoccupied, turfed parkland. Analogous to a scaled-up suburban 'front yard', its role has been typically symbolic rather than functional. As such, schemes for the redesign of this foreshore, and subsequent public reactions, also tend to reveal aspects of Perth's collective identity. While the 1991 competition-winning scheme recreated a naturalistic landscape on the foreshore, later state government-endorsed schemes in 2008 and 2011 proposed the urbanization of the foreshore at significant densities. These recent schemes reflect, and have forged, a growing desire for urbanity in Perth.

Introduction

As a result of collating material for this paper, we estimated that over 200 proposals have been made for the Perth foreshore area since the early 1990s. This includes 153 proposals from an international design competition conducted by the state government in 1991, proposals by CityVision (a local advocacy group) in 1988 and 2013, proposals devised as part of a competitive tender process in 2007, proposals from the City of Perth's 'What If' design competition in 2010, and recommendations made for the waterfront by Jan Gehl, also in 2010. This figure does not include the hundreds of student projects produced for the foreshore as part of urban design studios held at the University of Western Australia and at Curtin University over the years. The legacy of this prolonged design process is a comprehensive record of evolving trends in waterfront design and changing notions of what Perth is, and could be, as expressed through designs for the waterfront.

For the purposes of in-depth analysis this paper will analyse three of the schemes produced in this period. These schemes have been selected because they

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*Julian Bolleter was employed by Ashton Raggatt McDougall to work on the design of Elizabeth Quay between 2009 and 2011.

were those that came closest to implementation; indeed the third of these is now under construction. The schemes include the 1991 international competition-winning proposal, produced by Kevin Lynch's Massachusetts environmental design firm Carr, Lynch, Hack and Sandell, that proposed the rendering of the foreshore as a naturalistic landscape. The second is a scheme by Melbourne architects Ashton Ragatt McDougall (ARM) that proposed the development of the foreshore at a significant density, and in a highly stylized manner. The third scheme, also produced by ARM, proposes the development of the waterfront at lower densities and in a form partly reminiscent of conventional post-industrial waterfronts in Australia.

These schemes are discussed in relation to their morphology (formal properties), the design ideology embodied in the schemes and the public discourse they precipitated. The morphology of the schemes will be understood by reviewing the various drawings and images produced of the schemes. The design ideology will be understood through a review of the literature concerning the designer's philosophy and practice, and as can be deduced by analysing the designs. Of course design ideology and morphology are closely entwined and the discussion of these under separate headings is intended purely to provide greater clarity. The public discourse precipitated by the schemes will be understood through a review of the local media that has acted as a lightning rod for public and political opinion, and through surveys conducted at the time.

These criteria are employed to investigate two research questions, namely:

How do these schemes reflect evolving trends in waterfront design in Perth?

How do these schemes reflect Perth's changing identity as a city?

The extended period of rethinking Perth's foreshore has been paralleled by changing ideas of waterfront development around the world. These include a new appreciation of 'urban values' (Rigby and Breen 1994, 2), the use of waterfront redesign, to create the conditions attractive to global investment in the context of increasingly flexible capital flows (Dovey 2005, 11), and the increased dominance of the architectural profession acting as lead consultant on waterfront redesign projects. These broader trends in waterfront redesign can all be mapped, to varying degrees, through proposals for Perth's foreshore.

Beyond these broader trends the redesign of Perth's foreshore also offers a lens through which to analyse changing ideas of what Perth is and perhaps could be. Perth's foreshore, since being reclaimed from the Swan River, has been a wide expanse of turfed parkland and has functioned symbolically as the city's 'front yard'. Like suburban front yards Perth's foreshore has been typically about ornamental display rather than actual use (Hall 2010, 29). As such the aforementioned schemes tend to reveal aspects of Perth's collective identity, particularly in the context of Perth's recent economic booms, which have brought about significant societal change. As Kim Dovey explains "The waterfront is an edge of the city and it has a certain edginess; it is a "front" or "frontier", a "face" or "mask" of the city that constructs urban character and identity' (Dovey 2005, 24). This paper will examine this mask as a representation of how Perth constructs its identity as a city.

The redesign of Perth's foreshore can be regarded as analogous with Melbourne's Federation Square site (Brennan 2010), which has been the subject of both international design competitions and prolonged and polarized city-wide

debate. However, proposals for Perth's foreshore are also markedly different from Federation Square, and indeed the raft of waterfront redevelopment projects that have occurred in recent decades in Australia; including Melbourne's Docklands and Southbank, Sydney's Darling Harbour, Darwin's waterfront, and the Port Adelaide development. This is due to the fact that Perth's foreshore has never had any significant industrial or recent port function; rather, it has been since the late nineteenth century landscaped public open space. While most waterfront redesigns involve conversion of an industrial 'backyard' into a 'front yard' (Kreiger 2004, 27), in the case of Perth's foreshore the existing 'front yard' is actually being redeveloped. With the exception of Canberra's Kingston foreshore and West Basin proposal, this situation is unique in Australia. This has significant implications for both the symbolism of its development and subsequent community reactions.

The implications of this research relate to the importance of high-profile, symbolically loaded projects such as the one proposed for Perth's waterfront for galvanizing community sentiment in relation to urban densification, a critical issue in Perth. If indeed the public's image of the city can be 'remade' at waterfronts, as Marshall (2001a, 9) attests, then the constructed scheme for the waterfront will help to set the tone for state government and City of Perth densification efforts in central Perth, but also elsewhere in the city. Indeed for government, waterfront renewal is often the centrepiece of metropolitan promotion and part of an overall densification agenda (Oakley 2011, 222). Vancouver's planning director Larry Beasley speaks of using 'waterfront locations to create a competitive advantage for downtown living that is capable of offsetting the allure of the suburbs' (Kreiger 2004, 37). Perth has yet to leverage fully the river to catalyse higher density urban environments, however the Perth Waterfront project under construction, with its 1700 apartments, is a step in this direction.

The Site

The city of Perth is the capital of the large and resource-rich state of Western Australia. While Perth is the most remote urban centre in the world, it is presently growing at an extreme rate. This growth has been fuelled by a series of mining booms that have seen Perth's population increase from 1.18 million in 1991 to 1.9 million people today. This growth is also, in part, due to Perth's enviable suburban lifestyle; it has a density of only 3000 people/km² and as such has one of the lowest urban population densities in the world. The principal urban node within this suburban milieu is Perth's central business district (CBD), which is situated on the banks of the meandering, estuarine Swan River.

Prior to Swan River's colonization by Europeans, the site of what is now Perth's foreshore comprised very shallow river margins edged with dense rush beds and interspersed with salt marshes (Seddon and Ravine 1986, 76). Known as Gumap by the local Noongar people, this was originally a fishing area and it is recorded there were Noongar camps on the site at the time of colonization (Hughes-Hallett 2010). The adjacent Perth Water, or 'Buneenboro' to the Noongar people, was also home to hundreds of black swans who swam and rested on exposed shoals and sand spits (Seddon and Ravine 1986).

Despite its rich biodiversity, since the earliest European occupation of Perth the foreshore was deemed problematic. First, Perth Water is shallow, except where it has been dredged, with the consequence that the Perth foreshore was very

unsatisfactory as a port in the early years of the Perth colony (Nevill 2007). As such Fremantle, and later Kwinana, became the ports that served the administrative and commercial centre of Perth (Seddon and Ravine 1986, 56). By the 1880s progressive infilling of Perth's adjacent river edges began so as to provide the city with recreational spaces necessitated by the perceived absence of any central parkland (Seddon and Ravine 1986, 89).

Further to recreational needs the riverine landscapes had come to be regarded by many as a 'noisome marsh, a mosquito-breeding morass' (Seddon and Ravine 1986) and as such were perceived to be in need of 'beautification' via infilling and turfing. This drive to create handsome riverside parkland can be aligned with the City Beautiful movement in which proponents held 'idealistic notions about civic well-being and the social benefits of public landscapes and parks' (Rigby and Breen 1994, 12). As a result of these beautification endeavours, by 1955 the Perth Waterfront site,¹ historically referred to as the Esplanade, formed part of a larger expanse of generic turfed public open space (POS), some 80 hectares of which had been 'reclaimed' from the Swan River's marshy banks (Stephenson 1975, 7) (Figure 1). By the late 1960s the Perth Waterfront site was framed to the west by a sprawling freeway interchange site reclaimed from the now buried 'Mounts Bay', the historic Supreme Court Gardens immediately to the east, and Perth's CBD to the north. A significant arterial parkway, Riverside Drive, ran between the POS and the Swan River, disconnecting the city from the river.

Since its reclamation from the river in the late nineteenth century, the Esplanade has had a long history as a place for major events in the life of the city, both in public celebration and in protest (CityVision 2013) (Figure 2). Despite this, on a day-to-day basis it was typically unoccupied. Windswept, overshadowed by tall buildings to the north and periodically reclaimed by the river in storm events, the Esplanade offered little amenity to encourage its occupation. Clinton Yabuka describes the reclaimed and turfed expanse of the site as having been viewed for many years from two contrasting perspectives: 'one seeing a blight of untenable



Figure 1. Progressive infilling of the Swan River: the Perth Waterfront site is shown outlined in red; the 1991 competition site in orange.



Figure 2. The Esplanade has had a long history as a place for major events in the life of the city, but on a day-to-day basis was typically unoccupied and barren. *Courtesy: Michal Lewi.*

vacuousness, and the other seeing an idyllic and untouchable natural setting' (Yabuka 2008, 41). Either way, it was like a typical suburban front yard, generally unoccupied but nonetheless concerned with symbolic display (Hall 2010, 16). Recognizing the untapped potential of the Perth waterfront, and Perth's foreshore generally, in 1989 an urban design competition was conducted, jointly funded by the City and the State, for the entire extent of Perth's foreshore.

The Landscape Scheme (1991)

The Competition Brief

The stated aim of the competition was to 'canvass the widest possible range of ideas and solutions to the problem of a city severed from its river' (Western Australian Government 1991, 22). Despite the title of the 'Perth City Foreshore Urban Design Competition', the brief called explicitly for a landscape proposal and specifically identified the competition as not being an 'architectural competition' (Western Australian Government 1991). The overt directive of the brief for a landscape response can be attributed to the role of George Seddon as competition advisor. Seddon is a revered figure in Perth who authored a seminal book *A Sense of Place* (1972) that dissected the Swan Coastal Plain, the geological unit within which Perth is sited, into its constituent layers of geology, soils, plants and subsequent cultural overlays. The book provides a comprehensive guide as to the biophysical 'sense of place' of the Swan Coastal Plain but little direct guidance as to how architectural form could be reconciled with this landscape. It is not unreasonable to presume Seddon's overt focus on landscape influenced the competition brief.

Morphology

After much deliberation by the assessing committee, on 16 June 1991 the Premier of Western Australia announced that Kevin Lynch's Massachusetts environmental design firm Carr, Lynch, Hack and Sandell was the winner of the competition (Figure 3). The winning, and commended, schemes were overtly landscape compositions, no doubt reflecting the brief and the judging panel. However, there were 'protests' against the overt landscape focus encouraged by the competition brief. Local Perth firm Donaldson Warn proposed the urban development of a significant section of Perth's foreshore around a geometric inlet, a move which was premonitory of the scheme now under construction.

The winning Carr, Lynch, Hack and Sandell scheme deferred to the Perth region's endemic landscape to inform their naturalistic scheme. Broad swathes of land were designated as 'Western Australian Gardens, Natural Riverine Landscape, Historic Gardens Bio-Exchange' and, one of the few buildings proposed on the foreshore, an 'Environmental Learning Centre' (West Australian Government 1991). A significant public gesture included a grand curving jetty, the 'Grand Crescent', which provided a view back to the skyline of Perth over the water. A 'Swan Island' also formed a nesting area for the local black swans. In addressing the perceived disconnection between the city and river, the design team proposed to excavate a significant section of Langley Park to create the 'Old

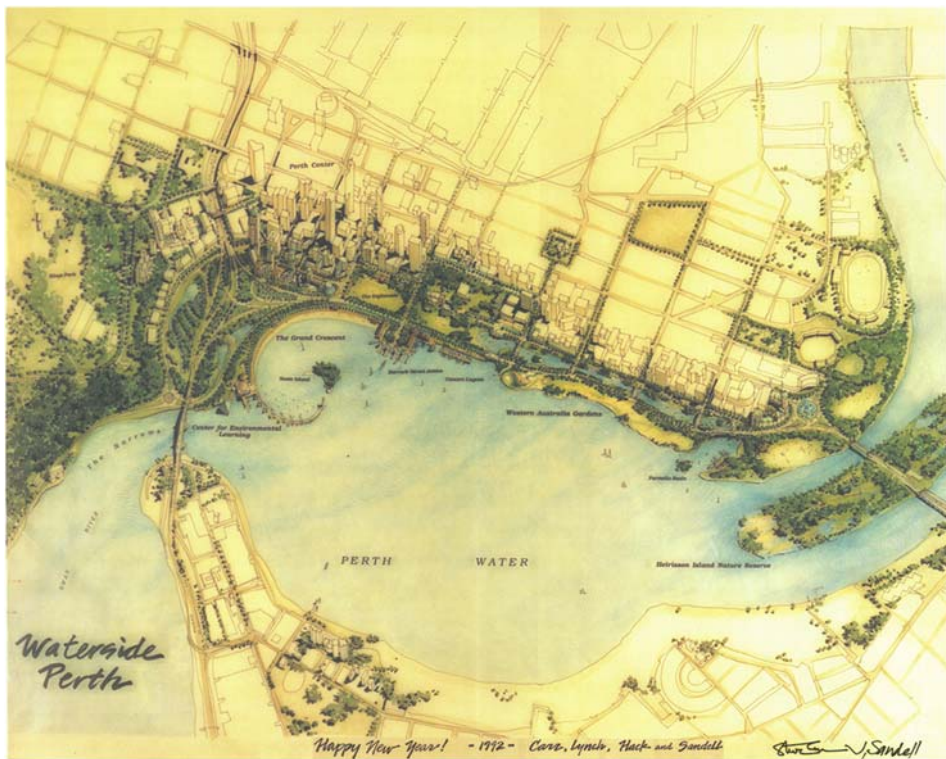


Figure 3. The 1991 competition-winning scheme by Carr, Lynch, Hack and Sandell. The scheme addressed the disconnection between the city and river by excavating a significant portion of Langley Park to create a 'creek' at the edge of the city. As per Lynch's urban theory, the scheme retained the clearly defined edge condition between the urban form of Perth's central business district (CBD) and the landscape of the foreshore. *Courtesy: City of Perth.*

Shore Creek.’ The aim of this was to bring the river back to the edge of the existing city structure, rather than advancing the urban form of the city itself to the river’s edge. The scheme’s retention of the legibility of the urban edge of the city can be partly explained in terms of Lynch’s urban theory.

Design Ideology

Lynch, in his seminal book *The Image of the City* (1960, 91), identifies the opportunity of forming ‘our new city world into an imageable landscape: visible, coherent and clear’. He refers to this legibility being achieved, in spatial terms, by elements such as ‘paths, edges, districts, nodes and landmarks’ (48). Of these elements, the ‘edge’ was most dominant in the existing structure of Perth’s foreshore in 1991. In fact the then well-defined edge between the urban form of the city and the greenbelt of the foreshore subscribed to Lynch’s proposition that an edge gains legibility if it is ‘laterally visible for some distance, marks a sharp gradient of area character and clearly joins to bounded regions’. In keeping with this philosophy, the Carr, Lynch, Hack and Sandell scheme did not transgress the existing clearly delineated ‘edge’ condition between the urban form of Perth’s CBD and the landscape of the foreshore. Perhaps there was an attempt to emulate the Chicago lake shore area, which Lynch cites in this respect as a ‘magnificent example of a visible edge, gigantic in scale, that exposes and entire metropolis to view’ (66). It seemed that Carr, Lynch, Hack and Sandell were keen to maintain the distinct edge conditions between built form and landscape that presumably aided Perth’s citizens in their mental imaging of the city. Indeed, to further this end, the scheme proposed a grand curving jetty that allowed viewers to gaze back at Perth skyline in one coherent view.

While the Carr, Lynch, Hack and Sandell scheme saw the city’s urban edge to the foreshore remain unchanged, the City Beautiful landscape of the foreshore itself was significantly altered. This generic greenbelt was excavated to express the morphology of the original shoreline and replanted to represent the wider biodiversity of the Swan Coastal Plain. Bonnie Fisher extols the importance of inscribing the unique characteristics of buried natural systems into waterfront design, a strategy that is central to the Carr, Lynch, Hack and Sandell scheme:

the most engaging built elements on the shoreline retain the essential qualities of what came before, and treat nature not as an adversary but as an accomplice . . . Drainages that were covered, beaches that were filled in, shorelines that were straightened: all have the chance to be reclaimed and redefined. (Fisher 2004, 49)

This desire to breathe new life into these buried natural systems, while probably well intentioned, also could have been an attempt by Carr, Lynch, Hack and Sandell to appeal to Seddon, the competition advisor.

Public Discourse

As perhaps could be expected of such a generous upgrade to a public landscape, 81% of people surveyed were in favour of redeveloping the foreshore and 71% thought that the winning entry was ‘a good basis for the project’ (Gregory 2009, 15). If Marshall’s assertion that that waterfronts tend to ‘express what we are as a culture’ (Marshall 2001a, 4) is accepted, then the relative popularity of the Carr,

Lynch, Hack and Sandell scheme reflects a citizenry who was comfortable with Perth's sprawling landscape condition. As Yabuka describes, Perth's urban structure has not generally encouraged 'the intense interaction of its citizens, but rather has supported a "lifestyle of quiet contentment"' (Yabuka 2008, 41). This situation also extended to a tradition of observing rather than engaging with the Swan River (Yabuka 2008). Indeed, this was not the River Seine, the urban image of the Yarra River adopted by Melbourne in the 1980s (Dovey and Sandercock 2002, 154); this was the river as an Arcadian escape from the city, a place outside the ordinary dominion of urban dwellers (Fisher 2004, 63). This perception of the river is confirmed by a 1985 survey conducted by the City of Perth to gauge the relative popularity of various 'activity, environment, and movement' strategies for the foreshore (City of Perth 1985). This survey established that the public had favoured 'environments' on the foreshore, which included 'open grassed fields, informal parkland and naturalistic river edges' (Western Australian Government 1991), and that they strongly disapproved of a 'lively waterfront atmosphere, waterfront buildings, or buildings on jetties or markets and souvenir stalls' (City of Perth 1985) (Figure 4). With respect to 'movement', they strongly disliked car parks, decked or otherwise, and the widening of roads. Where roads were unavoidable they favoured them being swathed in greenery (City of Perth 1985). With respect to 'activity', the public strongly favoured jogging and cycling trails, but strongly disliked messier and livelier activities such as fun fairs, markets and souvenir stalls, crafts, and water playgrounds (City of Perth 1985), which interfered with an Arcadian conception

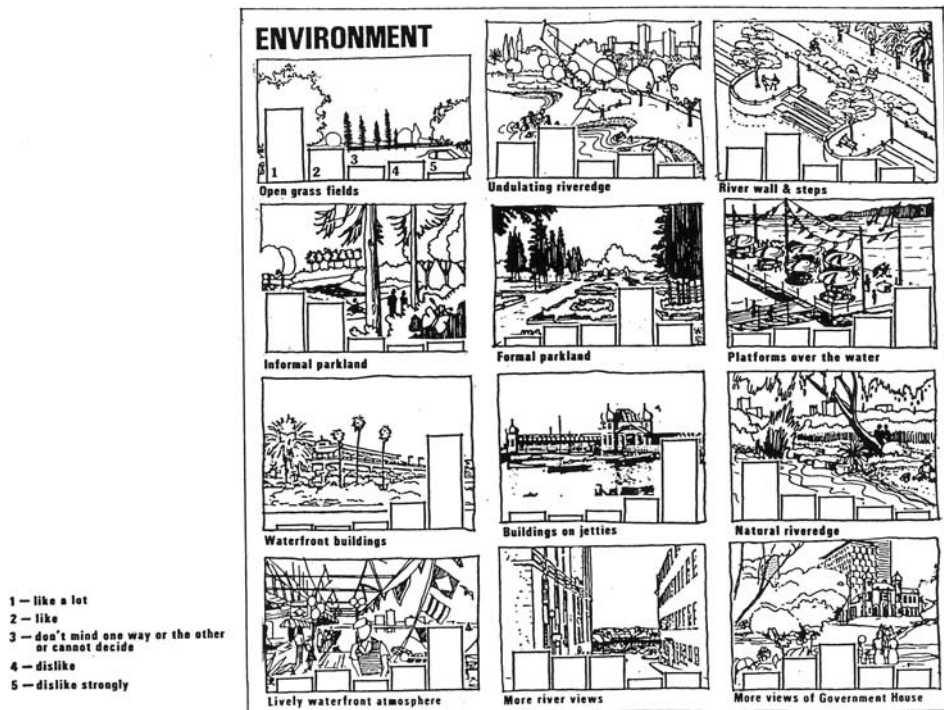


Figure 4. Community preferences as to the potential development of Perth's foreshore. The bars at the bottom of each image relate to: 1, like a lot; 2, like; 3, don't mind one way or the other or cannot decide; 4, dislike; and 5, dislike strongly (Western Australian Government 1991). *Courtesy:* City of Perth.

of the foreshore. In essence the survey results indicated ‘the public wanted the space to stay more or less the way it was; a green belt delineating the city and river [...]’ (Westbrook 2008, 44).

While the implementation of the competition-winning scheme ultimately became bogged down with contractual issues, its demise could be attributed to other factors. First, power over the development and management of the foreshore rested with a number of different authorities (Gregory 2009, 15), a situation that hampered early implementation efforts. Further to this, given the negligible residential population of the adjacent CBD, at the time there would be scarcely enough people to occupy the park outside of major events like Perth’s annual fireworks ‘Skyshow’. As Nigel Westbrook identified, without an adjacent urban residential population ‘the outcome will be a tawdry [...] scraping of superficial urban gestures, fuelled by short-term tourism, without substance’ (Westbrook 2008, 44). However, in the long-term the proposed riverside park would have provided a significant amenity for the projected 45,900 people who will live in the City of Perth by 2026 (Metropolitan Redevelopment Authority 2013b). Regardless, in 1991 the issue of a negligible population extended to the waterfront’s potential activation and also as to how it would be funded. The presumption was that due to an absence of significant private development opportunities, the project would need to be funded entirely out of the public purse. Unfortunately, both City Council and government resources were limited at the time. The Labor Government, marred by the excesses of corruption scandals, fell, and the scheme was scrapped by the newly elected Liberal-National Party Government (Gregory 2009, 15). Thus while the scheme was well aligned with public sentiment, it ultimately foundered due to a prevailing period of economic uncertainty and political change (Gregory 2009, 16).

The Circle Scheme (2008)

With the demise of the Carr, Lynch, Hack and Sandell proposal, the foreshore remained in a state of stasis despite a flurry of new proposals. These included master plans produced by the City of Perth in 2001 and 2005, and a scheme by the state government in 2006. In 2007 the Office of the Government Architect, in association with LandCorp (the state development agency), called for expressions of interest and a selection panel short-listed five architectural teams. Those teams were asked to pursue their design ideas in a spirit of open competition and subsequently Ashton Raggatt McDougall (ARM), one of Australia’s most innovative architectural firms, in conjunction with Richard Weller, was chosen. The selection of an avant-garde architectural practice to lead consultants on the Perth Waterfront represented a shift away from the planning-driven approaches of the City of Perth in 2001 and 2005 towards an architectural firm that could deliver a stylized image for the waterfront (Dovey 2005, 13).

Morphology

While past designs for the site had been ‘stymied by a profound scepticism toward vertical infill development in general and sentimentality toward the existing large open spaces’ (Weller 2009, 357), the ARM scheme proposed the development of the Esplanade at a high density and as such broke the perceived legibility of the line of existing urban form demarcating the city’s edge (Figure 5). This precinct of



Figure 5. ARM's Circle Scheme. The Indigenous cultural centre was located to the left of the 'River Circle' inlet. Opposite is the tall tower that provoked comparisons with Dubai. *Courtesy: ARM.*

high-density urban development was to be structured around two significant public gestures. The first consisted of an excavated circular inlet, the 'River Circle', which would 'enfold' the river in the city in an inlet. The River Circle was scaled to match the Western Australian Cricket Association (WACA) oval in East Perth, and was described as alluding to the Aboriginal flag and to icons of the Ideal City (Raggatt 2008). Set within the frame of the 'River Circle' was to be 'Swan Island', the black swan being a long-time symbol of Western Australia. The second gesture consisted of Esplanade Square, a formal space that would provide for the continuation of many of the civic events that had historically occurred on the Esplanade. An iconic Indigenous cultural centre formed a focal point for the scheme, jutting out into the Swan River and providing a cultural anchor for the scheme. This proposal referenced the historical role that Perth's foreshore played as an entry point for imperial occupancy and trade (Oakley and Johnson 2012, 341).

The Circle Scheme in morphological terms references an earlier 1996 proposal prepared by ARM for the Melbourne Docklands site. This vision set up a dramatic contrast between the new Docklands and the old city whereby the traditional

image of the city was 'destabilised, melted, stretched and inflected' (Dovey 2005, 141). As Dovey described, there is a sense of the existing city 'literally turning into water' in the new Docklands. The fluidity of urban form in the ARM Docklands proposal 'extended to curvilinear streets and buildings with kidney, cylinder and ribbon shapes that loop, fold and twist in three dimensions [...]' (Dovey 2005, 141). While less extreme, the morphology of the Circle Scheme certainly contrasted with the existing city grid of Perth's CBD. As the city grid reached down to the river it warped around the circular inlet and morphed into an organic extension of urban form and landscape along the edge of the existing freeway interchange. The fluid nature of the Circle Scheme was certainly deliberate and reflected the use of a virtual, computer-driven, 'generative' tool in the design process. In procedural terms the rippling effects of a virtual drop of water were modelled in three-dimensional (3D) software and used to determine the geometries of the river's edge, paving patterns and even building footprints.

Design Ideology

The ARM scheme for the waterfront can be understood, ideologically, in the context of ARM's eclectic, strongly textual, post-modern architectural practice (Dovey 2005, 143). While the urban framing of the Carr, Lynch, Hack and Sandell scheme, if not the landscape treatments, could be broadly considered as part of the rational and objective 'design methodology movement' (Gelerntner 1996, 279), the ARM scheme could be considered to be aligned with the movement of 'post-modern eclecticism' in which designers 'rummaged through history, selected fragments of forms [...] and collaged them together' (Gelerntner 1996, 279). ARM buildings, such as Storey Hall in Melbourne and the National Museum in Canberra, are coded with 'multiple architectural, local, historical and popular references' (Dovey 2005, 143). Their work is often tinged with cynicism, a 'deconstructive resistance to singular meanings' and 'a difficult beauty in the challenging tradition of the avant-garde' (Dovey 2005, 143). With the Circle Scheme the ARM avant-garde architectural ideology becomes extended to the scale of urban fragment of the city. At this expanded scale functional and spatial considerations were also necessarily at the core of the scheme; however, the scheme represented a willingness, new to Perth, to engage with the symbolic, stylistic and sculptural potential of urban form at a significant scale.

Public Discourse

While the urbanity and symbolism of the Circle Scheme represented a departure from earlier visions, it also reflected a growing awareness of Perth's relationship with its global context. As Weller explains, in the decade leading up to the Circle Scheme proposal Perth had become 'exceptionally self-conscious. About its image, about its global liveability ranking, about why bright young things tend to leave and, most notoriously, about how to shake off the "Dullsville" tag that its citizens regrettably assigned it in a pique of self-flagellation' (Weller 2010, 38). Perth's self-consciousness was particularly evident in the Circle Scheme for the waterfront.

Of course this situation was not unique to Perth; redeveloping Darwin's waterfront was calculated to 'shift a long-standing perception of it as a big country town to that of a tropical city of international renown' (Oakley 2011, 234). A belief

that Melbourne was becoming a 'backwater' was a compelling narrative driving the Docklands project (Oakley 2011, 234). As Susan Oakley identifies, 'increasingly the role and practice of urban governance is directed towards enhancing the competitive capacity of cities in attracting and retaining global circuits of capital and people' (Oakley 2011, 222). Waterfront renewals are often part of this process through their 'Imagineering' into 'places of spectacle, symbolic economy and cosmopolitan living' (Lehrer and Laidley 2009, 799). Consciously or unconsciously the Circle Scheme appeared to attempt to garner 'symbolic capital' for Perth within this global context. While the 1991 landscape scheme represented Lynch's idea of an 'image of the city' as a 'form of urban cognition' (Dovey 2005, 12), the 2008 Circle Scheme embodied the 'image of the city' as a form of global branding.

While the scheme was initially popular with the public,² the image of Perth stepping boldly onto the global stage, however, was not embraced by all; much of the critique of the scheme centred on its lack of perceived connection to place. In this critique, carried out in the popular media, the scheme was pejoratively referred to as 'Dubai on the Swan' (Thomas 2012). This stereotype was perpetuated by the 'Swan Island', which was designed to be read from Google Earth; the obvious reference being to Dubai's logo-driven urbanism of 'The Palms' and 'The World' developments. In an otherwise supportive article, Ruth Durack described the 'general consensus seems to be that (the scheme) is embarrassingly kitsch, with more vituperative critics even saying it is emblematic of a derivative and Disneyesque development that mocks the natural beauty of the river' (Durack 2008, 26).

The indicative urbanism in the publicly released renders was also high, and sculpted into organic forms reminiscent of Dubai's 'starchitecture' (AMO, Reisz, and Ota 2007). This served further to confirm the association with Dubai, at least in the minds of the critics; this occurred at a point in time when the population of Perth were perhaps particularly sensitive to comparisons with Dubai, given Dubai's spectacular economic collapse and Perth's similar reliance on mineral resources. As Dovey attests, 'Symbolic capital is a fixed resource, a zero/sum game. There is only so much distinction and prestige to be distributed. If everyone gets "distinctive" architecture, if every city is distinctive, no one wins the symbolic capital' (Dovey 2005, 19). Fairly or unfairly the symbolic capital that the Circle Scheme attempted to produce was eroded by the perception that the forms, from which the symbolic capital was derived, had already been produced elsewhere.

The styling of the urban form also tended to polarize reactions to it. The composition, at least in the public-released renders, appeared designed as an architectural 'set piece' apparently made by a single hand. The use of the virtual generative tool tended to reinforce this perception that the waterfront had a single author. While perhaps desirable at the architectural scale, this runs counter to the now well-established belief that waterfronts 'need to be designed as a series of creative and well-planned interventions, in the form of numerous building projects, that take shape over a long period of time' (Fisher 2004, 52). Indeed, comprehensive schemes designed by a single architect were discredited by early urban renewal projects (Gordon 2004, 88). Of course this perceived issue of the Circle Scheme can be largely attributed to representation rather than to the design itself. While the publicly released renders show all the buildings conforming to a consistent language, it could be expected that in later stages of the project multiple architects would have brought different stylistic approaches to the different architectural projects.

The height of the buildings, particularly the tall tower (in excess of 50 storeys) where the River Circle met the river, also alienated support for the scheme. While with respect to overshadowing it made sense to locate the tallest towers along the water's edge, shadow being cast over water and not public space, this tower in particular tapped into Perth's unease about high-density urban form on its river edge. This unease emanates from a variety of sources. Certainly the river is perceived to be a public asset and the apparent monopolization of its edge for private development is regarded as an affront. Well-known Danish architect Jan Gehl espoused the need for a 'tight block layout' and 'humanly scaled' buildings on the Perth's waterfront in a report for the City of Perth (Gehl Architects 2009, 82). Given the relative self-consciousness of Perth at the time, many would have been loath to ignore the advice of an esteemed international expert. There is also potentially an unconscious dynamic at play. In Western traditions of philosophy and mythology, water has a complex set of meanings: life, fertility, and healing and regeneration (23). In psychoanalytic theory, water is symbolic of the unconscious (Dovey 2005, 23), and the Swan River, from a Western perspective, is associated with aboriginality. Indeed the local indigenous creation myth of the serpentine Waugal who formed the Swan River (Giblett 2007, 34) is well known. The imposition of a tower that can be seen to symbolize 'force, male fertility, masculine violence' (Dovey 2005, 192) within the Swan River's rich vein of associations was for many antagonizing.

While the height and styling of the urban form tended to alienate local support for the scheme, public acceptance of the scheme was hampered by perhaps more fundamental factors. Significantly, while other Australian cities have produced stylized urbane waterfronts that are oriented towards the global audience such as Southbank (Dovey and Sandercock 2002) and Federation Square in Melbourne, Melbourne Docklands, Port Adelaide Waterfront and the Darwin waterfront (Oakley 2011), all these projects emerged from polluted industrial sites (Oakley 2011, 222). As such the populace typically had minimal attachment to such sites. Indeed, if polluted industrial rivers could be cleaned and adjoining sites remediated for the purposes of creating real estate and public open space, then this was, from the public's perspective, a win-win situation. Given the Perth waterfront site was not particularly polluted, and the river's ailing health is not due to industrial factors, there was little ability to employ a 'clean-up' to leverage community support. The issue confronted by the Perth Waterfront design team was that this vision was being wrought from a (typically unused but nonetheless historic) slice of public open space, a situation that fuelled the controversy surrounding the scheme. As John Syme of the highly critical advocacy group CityVision described at the time:

South Bank, Docklands and Darling Harbour were all run down underutilised areas. [...] By contrast, Perth is taking its one and only heritage-protected riverside parkland, the dress circle of our city, digging it up and creating an over-intensive development, all to supposedly activate the city. (CityVision 2013, 9)

The perceived pro-development nature of the scheme also tapped into sensitivities resulting from a prolonged economic boom that Perth was experiencing. While this boom resulted in Perth's population rising exponentially, it also led to growing pains in the form of extreme housing affordability issues and perceived traffic congestion (Stolper and Wyatt 2012). The tendency for the Perth

Waterfront development to be critiqued as synonymous with the boom itself is neatly encapsulated by one of ARM's directors, Howard Raggatt:

Someone will say, 'But where is the affordable housing? Where is the hospital? Where is the school? Where is the childcare?' Where indeed! But is Perth Foreshore the place for everything? We have not envisaged this place as the ideological response to all Perth afflictions; instead, we hope to give the city a source in the Swan River, to give it roots at the water's edge and to make a place for everyone, a place to love. (Raggatt 2008)

Despite such protestations, the Perth Waterfront proposal became a lightning rod for the issues being felt at a metropolitan scale, and as such much of the critique of the scheme can be read as applying to broader Perth. In essence, the scheme for the waterfront posed a much larger question of how Perth viewed itself in the context of a booming economy and extreme population growth. As Lee Stickells, lecturer at the Faculty of Architecture, Design and Planning, University of Sydney, describes, on the one hand, some sections of the community viewed this as an opportunity for Perth finally to be 'in a position to soothe its long-held, aching desire to feel like, and be regarded as, a "real" city' (Stickells 2008, 42). For others the highly urbane and globally oriented scheme was an affront to Perth's prized suburban lifestyle and antithetical to Perth's 'unique sense of place' (CityVision 2013, 15).

These issues that surrounded the Circle Scheme ultimately precipitated its demise. With a change of state government in 2008 the scheme was scrapped and the newly elected Conservative Premier, Colin Barnett, announced that a new proposal would be sought.

The Rectangle Scheme (2011)

In 2009 Premier Barnett announced that a new 'scaled down' scheme for the waterfront would be constructed: 'The Government does not want to impose yet another grand vision on the WA community. This is a more modest concept that shows a ground-scale depiction of what could be developed' (Rondganger 2009). Barnett said his plans provided for greater public access to the waterfront, while the previous government wanted to develop 'monuments' that blocked off the river from the public (Staff Reporter 2009). Despite the perceived excesses of the previous scheme, the original design team of ARM and Weller was retained to design the scheme, with the proviso that the old scheme was forgotten and that an entirely new scheme was designed around a rectangular inlet. Barnett's conservative leanings were reflected in the 2012 decision to name the project Elizabeth Quay in honour of Queen Elizabeth.

Morphology

This scheme, which is now under construction, is structured by a large rectangular water body with a continuous circuitous public promenade being completed by an island and a series of two bridges (Figure 6). Gone in this image is the 'logo skyline' of the Circle Scheme, replaced instead with a comparatively tame assortment of buildings with a notional height limit of 36 storeys (Metropolitan Redevelopment Authority 2012, 26). These buildings are planned to yield some



Figure 6. ARM's Rectangle Scheme with the significant public spaces of 'New Riverside drive' and 'The Landing' flanking the northern (top) edge of the inlet. The design team also addressed the perceived graphic excesses that had proven costly for the previous proposal. Gone were the sultry evening images of the 'Dubai on the Swan' scheme, replaced with perpetually sunny renders that show an uncharacteristically blue Swan River and 'ghosted' buildings that cast little or no shadows.
Courtesy: ARM.

87,000 m² of residential dwellings (approximately 800 apartments), 200,000 m² of office space, 25,000 m² of retail space and 400 hotel rooms (Metropolitan Redevelopment Authority 2013a) making it very much an extension of Perth's CBD land-use character.

While the circular inlet of the previous scheme alluded to the Aboriginal flag and icons of the 'Ideal City' (Raggatt 2008), the rectangular form of the inlet appears to reflect the robust orthogonal form and scale of 'honest' post-industrial Australian waterfronts such as, the deceptively named, Circular Quay and Melbourne Docklands. In accordance with this design language, the Rectangle Scheme also is much more subservient to the existing form of the city than the Circle Scheme, the existing street grid being extended directly to the water's edge (Metropolitan Redevelopment Authority 2012, 26). The Indigenous cultural centre, while shown on the initial press release images for the Rectangle Scheme, was not included in the first stage of works on the project and as such its fate is uncertain (Bevis 2013).

The Rectangle Scheme also differs from the Circle Scheme with respect to the absence of formal landscaped public space for holding ceremonial events, these being relocated to the neighbouring Supreme Court Gardens. The promenade encircling the rectangle inlet is nonetheless punctuated with expanded public areas. These include 'New Riverside Drive', a shared pedestrian and vehicular zone that can be closed off for public events, 'The Landing', a terraced area that will provide informal seating for large groups of people (up to 7000) to attend events, 'Station Park', a primarily green space that can accommodate small-scale events, and 'The Island', which will predominantly be a 'passive garden space' that will provide for leisure and relaxation in the overall circuit of the riverside promenade (Metropolitan Redevelopment Authority 2012).

Design Ideology

While the Circle Scheme saw ARM morph the city into new, curvilinear forms on the waterfront, the Rectangle Scheme is informed by the extension Perth's colonial city grid to the water in a logical fashion. While this provides a rational structure, it precludes the rich associations and symbolism of the 'River Circle' which are central to ARM's eclectic, strongly textual, post-modern architectural practice (Dovey 2005, 143). In the Rectangle Scheme the formal complexity and 'difficult beauty' (Dovey 2005, 143) characteristic of ARM's design work thus finds its expression not so much at the scale of the urban district, but in the design of the public domain. While the design team generally accepted the directive of a rectangle inlet, a layer of complexity was added through the use of a virtual, computer-driven, 'generative' tool. As previously the rippling effects of a virtual drop of water were modelled in 3D modelling software and used to form the highly articulated inlet edge conditions and paving characteristic patterns of the scheme, but significantly not urban massing (Figure 7). The geometric DNA of the scheme is thus hybridized, the primary geometry of the rectangle and its urban frame relating directly to the city grid (and the directive of a conservative premier) and the detailed public domain treatments resulting from ARM's avant-garde and abstract virtual processes.

The use of the generative tool does not extend to the island, however, the form of which references Gianlorenzo Bernini's *Ecstasy of St Teresa* sculpture, in particular the folding forms of cloth used to inform the modelling of the island's topography. Due the island's physical separateness from the city grid, and perhaps because islands foster the expectation of some release from

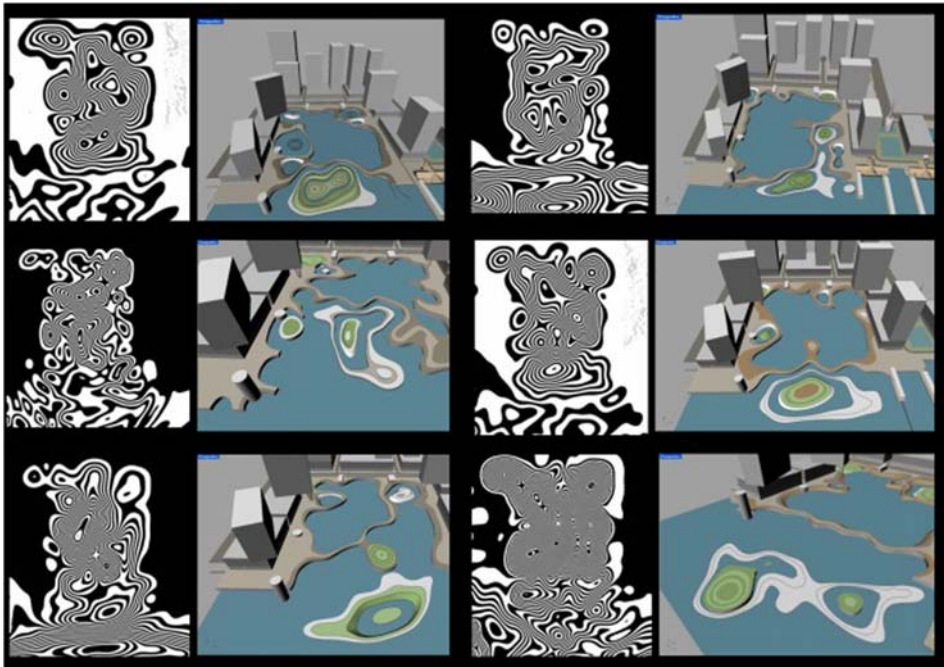


Figure 7. Iterations of the inlet produced by the virtual 'generative tool'. Courtesy: ARM.

the restraints of the 'mainland', ARM have been able to achieve a 'purer' expression of its eclectic and coded design ideology (Dovey 2005, 143).

Public Discourse

Beyond the morphological differences between the circle and Rectangle Schemes, the cultural context into which the Rectangle Scheme was being delivered had undergone a significant transition. As Weller described:

People across the socio-political spectrum (by now all well-travelled) have developed a thirst for urbanity, along with the beaches, the rivers and the suburbs. This thirst is now being quenched by a number of urban projects that can be seen to reflect an increasingly sophisticated culture of design in Perth. (Weller 2010, 38)

This new-found desire for urbanity was reflected in polls gauging support for the Rectangle Scheme. According to a poll by *West Australian*, Western Australia's most read newspaper, conducted in 2011, 49% of people 'agree with the new plans for the waterfront', 14% 'don't agree with the new plans for the waterfront,' 13% 'want it developed but consider this the wrong look', and 24% think 'who cares, just get it done' (Rickard 2011).

Despite the apparent support for the scheme, ongoing vocal resistance to the development of the waterfront has flown from a local advocacy group, CityVision. CityVision has been concerned with the designs and issues surrounding Perth's foreshore, and to a lesser degree other major urban projects in central Perth, since its inception in 1987. Comprising senior Perth planners, urban designers, architects and historians, CityVision and a splinter group called the 'City Gatekeepers' have been vociferous critics of the state government's proposals for the waterfront. CityVision's major issue with the scheme centres on the selling of public land to commercial interests. In a CityVision report to the state government, Linley Lutton proclaims, 'planning and urban design of the public domain is much more than a commercial or technical undertaking. It is, or should be, a moral and civic enterprise' (CityVision 2013, 6). In essence CityVision inherently distrusts the commercial content of the proposed development which the group considers to be 'inappropriate and damaging to both the public enjoyment of the foreshore and the city centre as a whole' (CityVision 2013, 7).

The ongoing uncertainty surrounding the Indigenous cultural centre certainly raises the issue of the waterfront's larger cultural or civic contribution to the city. As Dick Rigby and Ann Breen extol:

Public areas along waterfronts [...] offer an unusual opportunity to educate people of all ages about the social, maritime, cultural, and environmental heritage of an area. Urban waterfronts usually have historic connections, very often including the founding place of a city or its reason for being. (1994, 27)


Indeed, they go on to identify one of the most common failings of waterfronts as a lack of interpretation of both natural and historic features of the sites and regions (27). In this respect the Committee for Perth, a local advocacy group, generally supportive of the waterfront redevelopment, lobbied the premier to confirm his support of a 'World Centre for Indigenous Culture' within the Rectangle Scheme

(Fulker 2010b). The thrust of the Committee for Perth's argument is twofold. Firstly that Perth could, and should be, the city in Australia that acknowledges, respects and celebrates its Indigenous people and their culture (Fulker 2010a). Secondly that given its scale is commensurate with Circular Quay in Sydney the scheme needs an equivalent to the Sydney Opera House, a building that elevates the waterfront above the status of the everyday (Fulker 2010a) in both formal and cultural terms. Undoubtedly it is important to recognize that not every waterfront setting can accommodate a grand new landmark like the Sydney Opera House, the Guggenheim Museum Bilbao, or the Tenerife Opera House in the Canary Islands. Indeed, Fisher identifies 'There are only a few locations in any city where such momentous architecture can be sustained' (Fisher 2004, 56), however it would seem that the physically prominent and symbolically potent site of the Perth Waterfront is one such location.

Despite the lower building heights associated with the Rectangle Scheme, critics have continued to point to the potential of private development along the northern edge of the inlet to overshadow the key public spaces of The Landing and New Riverside Drive (CityVision 2013, 8), which will be closed to traffic during major public events. While the design guidelines for these sites stipulate a minimum amount of solar access to the public domain (Metropolitan Redevelopment Authority 2012, 33), it remains to be seen how these guidelines will be reconciled with the commercial reality of the development sites to the north. Certainly the City GateKeepers do not have much faith in design guidelines to regulate this situation and have produced a render of this area that depicts this space as cold, dark and foreboding (Figure 8). In the publicly released images of the scheme, ARM have opted to 'ghost' these buildings and to use a summer sun setting that minimizes the overshadowing of this area—a representational approach which is perhaps telling (Figure 6).


As was planned for the Circle Scheme, the Rectangular scheme is being delivered via a public private partnership in which the roads, services, public domain and the inlet itself are funded by the state government (Metropolitan Redevelopment Authority 2013a), while the private sector will develop the sites itself. In this partnership it is projected the government will invest A\$440 million and the private sector A\$2.2 billion (Metropolitan Redevelopment Authority 2013a). A significant difference between the delivery models of the two schemes is that the Metropolitan Redevelopment Authority (MRA) has been tasked with overseeing the delivery of the Rectangle Scheme, replacing the Department of Planning. This situation mirrors that in Victoria, South Australia and the Northern Territory where state governments have relied on development authorities to oversee and manage their waterfront redevelopments (Oakley 2011, 228). The decision to rely on a quasi-government development authority to oversee the design and construction of the Rectangle Scheme perhaps reflects autonomy from elected government that tends to characterize these authorities. As Dovey explains, 'This situation enables governance without electoral obligation, rather the legitimation of authority is granted on the basis that autonomy is necessary to wealth generation' (Dovey 2005, 12). Presumably it helps to insulate a scheme from changing political fortunes. Evidence of this is the MRA's record of delivering large projects in Perth, such as the Claisebrook Cove development in East Perth and Subiaco Centro, under a variety of Liberal and Labor governments.

HERE'S WHAT YOU'LL GET



PERTH'S WATERFRONT PROJECT

HERE'S WHAT YOU'LL LOSE



WHATEVER YOU THINK OF THE PERTH WATERFRONT PROJECT, DO YOU SERIOUSLY THINK THE GOVERNMENT HAS THE RIGHT TO SELL OUR HERITAGE-LISTED ESPLANADE RESERVE TO PRIVATE DEVELOPERS?

<p>WHAT WILL BE NEXT? KINGS PARK?</p> <p>THIS HAS TO BE STOPPED!</p>	<p>Join the PEOPLE'S RALLY at 11.00am Sunday 26th February at the Esplanade Reserve and SIGN THE PETITION. Your last chance to have your say about your land.</p>	<p>The City Gatekeepers, authorised by Dr Linley Lutton. www.citygatekeepers.com.au Event Co-Ordinator: Greg Ross Mob: 0418 953 275 Email: greg.w.ross@bigpond.com PO Box 5769, St Georges Terrace, Perth WA 6831</p>
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The City Gatekeepers
 Events: People's Rally, Re-think waterfront.

Figure 8. A City Gatekeepers' poster reinforcing the perception of public land being sold for commercial interests. The re-rendered image (top) is also part of a war of representation in which the scheme is represented in a manner that they consider evokes its true nature. *Courtesy: CityGatekeepers.*

Conclusion

Charting a Changing Waterfront

An analysis of proposals of the Perth waterfront from 1991 to the present provides an insight into changing approaches to waterfront design in the Perth context.

While Alex Kreiger identifies that the 're-planning of a waterfront is a recurring need [...] (Kreiger 2004, 23), the Perth Waterfront is exceptional in that some 21 years having elapsed between the international design competition of 1991 and the commencement of construction of the Elizabeth Quay scheme in 2012. The legacy of this extended process is the multitude of schemes that illuminate changing approaches to waterfront design.

As this paper has discussed, within the Perth context a transition has occurred from predominately landscape compositions to highly urbane ensembles. The winning submissions for the 1991 competition for the foreshore worked within a City Beautiful understanding of waterfronts as 'handsome shoreline parks, plazas, walkways, bridges, and riverside drives' (Rigby and Breen 1994, 12), which it sought to reconcile with the Swan River's sense of place. By 2008 this had shifted to an understanding of waterfronts as manifestations of a growing appreciation of urban values (Rigby and Breen 1994, 5). Changes also include a shift in design ideologies, from the 'rational design movement' of Lynch's urban theory, which informed the urban frame of the landscape scheme, to the highly textual (Dovey 2005, 143), stylized approach of ARM. The focus on a local 'sense of place' (Seddon 1972) defined by the sculpting of historic shorelines and planting of endemic plant species has given way to urban design imagery that aspires to producing symbolic capital in relation to increasingly volatile global flows of capital and skilled labour (Marshall 2001b, 53). A disciplinary shift has occurred in which architecture has trumped the professions of planning and environmental design for its ability to produce 'new forms of place imagery' (Dovey 2005, 13). Finally the model by which the waterfronts were to be delivered has shifted considerably from a model of entirely state government funding in 1991 to the public-private partnerships proposed for the Rectangle Scheme. In conjunction with this, the direct involvement of the state government in delivering the project has shifted to the role of semiautonomous development authorities (Dovey 2005, 129).

It is informative to compare the chronology of these shifts with those that have occurred with waterfronts globally. The 1991 winning and commended schemes for Perth foreshore can be considered to share the formal green belt morphology typical to the City Beautiful waterfront compositions of Daniel Burnham, Frederick Law Olmsted and John C. Olmsted from the early twentieth century (Rigby and Breen 1994, 12), albeit tempered with local references to a 'sense of place'. Interestingly there appears to have been a delayed reaction in Perth, which meant that projects like Baltimore's Inner Harbour, which is regarded as a 'classic tale of modern times' (Rigby and Breen 1996, 23), was not held up as a model to which to aspire. This is despite Baltimore's redevelopment preceding the 1991 competition by 11 years. The Circle Scheme, with its 'logo skyline' and supergraphic Swan Island, stylistically resonates with projects in the Arabian Gulf, including Dubai's Business Bay. This morphological similarity reflects the fact that in Dubai, and the Arabian Gulf generally waterfronts are not retrofitted industrial ports but rather are sculpted out of relatively unencumbered land. There is also the projection of a 'new city' on the waterfront as somewhat separate to the 'old' city which these schemes share. Finally, the overall morphology of the Rectangular Scheme relates in scale, if not detailed design treatments, to honest post-industrial waterfronts like Melbourne Docklands and Sydney's Circular Quay, a situation that perhaps represents an attempt by

administrators to position Perth's waterfront within the canon of now well-established and 'safe' waterfront models.

Charting a Changing City

While the schemes can be interpreted in relation to shifting trends in waterfront design, they also chart a Perth that has changed significantly. Since 1991 successive economic booms and an enviable lifestyle have added over half a million people to Perth's population (Australian Bureau of Statistics 2013). Emerging from a city that has one of the lowest population densities in the world, Perth now has a 'planning vision of itself in 2031 as a vibrant, urbane, and transit oriented city' (Weller 2007, 28). There appears to be a growing perception, as indicated by support for the Rectangle Scheme under construction, that well-designed urbanity in areas of high amenity and associated with public transport links, as advocated in Perth's strategic planning document, do not need to occur at the expense of Perth's suburban idyll. This is a substantial shift for a city which in 1991 strongly disapproved of a 'lively waterfront atmosphere, waterfront buildings, buildings on jetties or even markets and souvenir stalls' (Western Australian Government 1991).

In essence, proposals for Perth's waterfront chart the throes of a city struggling to become urban: from the early 1991 competition-winning scheme, which reserved the foreshore as 'nature', to the current scheme for the waterfront, which continues to embody the ambition to enfold the languid Swan River in a momentary urban embrace. The ability of the schemes to chart, and forge, this changing mentality relates to the unprecedented amount of debate they have precipitated, in both print and digital media, and at barbecues, dinner tables, pubs and restaurants around Perth over the past two decades. Prior to schemes for the foreshore in 1991, urban design, through the lens of a single project, had never been the subject of such prolonged popular debate in Perth. It is this sustained debate, carried out in the public sphere, that has been instrumental in forging support for urban densification in Perth.

Implications

The paper has explored each scheme in relation to its morphology, ideology and public discourse, with the interactions between these criteria discussed through the lens of the particular project. The question remains, however, how can this triumvirate be reconsidered so as to minimize the polarizing and sometimes paralysing debate which the project has sometimes produced? In this respect, while the public discourse generally appears to reflect a broad understanding of the morphology of the proposals, in relation to the two recent ARM schemes it would appear the public has little understanding of the design ideology from which the schemes emerge. This breakdown in understanding partly reflects the heavy 'stage management' of, in particular, the 2011 Rectangle Scheme by the MRA. To a large degree the designers have been kept out of the public eye and as such direct communication of the design ideology behind the schemes is absent. Indeed the MRA website completely omits any reference to who the design consultants are or indeed what their design ideology may be. Given that debate about urban design in Perth is gaining in maturity, it would appear

timely that designers of key public projects can communicate more directly with the public about the ideology that underpins their designs. In turn if the public has a broader understanding of the philosophy behind a scheme, they are less likely to be perturbed by isolated morphological elements such as a tall tower or swan-shaped island and ideally the debate can shift to more fundamental issues.

At a broader scale the research also raises the question of what next for the foreshore? The 300 m stretch of river's edge that is being redeveloped as part of the Rectangle Scheme represents a small fraction of the 8 km of river edges of Perth Water, edges that will require significant redesign in this century of sea level rise, increased intensity storm events and significant population growth. Indeed mapping of the 1.1 m of sea level rise predicted to have occurred by 2100 (Department of the Environment 2013) shows Langley Park, Heirisson Island and the South Perth foreshores almost completely underwater. The combination of this predicted sea level rise with flooding from increasingly dramatic storm events could be catastrophic. Unless it is able to be barricaded, the majority of Perth's foreshore will be 'reclaimed' by the river; possibly reverting back to a pre-settlement landscape of rush beds and salt marshes. Indeed while this paper has charted a shift from naturalistic to urbane conceptions of Perth's foreshore, some literature would suggest that the 'soft infrastructure' of vegetated islands and wetlands may be the best response to sea level rise (Nordenson, Seavitt, and Yarinsky 2010), and as such the pendulum may in time swing back in this direction. Intuitively a degree of hybridization of both urbane and natural systems would be appear ideal; urban development being required to help meet state government densification targets, but also to generate the funds required to construct 'soft infrastructure'. Speculation aside, the main issue remains that Perth still has no coordinated plan for how to reconcile these various competing conceptions of its foreshore.

It is in this context that the construction of Elizabeth Quay is highly significant, but it does not mark an endpoint. As the Seine was held up as a model for the redevelopment of Melbourne's Yarra River in the 1990s (Dovey and Sandercock 2002), the question for Perth becomes what is the appropriate model for Perth Water in the early decades of the 21st century? This question, of course, goes beyond the issues of morphology or function. As has been described, waterfronts are the sites where cultures tend to construct and express their identity (Oakley 2011). Therefore the process of envisioning the urban room of Perth Water will be very much about asserting Perth's culture, in part in relation to an ancient riverine landscape. Through an analysis of proposals for Perth's foreshore this paper has aimed to provide the necessary background for the advancing of this model for Perth Water in the 21st century.

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Notes

1. In this paper Perth's foreshore will refer to the broader landscape delineating Perth's relationship to the Swan River. The Perth Waterfront site is a smaller defined site that is currently under development.
2. In a 2008 survey, of 1300 people, 67% of comments regarding the scheme were positive, 20% negative, and the rest either neutral or unrelated (Hatch and Jerrard 2008, 17).

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