

REAL ESTATE ISSUES



# Urban Design in the Real Estate Development Process

Edited by

**Steve Tiesdell & David Adams**

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# Urban Design in the Real Estate Development Process

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# 5

## Plot Logic: Character-Building Through Creative Parcelisation

*Tim Love and Christina Crawford*

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### Introduction

Most new urban development is planned based on a hierarchy of streets, resulting in blocks that provide the opportunity for land subdivision into real estate parcels. There is nothing particularly new about this strategy: the urban morphology of Haussmann's Paris was predicated on the star-shaped street pattern, with the blocks and individual plots a mere residual effect of the street configuration (Panerai *et al.* 2004: 18). It is the dimension and configuration of these resultant parcels, as well as their specific relationship to street systems, that determine their relative value and their ranking in an incremental build-out of the district, either by the master developer or sub-developers with oversight by the master developer team. This model of urban planning, with streets conceived first and the blocks resulting, is driven by the logic of streets and infrastructure, and supported by urban planners who promote the 19th century ideal of urbanism. In this version of the city, the streets and civic spaces of the city are defined by a continuous street wall of building faces; the public realm is conceived as a series of beautifully shaped outdoor rooms. In theory, the collaboration of infrastructural planners and architects on this vision of the city is ideal: streets are carefully designed to meet the projected traffic needs of development build-outs and design guidelines are established to assure an orderly built environment.

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But in practice, this model of development, especially on the large scale, has not met its promise. Many critics contend that both Battery Park City in New York City and Canary Wharf in London lack the authentic character and cultural and economic diversity of the 'real' city, despite the care with which both projects were conceived and executed. The desire was for diversity; the result is architectural and scalar homogeneity. There are many contributing factors to the sterile quality of the places created through the Battery Park City model of planning, from the professional yet mediocre quality of the architecture, to the draconian design guidelines that often stifle innovative and incremental contributions to the urban realm. Although issues of character abound in such cases, the Battery Park City model of urbanism is the primary operating contemporary approach; even masterplans that champion much more expressive architectural elements have the same fundamental masterplanning logic.

What remains unexplored in this model of urbanism is the fundamental relationship between prevalent building codes, block size, parcel size and intended building typology of the build-out. In current planning practice, these regulatory relationships are passively considered, given the dominant role of the building as either an edge to the public realm or a dramatic punctuation on the skyline. Rarely is the parcel map itself presented as part of the masterplan vision, regardless of the fact that it is the primary tool by which development and city-making are driven. The underlying structure of a district, however, is written in its attitude toward block and plot sub-division. The size and distribution of the parcels indicates the typology of buildings that can reasonably participate in the build-out. A careful parcel map, along with a set of regulatory guidelines, can and should be used as the primary tool with which to craft the character of successful new urban districts.

## **Setting the rules**

The design of a new urban district is the result of a negotiation between several important players including public officials, who have a direct influence on shaping and approving a masterplan and then regulating its build-out, the master developer (who, in some cases, may be a public entity), the masterplanner, parcel developers, and the architects of specific parcels. In contemporary practice, several goals are likely to be shared by all of the parties, including walkable streets, a mix of transportation options, and enough controls to create an ordered and humane public realm. Among the above participants, the public official, master developer and masterplanner have the potential to control the ultimate character and build-out of the district through a series of rules that are established in the pre-development phase. The street grid, block size and smaller subdivisions of land are typically solidified in this earliest stage; zoning and other design guidelines

are also established early. These dimensionally specific plots, in concert with the various text-based guidelines, then constitute the playing field and set of rules that the final actors – sub-developers and their architects – must live by, all instituted in the service of a successful urban realm.

Even in the earliest stages of a project, when the rules are being established, conflict can occur between the master developer and the masterplanner, often around the issue of flexibility of the build-out. The master developer will often seek to maximise market flexibility by demanding relatively large building plots, few constraints on the programme mix of specific parcels, and soft design guidelines. Of all of these issues, plot size may have the most impact on the future quality (and success) of high-density urban development. Sub-developers and their architects, cumulatively the players with the greatest potential to tangibly affect the quality of an urban district, are those whose actions are most tightly circumscribed by the underlying parcel map that charts future build-out.

## **Parcelling and subdivision strategies**

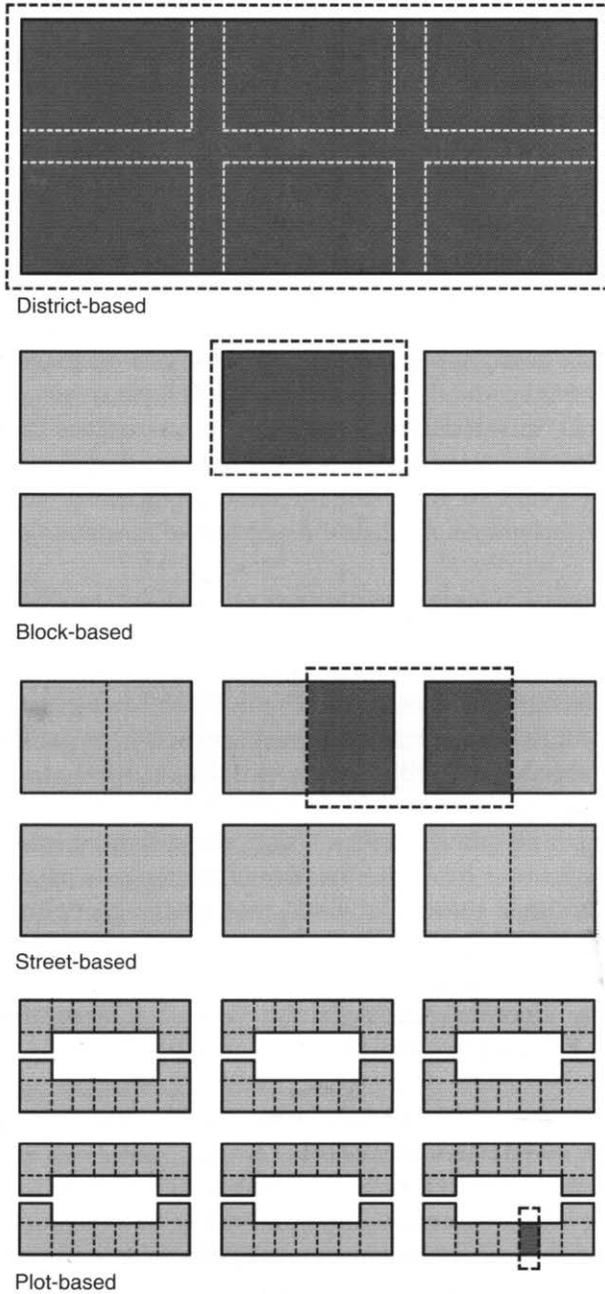
The configuration of the parcel in relation to the block and street has an important impact on the resulting quality of the urbanism. Generally, parcels are configured in four ways relative to the normative blocks of a city district (see Figure 5.1), moving from the largest and most flexible, to the smallest and most prescriptive:

### *1. District-based*

In the first approach, land is released as a parcel containing several blocks. This strategy is geared to mega-development with relatively large-scale developers taking on significant pieces of the build-out. The guidelines for these large-scale parcels run the gamut from prescriptive to laissez faire in terms of internal street layout. On the prescriptive end of the spectrum, the internal street layout and overall urban form are defined by the master developer/masterplanner. In a looser approach, there may be requirements for a street edge and street access points into the development, but the internal street layout is left to the discretion of the sub-developer. In each case, the sub-developer pays for the street infrastructure internal to the parcel.

### *2. Block-based*

In the second land-release approach, the urban block, bounded on all sides by streets, is the parcel and unit of transfer. This approach often leads to a rational grid pattern, leading to the type of urban fabric postulated by Rem



**Figure 5.1** Parcelisation strategies: new city blocks are subdivided into individual building parcels using four primary strategies that range from large, district-based parcelisation to small-scale, plot-based division. *Source:* Utile, Inc. Architecture + Planning, based upon prototypes by Steve Tiesdell.

Koolhaas in his artwork *City of the Captive Globe* (1972). Even relaxed from this extreme rigidity, most contemporary large-scale development follows this general pattern. In this approach, the master developer provides the street infrastructure for the entire development.

### 3. *Street-based*

In the third approach, a parcel is comprised of two half blocks with a block-length of street included in the centre of the property. This approach makes the street the centre of the design rather than the edge of developer's site as in the first block-based approach. Unlike a block-based parcel scheme, this approach requires the sub-developer to build the infrastructure of the street within the parcel, thus reducing the upfront infrastructure costs to the master developer. In the case of Amsterdam South, the parcel allotted to a sub-developer comprised two half blocks separated by a street; these half blocks are then laminated to one another and aggregated to make the city.

### 4. *Plot-based*

In the final, most fine-grained and prescriptive parcel configuration, a block is divided into several parcels, each of which can be released to a different sub-developer. In this case, relatively more prescriptive guidelines must be required to establish rear yard setbacks, building heights at shared property lines, street-front qualities etc. In addition, rules may be established that limit the number of parcels that a single sub-developer can acquire on a block and/or rules that limit the number of contiguous parcels that can be developed by a single entity. Provided that design guidelines are not too stringent, it is this final land-release iteration that may lead to the most diverse urban fabric, as each parcel will be the result of the collaboration and aspirations of a different developer/architect team. The master developer is responsible, in this case, for all larger infrastructural costs.

## **The primacy of the urban realm**

The prevailing lack of interest in parcelisation is likely the result of the primacy of the urban realm in contemporary planning and architectural discourse, which relegates the particular quality or nature of the building fabric to secondary status. This emphasis on the space between buildings has been taken up by two particular design protagonists: New Urbanist planners and landscape architects. For planners adherent to the New Urbanism movement in the USA, or those sympathetic to the Poundbury model in the UK, spatially figurative streets and spaces hark back to a time when the street

was a social condenser: a space in which collective activity thrived and the vehicle was secondary. In creating pleasant streets and sidewalks, bounded necessarily by buildings, a better 'place' will result. Landscape architects in the emerging sub-discipline of Landscape Urbanism, on the other hand, are interested not in the people-collecting potential of these in-between spaces, but rather in the linear systems that offer a setting for urban natural habitats, ecologically sound water management, and multimodal transportation. In both models of contemporary urban design, the building fabric is mostly an inert mass that only gains meaning in relationship to the collective spaces of the city. Within the ideological framework of New Urbanism, for example, building edges are shaped to define figurative spaces and programmed with uses that generate and attract people to the public realm. In new models of sustainable urbanism, buildings generate storm water, higher temperatures as a result of the heat island effect, and greenhouse gas emissions. The public realm (as the virtuous complement to development) is there to ameliorate building-generated problems and bring an ecological balance back to the city.

Part of this lack of attention to the role of buildings – and the parcels on which they sit in a larger urban plan – might stem from disciplinary boundaries that persist between urban planning, which is focused on the policies and regulations that shape the city, and urban design, which is focused on the specific physical qualities of the built environment. This disciplinary rift has led to a strained relationship between the policies that set the ground rules for city-building, and the ultimate tangible urban fabric that results. Planners create the text-based rulebooks that set the ground rules for city-building, and urban designers arrive on the scene later, take the rules as presented, and try to craft quality places out of (or in spite of) the regulations. Often, the regulators and implementers feel themselves to be working at cross purposes, in an antagonistic relationship that prevents new collaborative modes of urban design emerging that are more germane to the economic and political realities of city-building in late capitalist societies. Particularly, there is a need to link the logic of the land speculation, as manifested in the plot configurations of new urban development, with the kind of physical city that is desired.

Specifically, the size, shape and interrelationship of the plots in a new urban development need to be based on the specific form of the building types that are envisioned to fill out the plan. In most of the subdivision strategies outlined above, the parcelisation of large development areas into building-sized plots is framed first and foremost by the overall pattern of a street network – a network that is often dictated by the needs of transportation systems. Plot shapes and sizes are also fixed by real estate valuation strategies based on an analysis of potential land value against the cost of infrastructural improvements. In suburban development, this analytical

process privileges sites that are relatively deep and narrow, as the street frontage is much more valuable than the land within the inner block. In most urban developments there is a cursory check of the fit between plot and potential building types, but only concerning the most basic dimensional criteria for different potential uses. We would argue instead, for an urban planning and development approach that begins with the conception of the building types – that is, with the plots, streets, blocks and other infrastructural components growing out of the particular characteristics and infrastructural needs of the building units. To build this kind of particularity into an urban design, the most rudimentary tool is the subdivision of land: the parcel, or plot, which in turn supports a carefully calibrated range of building types. It is an inside-out logic that preconceives city-building from the more intimate scale of the individual building outward, and requires deep understanding of the scale, types and diversity of buildings that accrue to make quality urban places.

### **The pitfalls of flexibility**

Typically, parcels are sized for maximum market flexibility. To support the type of flexibility to which larger developers aspire, only two parcelisation strategies can be considered: the district-based or the block-based model. To reach extreme potential build-out (and profit), the largest, most demanding programme drives dimensionality: in this case the typical office floor plate of a contemporary commercial building. Large-scale urban development today is largely geared towards capturing a global market share of the financial service and bio-technology sectors. To meet these demands, the preferred floor plate dimension of commercial buildings continues to grow.

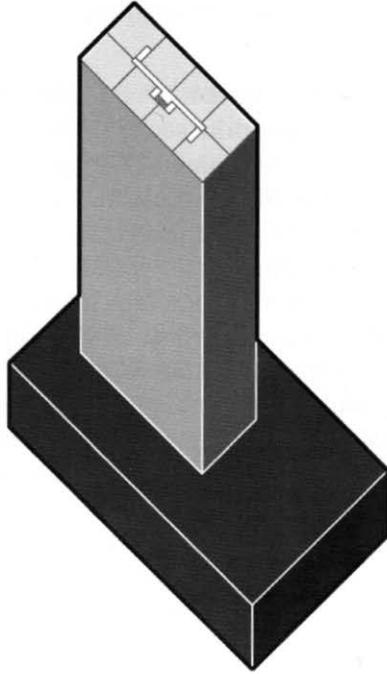
When maximum flexibility is the primary marketing strategy for large-scale development, then only super-sized parcels are planned; the greater assumption is that smaller building types such as multi-family housing, hotels, retail and mixed-use versions of all of the above can be accommodated within the mega-parcel. There are three main consequences of this approach. There are scalar and character challenges, projects so large as to limit competition within the development community and astronomical project payback premiums to fund steel or reinforced concrete construction, the default construction type for high-rise buildings. All of the above consequences conspire to create the dull quality of street life in the Battery Park City model.

First, the scalar challenge. If the ideal large tenant – the biotech company, the financial firm – is captured, then the urban plan accommodates only one building per block. While seemingly logical from a building design standpoint, since there are no difficult party-wall edges to deal with, the consequence is a development mono-culture on each block, no matter how artfully

the ground-floor programme is mixed. The constellation of uses inserted into any of these singular behemoths seeks to provide balance within the building, and is for discrete users, not the larger district in which it sits. Complicated financing for these large-scale developments seeks to balance risk and justification of specific quantities and configurations of programmatic components, based on similar successfully implemented projects on neighbouring blocks, and they will therefore tend to be more similar than different. The result is a city comprised of development mono-cultures across the street from development mono-cultures, without much divergence in their character and programme.

An added negative scalar effect of the one-large-parcel-per-block paradigm is that smaller programmes – housing and retail, for instance – require convoluted massing solutions to define the edges of the block. Out of this struggle, building types have emerged that are variants on the podium and tower scheme, or perimeter-block and tower scheme, depending on the size of the block and the targeted density of the development. Vancouver, which sought to rapidly increase residential density within the downtown core, took these mega-parcels and invented a podium and point tower residential type that has been exported to other cities with common mega-parcel issues. The financial premium of building point towers on large blocks, however, led to a dissatisfying lack of economic diversity in this section of the city, and to overuse of the formerly innovative massing solution (see Figures 5.2 and 5.3). Vancouver is now looking for direction from its architectural community to develop alternative building types that can still work within the underlying framework: the mega-parcel.<sup>1</sup>

The second consequence of large-parcel development plans is lack of developer diversity: only one type of developer and builder can participate in the build-out of these oversized blocks. For development schemes conceived and promoted by large-scale development concerns like ING in the Netherlands, and Forest City Ratner in the USA, the logic for this approach is self-evident: it limits the competition. But for public and public-private initiatives such as Battery Park City, Canary Wharf and Boston's Seaport District, the ideal circumstance would be to leave the field open to a host of qualified developers. Because of the unwieldy size of each development opportunity, the build-out of many of these plans has taken decades longer to occur than originally projected, or worse yet, has led to a number of permanently stalled or abandoned projects in the wake of the financial crisis that began in 2008. Too much complicated financing is required to bring these mega-projects to life, and in a risk-averse economic climate, this scale of development becomes virtually impossible to achieve. Over-ambition and singular site control leaves cities at the mercy of large developers; incremental development, in such a circumstance, is almost impossible.



**Figure 5.2** Vancouver podium building type: in an effort to insert residential uses into Vancouver's typical large-scale block, the City encouraged the development of a new building type, a slim residential tower that rises above a street-defining podium. *Source: Utile, Inc. Architecture + Planning.*



**Figure 5.3** Waterfront view of downtown Vancouver: the Vancouver type is now overly prevalent in the downtown, leading the design community to look for new typological solutions for the City's large-scale blocks. Reproduced by permission of Keith D. Tyler.

The third and final downfall of the large parcel planning prototype is that the block-sized building is, by default, a steel or reinforced concrete building. Purchasing, or leasing, a block of a city needs a significant return on the initial investment. While zoning of individual cities seeks to limit density to a reasonable standard, there are often side deals that a city will strike with a developer to gain public amenities in exchange for greater density. Profitable designs are tall, broad, and always work to maximise spaces for greatest ultimate leasable area. This means that steel will be integral to the design, elevators will be plentiful, and that all of that cost will be offset by the greatest possible density. If the planning scenario were to allow for mixed- and modest-sized parcelisation in addition to the necessary (and in certain cases desirable) large parcel blocks, a healthy mix of construction and material types could be feathered into the city.

City governments are often complicit in maintaining the large-parcel status quo. While large projects can be publicly controversial and highly scrutinised, they place less stress on the system in comparison to a finer-grained subdivision model in which hundreds of owners/developers are filing for reviews and approvals. Ultimately, it is simpler for the local government to support a parcelisation strategy that at least leaves the door open for a singular entity to come to the table; it is a better risk, in some ways, than dealing with many small enterprises (often less sophisticated), who need to be more closely managed. It must be understood, therefore, that ensuring higher quality places within the city may require increased oversight from the governing municipality.

### **Economic viability of low-scale, densely distributed buildings**

Over the past decade, the international demand for steel, and its escalating commodity price, has caused steel and reinforced concrete frame buildings to be relatively more expensive than load-bearing masonry building in western Europe and wood frame buildings in North America. Due to this material cost discrepancy, there is a leap that a building or urban project must take, once the building code threshold for the lower-cost materials has been exceeded. Five to six storeys is the limit for lower-cost concrete block in Europe; in North America, four to five storeys is the maximum building height possible with wood construction. Beyond these limits, a project must use more expensive material – steel, reinforced concrete – which immediately forces a financial offset in increased density. To close the expenditure-to-return gap, a project that might, for contextual reasons, wish to be eight storeys becomes eleven storeys.

The building code for comparable densities in the USA and Canada is based on the vernacular of wood frame construction. Given the more recent

history of large-scale development in these countries, beginning with Battery Park City in New York City in the 1980s and culminating in the real estate boom of the 1990s and 2000s, there are no laudable precedents of privately financed large-scale developments that leverage the social and economic advantages of high-density wood-frame construction in urban areas.

Part of the answer may be the economic and cultural divide between the large-scale urban developers working in American cities and production housing developers such as Toll Brothers and Linear building large-scale suburban housing projects. The other reason may be cultural. In the 1990s, the federal government in the USA initiated Hope VI, an initiative to rehabilitate or replace early to mid-20th-century public housing. Many of the brick and concrete complexes were in severe disrepair and were planned upon a policy of urban segregation. In an effort to re-knit the communities back into the urban fabric, many mid- and high-rise buildings were demolished, replaced with high-density, wood frame vernacular houses, replete with individual stooped entries, gabled roofs and bright coats of paint. This new housing solved some cultural issues among low-income residents – including an increased sense of personal responsibility for upkeep – but one of the unexpected negative results of the programmes is that wood frame development in urban areas may now be too closely associated with publicly financed housing projects.

Although several of the projects developed under the programme sought to maximise the densities possible within the framework of the building code for wood frame construction, the design priorities for the projects was focused on vernacular imagery and traditional patterns of neighbourhood planning. More recently, community development corporations and private non-profit developers with special regulatory authority to build affordable and 'workforce' housing are beginning to make inroads in this area, but not at the scale of previous generation Hope VI projects or with the density and urban aspirations of European examples.

The agenda for a robust lower-scale urbanism in North America needs to begin with the invention of the residential building types themselves, with an eye to their potential aggregation into urban blocks and districts. Once successful and innovative types are established, an attitude toward intelligent parcelisation can follow, likely based upon the plot-based model to allow for a variety of developers to be engaged.<sup>2</sup>

## **Alternative models**

Given the negative consequences of the mega-parcel model, there needs to be a greater bandwidth of parcelisation options – incorporating all four strategies outlined above – that seek to balance the advantages of large and flexible parcels with modest parcels that will attract capital investment at a

smaller scale and create a city with more physical diversity. But with smaller parcel sizes, the consequences of probable and possible building types cannot be left to the market (and chance). Rather, masterplans will need to be built up with a specific idea about the possible building types embedded in their very logic, ranging from highly dense low-scale buildings that can thrive on small parcels, to more innovative types to fill out the mega-block, as it will inevitably persist in some contexts.

Several recent urban development plans have critiqued the primacy of the large parcel, single-block development paradigm. If the past few decades have illuminated the risk factors in sizing parcels to the maximum possible future use, and creating a city that forwards flexibility as the determining criteria, then the antidote must be found in careful specificity. All the case studies below share two commonalities: the parcel map was clearly defined with a mix of plot sizes and often multiple parcels on a single block, and they took as their unit of measure a specific building type to establish reasonable dimensional standards at the parcel level. Many of the sub-developers and architects who participated in the build-out of these case studies also found ways to take advantage of local codes, innovating building types that are as dense as possible while still keeping within regulatory limits. In the following examples, scalar variety was clearly a goal of the masterplan, and in each case the programme was largely predetermined. When the programme is set early enough in the project, parcelisation can be an outgrowth of general building size and typology. The examples display a range of masterplanning entities, ranging from municipalities (in which zoning bylaws and other policies are the tools of enactment) to private developers, who see diversity and urban texture as a key selling point.

### *Hammarby Sjöstad*

Hammarby Sjöstad, initiated in 1995, is a dense, largely residential new neighbourhood on the formerly industrial port lands of Stockholm, Sweden. The public goal of the project was to create an 'eco-neighbourhood' whose masterplan would incorporate environmental technologies and promote a sustainable lifestyle. Rather than allow private developers to determine the parcelisation of the neighbourhood, the masterplan design and development was spearheaded by two city agencies: the City Development Administration and the City Planning Administration. The plot-based parcelisation strategy was used for two primary reasons: to ensure that the built-out scale of the new neighbourhood would erase the memory and character of the industrial scale that previously occupied the area, and to make the individual parcels small enough to permit a large number of small developers to participate. To date, over 40 development entities, both public and private, have completed buildings within the precinct. According to the City of Stockholm,

the comparatively large number of development participants led to a healthy competitive atmosphere that fostered architectural and sustainable innovation, and a higher standard of construction.

There was one crucial difference from the standard plot-based scenario that causes the Hammarby Sjöstad example to stand out. Rather than placing the burden of all infrastructural financing on the master developer – in this case, expensive remediation of contaminated sites – the City allowed sub-developers to choose how and when to participate in the cleanup. The first option allowed for the developer to contribute early to the cost of remediation in exchange for reduced land cost. Option two allowed the participant to pay market rate for a remediated site. Most developers opted for the early-in option, which helped the City pay for the cost of remediation in real time. Another major benefit of the reasonable size of each individual development lot was that the capital outlay for an otherwise overwhelming remediation effort was spread among an assemblage of participants.

Hammarby Sjöstad is largely a residential neighbourhood; thus multi-unit housing buildings constitute the standard type. No matter their specific architectural expression, the vast majority of the residential buildings leverage the maximum allowable height and configuration for a single-stair/single-elevator point-load residential building to make the densest, and therefore most profitable, individual development. Most of the buildings in the development push the limits of the code by placing duplex units at the fifth floor of the shared circulation to gain an additional sixth storey within the governing regulatory framework. The second floor of this penthouse duplex is often stepped back to allow the canal- and street-fronts to retain an intimate low-rise scale. Left to their own devices in a competitive environment, the sub-developers and their architects found ways in which to innovatively create projects that exhibit high design quality within a tightly prescribed dimensional and regulatory framework.

### *Malmö Bo01*

Sweden's entry to the European Housing Expo, 2001, is the largely residential planned district of Malmö Bo01. In the earliest planning documents for the project, the City of Malmö joined with potential development partners to articulate a formalised vision for the new *City of Tomorrow*, a tabula rasa ecologically sustainable neighbourhood. Explicit in their vision was a desire for authentic urbanity: '... the City of Tomorrow will be an ecologically sustainable, densely built-up inner city.' (Bo01/ City of Malmö 1999: 12). In addition, the planners indicate that diversity is a key motivating factor in the design of the community, not just demographic diversity, but assortment in terms of '... everything from the design of urban spaces and parks to the selection of dwelling sizes, types of building and floor plans' (Bo01/ City



**Figure 5.4** Malmö Bo01 Streetscape: the diverse ground-level experience within the neighbourhood is created by a casual site plan and irregular parcel geometry. Reproduced by permission of Steve Tiesdell.

of Malmö 1999: 17). While the bulk of the new neighbourhood is residential, there are a host of support services that provide programmatic, and therefore the seeds of scalar, difference within the fabric.

Västra Hamnen (the Western Harbour) is a self-sustaining neighbourhood on the western edge of the larger Malmö Bo01 planned district, and its first phase of construction. The quarter is comprised of a diverse collection of buildings casually related to each other in a picturesque plan composition (see Figure 5.4). The disposition of parcels, and ultimately buildings, was predicated on two complementary desires. First, the buildings were carefully oriented to protect the interior of the neighbourhood from prevailing winds sweeping off the harbour; taller buildings were placed at the waterfront for the same wind-blocking effect. Here, the master developer began with a block-based parcelisation strategy that took the multi-unit courtyard housing type as the standard building block. But, unlike many block-based examples, the orthogonal grid was skewed in response to environmental concerns. The resultant blocks were scaled to small and oddly shaped plots, requiring customised architectural responses rather than the off-the-shelf solutions favoured by market-driven developers. Second, the city planners established



**Figure 5.5** Malmö Bo01, Turning Torso Tower: large parcels carefully inserted into the interior of the masterplan meant that larger-scale buildings, such as the tall residential tower, could also be part of the development mix. Reproduced by permission of Steve Tiesdell.

early the aesthetic criteria that each building grouping be unique in form and material. These requirements were not resisted by the sub-developers. On the contrary, the irregularity of the parcel geometry forced variable form and material differentiation lent each project unique qualities that allowed for market differentiation. The result is a plan that celebrates variety and leverages the ability of the market to create a more natural kind of urban discordance.

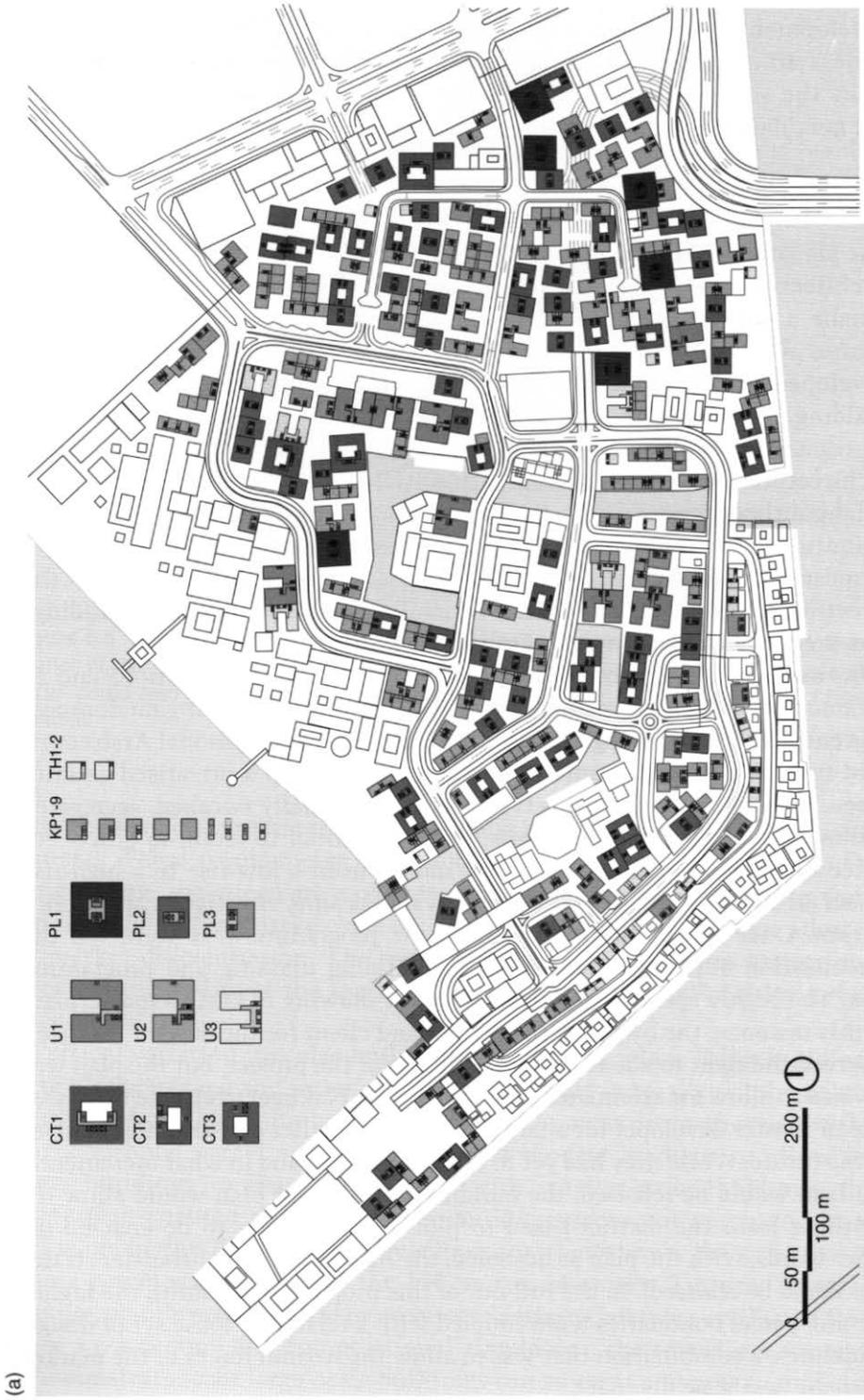
Vertical variation was also built carefully into the plan. Taller buildings were placed against the water's edge, to shield the inner core of the neighbourhood from harsh harbour winds. Moving away from the water, the neighbourhood parcel sizes increase on a modest gradient to allow for larger buildings to share adjacencies with smaller-scale buildings; the masterplan ensured that larger-scale buildings were not *precluded* from inclusion in the district. One development that shows the capacity of such a parcel-size gradient is the 190-metre, 54-storey 'Turning Torso', a torquing point tower designed by architect Santiago Calatrava (see Figure 5.5). From a conceptual and compositional standpoint, the tower is a success: it demonstrates that large-scale buildings can co-exist adjacent to mid-rise

development. While the Turning Torso is a landmark structure, it is nonetheless an example of a single-block mega-development that ultimately lacks the social-connectedness of the other smaller-scale blocks within the neighbourhood.

### *Madinat Al Soor*

The plan of the Madinat Al Soor district, part of the Office for Metropolitan Architecture (OMA)'s ambitious plan for Waterfront City in Dubai, sought a similar organic result to that being achieved in Malmö (see Figures 5.6a and b and 5.7). Whereas the majority of Dubai was being developed on a Battery Park City urban model – mega-blocks that host one building, often a hyper-scraper – Madinat Al Soor was to approximate the aggregative urbanity of a traditional Arab city, but with contemporary architectural expression. While the initial planning for the proto-Arab neighbourhood may have been OMA's tongue-in-cheek response to the ubiquitous Dubai tower, the developer immediately saw the merit of purposeful market differentiation. The developers surmised that the street-level intimacy and scalar variability between adjacent buildings was precisely what the rest of Dubai was lacking.

In this case, a singular building typology – with many variations and an organic disposition – was the primary tool by which a pleasing randomness was ensured. The building block for this plan was the traditional Arab courtyard type, one in which units or leasable spaces wrap a privatised exterior space. In the Al Soor plan, this type was dimensionally tweaked, aggregated and made to host a variety of uses, from residential to retail, to office. For office use, the courtyard type had to morph from a low-rise to a high-rise object (at 13+ storeys), so that the courtyard became, effectively, an exterior atrium. Once the building blocks and the programme mix were set, the parcelisation simply post-justified the building massing and programme mix. The highly specific plot plan was a key drawing in OMA's masterplan. In this instance, the owner of the project and client for the design, Nakheel, reserved the right to act as a sole developer for the project, but the plan was devised to allow for attenuated phasing, and for Nakheel to choose the lesser role of master developer for a large number of smaller construction entities in the future. While they had yet to determine how, and in what increments, the land would be released, the building-specific plot plan would allow for anything from the district-based to plot-based strategy to be enacted (in other words, with the plan as designed, the full range of land-transfer strategies could be realised). In the roll-out of this project (never built), the highly specific parcel boundaries were coupled with a relatively loose set of design guidelines, a combination that was to allow the natural forces of the market to create aesthetic diversity.

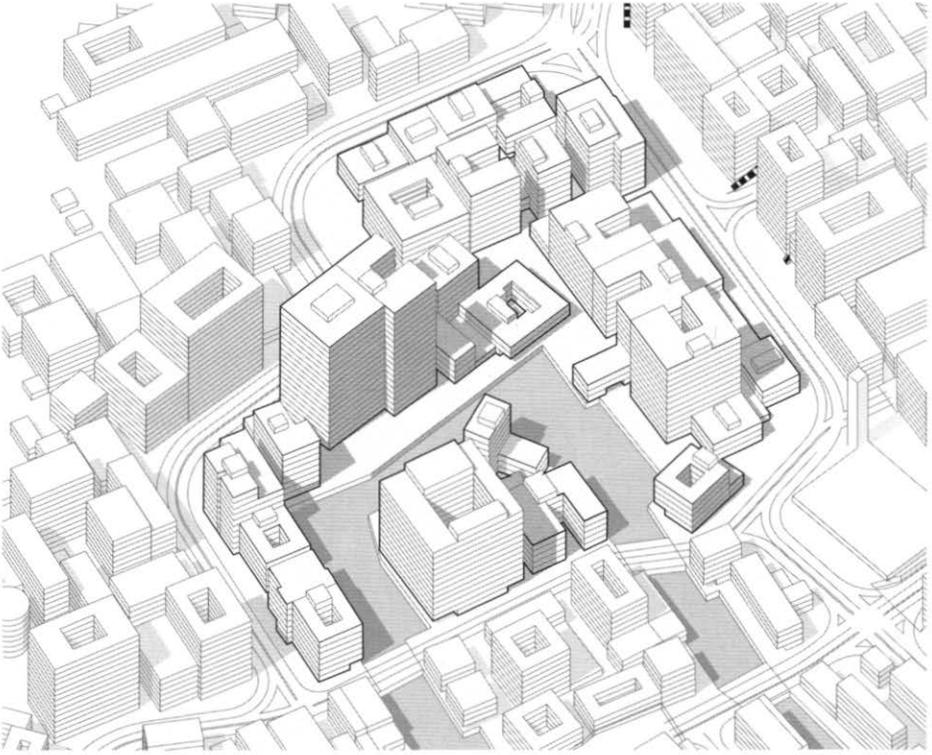


**Figure 5.6** (a) Madinat Al Soor District Plan + Madinat Al Soor Parcel Plan: the organic quality of the district plan was ensured by the casual disposition of a limited number of building types. Individual parcel division resulted from specific building footprints. Source: Utile, Inc. Architecture + Planning.



(b)

**Figure 5.6** (b) Madinat Al Soor Parcel Plan. Source: Utile, Inc. Architecture + Planning.



**Figure 5.7** Madinat Al Soor Massing: an aggregative neighbourhood character was the result of high degree of variety in parcelisation and height. *Source:* Utile, Inc. Architecture + Planning.

### *Borneo Sporenburg*

Urban plans based on a more normative orthogonal grid have shown that small-scale parcels, design guidelines and the market can create the desired effect of urban variety. The narrow row houses on Borneo Sporenburg (1993–1996), part of the Amsterdam’s eastern docklands, have been championed by urbanists and architectural critics because of the variety of architectural expression yielded by a building code that required specific solutions for light and air and on-site parking (see Figure 5.8). Important to the logic of the project was a realisation that high densities could be achieved with individual houses compactly arranged and smaller-than-typical street widths (not only to raise density but to encourage a more robust pedestrian realm). In total, 100 architects designed within the masterplan set forth by Adriaan Geuze of West 8, creating new prototypes within the framework. The overall experience of the project – especially from the water, onto which the majority of the dwellings look – is one of textural variety. Large plots were also sprinkled throughout the repurposed docklands, interrupting the march of low-rise townhouses. These play host to mid-rise multi-unit buildings that help to



**Figure 5.8** Borneo Sporenburg Canal View: very small plot sizes and a regulation precluding the aggregation of lots into larger development parcels results in an urban facade with rich textual variety. Reproduced by permission of Steve Tiesdell.

increase overall density, but that also play an important urbanistic role: to diffuse scalar monotony.

Borneo Sporenburg is financially feasible partly because the sub-developers use lower-cost construction materials at the very edge of building code compliance in terms of height. It should also be noted that the planning maximises horizontal density. Narrower streets, frequent, but small open spaces and shared party walls all contribute to profitable low- to mid-rise development. In addition to the direct influence of regulatory thresholds on the financial logic and physical manifestation of urban proposals, since 1945 new development in the social democracies of northern Europe has been built in relatively dense low-rise patterns. The USA, rife with suburban densities, has little such experience, and therefore has further to go to realise the potential of more tightly packed yet urbane development.

Borneo Sporenburg may offer a more applicable model for mixed-scale development in North America, Great Britain and Europe than the examples of Hammarby Sjöstad, Malmö and Madinat Al Soor. It proposes a highly rational and transferable planning logic that builds in specificity and variability of parcel size so that a range of scales of development are not only possible, but also required. Used in different combinations and arrangements, this mixed parcel-size approach may be the right model for large-scale urban districts, not only because of the authentic urban character

that results, but because of the mix of developer entities and construction technologies that will contribute to the build-out of the city.

## **Conclusion**

The return to the city – a late 20th-century phenomenon in the USA – has proven that density and economic, demographic and architectural diversity are bankable assets to be emulated and capitalised upon. So how are these qualities, inherent to the existing city, created from scratch? The answer is by ensuring that the right balance of regulatory controls is established in the underlying structure of the neighbourhood from the beginning. A range of regulatory tools are available, from Euclidean zoning approaches that limit uses and densities to highly specific design guidelines that fix building setbacks and cornice heights, window types and materials. As our examples suggest, carefully dimensioned, shaped and arranged building plots that anticipate the thresholds of prevailing building codes can result in a successful urban framework for new development. Whether and when to use any one of the four subdivision strategies articulated above – ranging from district-based to plot-based scale – should be understood as a decision that will deeply affect the character of any new district.

Each strategy will be viewed differently by the development community. While it may be expected that too many controls, be they parcel-size or regulatory guidelines, may drive away some developers, many others will appreciate the certainty that well-defined controls provide a project. In financial terms, the clearer the possibilities of a site, the more accurate a pro forma and the more secure the investment outcome. Architects may also initially chafe at tightly defined controls. But, as the example of Borneo Sporenburg demonstrates, properly framed constraints that stop just short of specific aesthetic prescriptions provide a carefully calibrated framework in which innovation can occur. In such a setting where the design problem is not a simple one, and innovation is rewarded, architects prove their worth.

To create a successful, high quality urban place, a balance must ultimately be found between allowing the market to set the standards, and exercising a measure of control that can predict with some certainty the building typologies that will inhabit the plan. By acknowledging that the building, and not the street, is the primary unit by which the market creates urban character, it is imperative that urban designers, in close collaboration with real estate experts, design the subdivision of the land, based on an anticipated range of building types, to create a framework for future urban variety and vibrancy.

## Notes

1. In 2007, the Architecture Foundation of British Columbia and Royal Architectural Institute of Canada co-sponsored an open architectural ideas competition entitled 'poto-type' (podium/tower typology). The purpose of the competition was to question the ubiquitous podium/tower solution in downtown Vancouver, given that '... proliferation of this architectural mono-type could potentially create social and economic disparateness while weakening neighborhood identities'. The competition brief and the winning schemes can be found at [www.poto.ca](http://www.poto.ca).
2. Utile, the architecture firm and think tank where the authors practise, has been focused on this agenda for the past five years. Design research at the firm, and in housing studios at the Northeastern University School of Architecture in Boston, has shown that high quality units can be designed within zero-lot-line wood-frame row house and courtyard buildings.