Issues in Canadian Urban Design

Occasional Paper No. 33

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by Catherine Charette
1995

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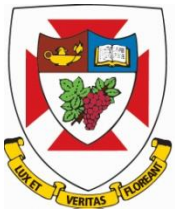
The Institute of Urban Studies



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Occasional Paper 33

Catherine Charette

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I would like to extend my warmest thanks and gratitude to the following people for making this publication possible: to the eleven contributing authors for their inspiring commitment to influence and improve the processes of urban design, as well as their commitment to this publication and their patience in awaiting the final product; to Thomas Schurch, Norman Pressman and Roger Kemble for the numerous editorial thoughts and suggestions which they continued to bring forward to me as the publication progressed; to Mary Ann Beavis, Institute of Urban Studies, who supported my pursuit of this publication and provided guidance throughout; to the sixteen reviewers whose commendable efforts have added immensely to this volume; to Donna Laube and Joan Duesterdiek for preparing the manuscript for publication. Finally, I would like to acknowledge the generous financial support received from Canada Mortgage and Housing Corporation (CMHC) which, over the years, has enabled the Institute to conduct a varied research and publications program.

DEDICATED TO MARC - WHO HELPS ME TO SEE

INTRODUCTION

ABOUT THIS VOLUME

This is a collection of papers on urban design issues relating to Canadian experiences, and written primarily by Canadians who do, teach about and/or analyze urban design. The volume is published under the Institute's Occasional Papers series. It is the first to be published on the issue of urban design, although the topic has been addressed to some degree in a number of other publications—for example, the "Winter Communities" and "Issues in Urban Sustainability" series. The volume's purpose is both to describe and to interpret something of the urban design issues dealt with by Canadian urban designers. The rationale in drawing together such a volume was rooted in a number of factors: the sparsity of Canadian—specific literature; the widely held belief that Canadian cities are developing more by accident than by design; the relative newness of the design discipline and the debate about what it should and should not be or do; and the positive response to an earlier issue of the *IUS Newsletter* (34 [1991]) wherein some of these issues were debated. The topics are far from comprehensive; the volume certainly is not intended to be the definitive resource on issues in Canadian urban design. Should the volume become "a welcome addition to the teaching repertory," as offered by one reviewer, I especially encourage student readers to challenge and advance the ideas presented.

The contributors to this volume responded to a call for papers as opposed to an invitation (much to the approval of one reviewer who complained that there are too many volumes consisting of "invited" submissions), which explains the mix of well-known with new scholars.

The papers vary from quasi-academic to personal commentary, and include gradations in between. That all papers adhere to a consistent style was not a priority in the publication; subjecting papers to a peer review process, however, was. The process offered the volume some reflection from a large number of additional experts in the field.

Securing the group of sixteen reviewers was an enormous task, especially as the editor ensured that it included both academics and practitioners who resided in every Canadian province; as well as the appropriate reviewers for the papers containing Canadian/American comparisons. The reviewers took exceptional interest in their task. They made numerous comments and recommendations which were incorporated by the authors into the final papers.

THE IMPORTANCE OF *GENIUS LOCI*

> Man dwells when he can orientate himself within and identify himself with an environment, or, in short, when he experiences the environment as meaningful . . . A place is a space which has a distinct character. Since ancient times the *genius loci*, or "spirit of place," has been recognized as the concrete reality man has to face and come to terms within his daily life. Architecture means to visualize the *genius loci*, and the task of the architect is to create meaningful places, whereby he helps man to dwell. (Norberg-Schulz, 1979, p. 5).

The concept of *genius loci* presented itself to me in an amusing way a few summers back. My partner and I and our two young children spent a week in Montreal. We enjoyed the streetlife, outdoor cafes—the general ambience of the urban open spaces—often until late into the evening. One Friday evening, soon after our return to Winnipeg, we headed down to Corydon Avenue—a newly popular and active "people street." As we drove into the district, our two year old son immediately asked if we were "back in Montreal?" Such a comparison of Corydon Avenue with the public streets of old Montreal might be ventured by few others, but what this innocent question does say is that some urban spaces and places have a very recognizable *genius loci*—even to a very young child. It is hoped that this collection of papers may contribute, in at least a small way, to the creation of places which have a definite spirit or sense of place.

The papers collected here, however, were not intended to pursue the "Canadian" *genius loci* theme. "The very idea of the 'Canadian city' is a recent one, at least as a scholarly construct" (Bourne and Ley, 1993, p. 12). Perceived homogeneity between American and Canadian cities has resulted in discussions on urban design in the North American city. At other times, however, it has been noted that Canadian cities have a more European ambience, due to our society's institutional affinity with British models of governance. Certainly, however, expected themes are underscored in the papers in the volume—for example, the formative influence climate, terrain and history have on urban design in winter cities (Bargh/Lehrman; Pressman), or the need to address downtown movement systems (Robertson). Other themes, meanwhile, are found latently imbedded within the papers—for example, the welfare state and new-found cultural pluralism (Witty). As well, some themes have more universality—the current concern with sustainability (Gurstein) or the theory of good urban design in terms of process *and* product (Schurch/Quayle; Kemble; Nicolai/Sandalack).

Although beyond the scope of this volume, there is a need to address other broad-based themes which surfaced through my discussions with reviewers and authors—for example, the gaps, and sometimes tensions, which exist between practitioners and academics/theorists, and the often lack of reconciliation between theory and practice, or the trend toward fast-tracking learning and the need for quick and easily accessible information (as put by one reviewer, "we don't have time for theoretical discussions, we need information more directly").

INTRODUCTION TO THE PAPERS

Consensus has not yet been reached regarding a definition for urban design. Many debates have taken place, however, and common questions arise—Should urban design produce forms or policies? Is urban design theoretical or applied? To which profession does urban design belong?

Debating urban design has perhaps produced stronger sentiments about what it is not than what it is—it is *not* the panacea for resolving conflicts among the professions; it is *not* architecture, not even very big architecture; it is *not* land-use policy, sign controls, street lighting districts, *etc.* Nevertheless, it is generally accepted that urban design is as much process as it is product; the designer is the manager or steward of public spaces—a manager of the whole development process, not simply the urban design solution. Such a steward must understand the essence of a place, and work with local communities to extend and sharpen those characteristics of the area that are valued the highest.

That there are various notions of urban design is reflected in the collection of papers: urban design is concerned with the creation and management of the built environment, focusing primarily on the relationship between the spatial and socio-economic elements of the built environment (Robertson); urban design incorporates issues in the maintenance and enhancement of the social well-being of communities as well as concerns for environmental husbandry and sustainability (Bargh and Lehrman); "good" urban design follows post modernist precepts relative to human scale, pedestrianisation, higher density, mixed use, multi-functional street rights of way, honouring of the past, public participation, sustainability and contextualism (Schurch/Quayle); urban design is the detailed shaping of the city fabric into visually and physically coherent land-use patterns which reflect the unique social, economic and environmental character and needs of the site and surrounding neighbourhood, and link the site and neighbourhood to the broader city and regional context (Witty). The notion of livability, however, is threaded throughout all of these discussions.

The volume begins with a commentary by Roger Kemble on the poor state of urban design in Canadian cities and the processes and forces which have resulted in this state. Kemble criticizes the fact that our cities have been corrupted by economic determinism and a corporate ideology that overwhelms common sense. He articulates an alternate vision through six guiding macro-scale principles (relating to interim land-use, land development, human environment, form, use and occupancy, and movement), in combination with "principles of sustained interest" ("plastique," "pallette," "emploi") which relate to the pedestrian or micro-scale.

The need for an urban design paradigm shift is also expressed in the next paper by Penelope Gurstein—but in the context of creating sustainable communities. Gurstein questions the relevancy of often accepted theories and practices: Duany/Plater-Zyberk and Calthorpe's embracing of the amenities of small-town life; overlooking of urban design principles in favour of technological "fixes"; and using efficiency as a useful evaluation of the livability of a community. Also pondered, but unanswered, is whether a paradigm shift could actually be incorporated into existing development initiatives and decision-making structures that are hierarchical and largely driven by economic imperatives.

Nevertheless, she outlines an integrative approach to urban design which is based on a number of criteria, including institutional reorganization of development decision-making, intensification of uses, encouragement of diversity, conservation of resources, urban productivity and refocusing values.

In the third paper, the notion of community is examined through a comparison by Thomas Schurch and Moura Quayle of two large-scale developments—Coal Harbour and Mission Bay. Following a theoretical consideration of "neighbourhood" and a comparison of the developments' urban context, form of development, planning/design processes, and design policies/guidelines, the authors consider whether neighbourhoods *can* be designed. They conclude that, despite exhaustive efforts at process, physical design and implementation, Coal Harbour and Mission Bay lack a clear understanding of "neighbourhood." These neighbourhoods fail because of their limited use of contextualism and their heavy reliance on physical design to make good neighbourhoods. Good neighbourhoods cannot be engineered nor designed, rather they develop over time.

Another aspect of neighbourhood and community is explored in the fourth paper, on NYMBYism, by David Witty. The author offers one perspective on the need for redirecting the energy inherent in NIMBYism into a more positive urban design force. The discussion emphasizes the importance of linking urban design to broad-based urban policy, and suggests that there exists unclear professional boundaries between planning and urban design. The ideas presented are reminiscent of those in the previous papers which identify new urban design ideologies and paradigms; here it is suggested that urban design can play a role in addressing the nature of contest which is found to exist in urban areas.

Too often, urban design is thought to pertain to cities and not to towns. An examination of urban design issues in the Canadian Prairie town is offered by Andrei Nicolai and Beverly Sandalack. They review the creation and transformation over time of the form of the Prairie town, and discuss the difficulties of various programs which have been devised and implemented to address the decline of business in the old downtown business districts. Suggestions are offered for a renewed approach which values culture, identity and traditions.

The paper which follows offers the second comparative exposé in the collection. Kent Robertson compares Calgary's skywalk system with American downtown systems in terms of objectives, system development, transport considerations, access and orientation, and aesthetics. He concludes that the successes of the Calgary system lie in its co-ordination with other forms of transport, the provision of second-level open spaces, and the objective of skywalks being a component of a total downtown pedestrian environment, but grapples with his conclusion that the incremental and segmented manner in which the system has evolved undermines its success.

The final two papers explore urban design in relation to climatic factors. Geoffrey Bargh and Jonas Lehrman examine aspects of urban design which recognize and alleviate the Canadian Prairie's extreme climatic conditions, respect the unique nature of the Prairie region's terrain and recall its historical tradition. Their enquiry is based on the notion that the ultimate goal of urban design approaches is an attractive, environmentally responsible and meaningful urban environment. Reference is made to current urban design practice in Canadian Prairie cities.

Norman Pressman sets forth the need to incorporate climatic factors into planning and urban design in harsh climatic conditions. Reasons for the lack of attention given to climatic concerns are explored as are some current dilemmas pertaining to urban design policy. Urban design interventions for creating a climate-sensitive built form focus upon the visual environment, human comfort, protective urban devices/strategies, recreation, and leisure and transportation. Numerous examples are offered which reflect a "winter grammar."

Catherine Charette
Institute of Urban Studies

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OUT FROM DENIAL: RECONSTRUCTING CANADIAN URBAN DESIGN

Roger Kemble
Principal, Roger Kemble
Architect Urban Design & Planning
Vancouver, B.C.

Because we cannot be clever
and honest
and are inventors of things
more intricate
than the snowflake—Lord
have mercy.
(Thomas, 1992)

INTRODUCTION

As the title implies, this paper challenges the *status quo.* It is an assertive review of the current condition of Canadian urban design. For this I make no apologies for, as seen through the eyes of one who has actively participated for over 40 years, it is long overdue.

Academics and professionals derive comfort only from strait-laced, buttoned down discourse, but they should also know that there is an enlightened throng who are hopping mad at what this barren discourse has produced. Planners wishfully assume their profession to be a verifiable science. It is not.

To readers who still believe the booster extravagance of the many tourist bureaus, real estate corporations and departmental public relations officers, I implore—fasten your seat belts and read on.

Consumer democracy, the environment in which much urban design activity takes place, has many commendable features. It has failings, too. A salient failing is its lack of introspection, or failure to recognize its own failings: in particular, for the sake of this paper, the failure of its cities. Canadian cities have failed on two counts: aesthetically, and in their ability to create wealth enough to meet the unrealistic expectations foisted on an overindulged public by special interests. The two are inextricably interdependent.

So much depends on flattery and media distortion, it is virtually impossible to acknowledge what is before our eyes. Everybody, every organization, wants something. Politicians exalt us, not through conviction, but because they want power over us. Advertisers woo us with blandishments, and, judging by their success, we believe them. I cannot, however, understand why we believe the outlandish rhetoric put out by city halls and the development industry when it is patently obvious they do not deliver on their promises.

It is not uncommon in Canada to seek reinforcement for this outlandish rhetoric by comparing ourselves to ostensibly irrefutable outside sources. Usually New York is the datum. Culture aficionados declare we are just like New York, justifying their creative aspirations. Politicians, cunningly manipulating our sense of bucolic deprivation, say we are not.

Tourist bureaus demand that we live up to the expectations of the proverbial visitors from

Nebraska. Developers advise, no socialism please, or investment will go elsewhere. What do they say? "Money is as fickle as a tart's heart. It goes where it's most appreciated."

We labour under the perceptions of others' criteria. We live in the shadow of catastrophic expectations. We are bereft of values. We bow to chimerical forces beyond our control. We acquiesce—"that's the way it is." We become inured to the obvious mayhem, we settle for anything.

Bureaucrats churn out numbers (Hardin, 1992). No consequences attach to their actions. Land developers project exponential growth, justifying speculative rampages. Realtors project spiralling prices, allowing inflation to mask their mistakes. This is particularly true in Vancouver and its region, where they indulge wildly exaggerated growth expectations.

Can such hyperbole stand scrutiny? I do not have access to public opinion polls, but I often participate as a guest on talk shows and in the local press. My theme is, we support expensive planning departments with endless regulations, yet our cities are a disgrace to civilised society. Why? And predictably the official response is—heresy! Still, listeners and readers (like many professionals, too, *sotto voce*) are supportive. What refreshing candour, they say.

Some professionals speak out. Rob Krier (Krier, 1979), although referring to cities in general, remarks relevantly for Canada that "in our modern cities we have lost sight of the traditional understanding of urban space." Alan Waterhouse (Waterhouse, 1983) holds a stronger opinion: "Within a span of fifty years or so, the propinquitous city was transformed into the fragmented metropolis, sometimes with dire consequences for the quality of urban space." Architect Joseph Baker refers to Montreal as, "our own ravaged, ruptured, scandalously mistreated, once so fine city" (Baker, 1987). Yet, despite these forebodings, local authorities play on fear bolstering their own denial.

Thus, concentrating essentially on the downtown urban environment, this paper is formatted into three parts. Commencing with a critique of what are, in my opinion, many ignored urban drawbacks, an outline of the essential precursor towards improvement, namely a shared vision of urban space follows. Finally, I have set out a means of implementing that shared vision. Implementation is arranged under six headings: all that is needed to replace the reams of regulations currently impeding enlightened development. With this last part, I hope to complete the circle from polemic to action and creativity!

CRITIQUE

Our cities are, indeed, a disgrace to civilised society. Voracious consulting firms append "urban design" to their letterheads to gain access to lucrative contracts. While uncritically embracing a process that compels them to toady to developers and city hall, they pretend to satisfy pent-up cravings for

environmental amenity as they market their services. They draft guidelines, engage in petty debate, tart up a few store fronts and cruise home with the gravy.

Public debate has gone awry. Why?

Vancouver endured, during 1993-94, an expensive public planning adventure called CityPlan. The public was invited to participate in a planning ideas extravaganza. Some groups and individuals demonstrated remarkable imagination and thoughtfulness although, of those ideas expressed, many were predictable wish lists, unheeding of how they would be achieved. Some community groups wisely refused to participate, sensing the perfidious nature of the exercise. They have been led by the nose so many times before.

After the dust had settled, Councillor Don Bellamy was quoted as calling "CityPlan: a scam. A waste of taxpayers money" (*Vancouver Courier,* 1993). And he voted for it.

The essential drawback to CityPlan is that its instigator, Vancouver's Planning Department, is in no position to fulfil the inevitable expectations that the exercise engenders. Because the department is the servant of the city's council, and because that council responds only to economic determinism at best and its clients, the development industry, at worst, the planning department will find in future that it will be compelled by circumstances to work against its own creation, CityPlan.

Despite pretensions, and I consider CityPlan to be just that, there has never been a lack of ideas. What is lacking is the political integrity to carry them out. Of the many good ideas expressed, no one bothered to point out the obstacles to their implementation: the dubious veracity of the planning process, local smart politics, and our covetous attitude to real estate.

No wonder public trust and respect for the decision making process are frayed. What is the point in raising hopes, when past experience has consistently revealed a mayor and council that perform like anal-retentive teenagers, and a planning department frolicking like a puppy at heel when vulpine special interests press their buttons?

City councils simultaneously patronize and indulge, sloughing off contentious decisions to studies intended to be lost in the rush of events. That may be smart politics, but it does nothing for the city. And, of course, CityPlan has degenerated into just another exercise in manufacturing consent (Chomsky and Herman, 1988).

Why? Maybe a look at one urban design project, Vancouver Library Square, will enlighten.

Evidently, an obscure body of people decided that the current library, a 1950s, perfectly serviceable, building, does not meet contemporary needs. It is ripe for demolition, or as of this date, conversion into a department store. So we were treated to a display of three designs depicting Vancouver's new Library Square, chosen by a complicated process. The public was asked to vote its

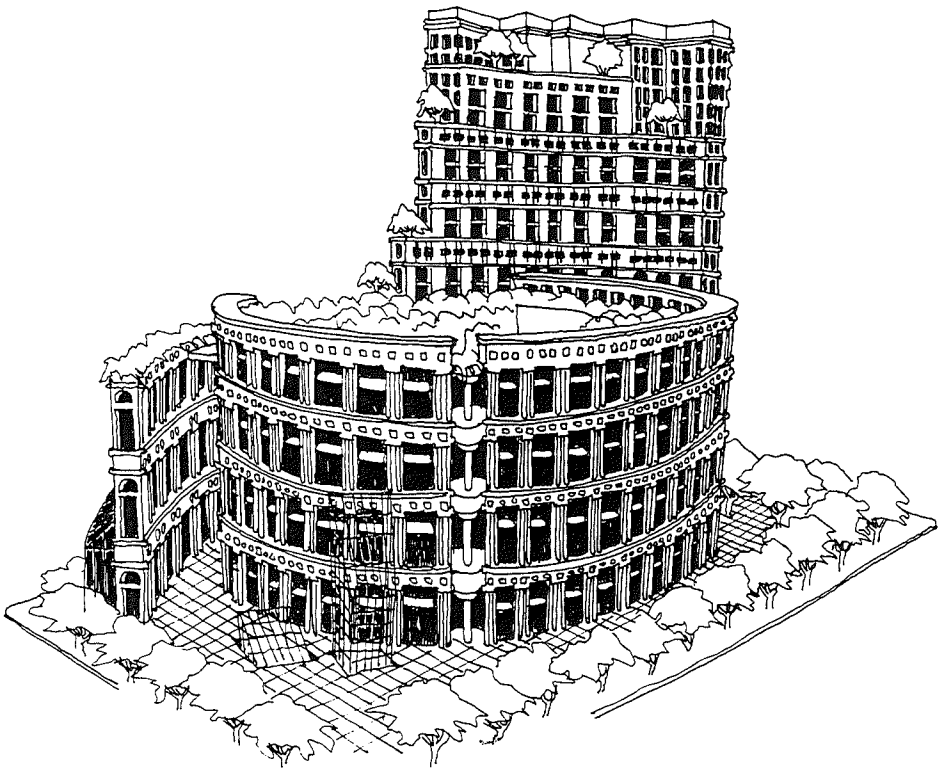

Figure 1: Vancouver Library Square. This is a rendering of the winning model. The urban surroundings are not shown because they too are the subject of re-design (see text).

Without guidance as to what a yes or no meant, 70% of 6000 votes cast approved of this design. That was in 1992. The winner did not meet the competition requirements. Changes were ordered. Who knows what it will be in 1995 when it is eventually completed?

Source: This and all other illustrations in this paper by Roger Kemble.

best choice (see Figure 1).

Subsequently, Vancouver Library Square has become an embarrassment. The late Stephen Godfrey (Godfrey, 1992) wrote that the new library design shows Vancouver to be unaware of its past, ill-informed of its future and insecure in the present. Adele Freedman (Freedman, 1992) asked, "wake me up when it's over." It is certainly misnamed, for nowhere is a space remotely recognisable as public urban space: a square. You will find nothing on this over-built chunk of real estate to compare with the New York Public Library's Bryant Park.

Approval for the design whizzed through. Moshe Safdie, the architect, obviously prepared for a lengthy presentation, hadn't time to blink. Council, nominally split along party lines—the good guys and the bad guys—rooted for their clients. There were no good guys, though. To the supposed right the new library is a lucrative, albeit temporary, gift to its clients: a debt-ridden construction industry. The left saw it as relief, albeit temporary, for its clients: the construction unions. No one saw it as a contribution to Vancouver's long neglected public realm, to say nothing of a modern information system (Robinson, 1992).

This business of make-work construction is self-defeating: a familiar treadmill leading nowhere. In this case, Vancouver, starved of efficient library services throughout the city, because so much is concentrated in the new library, has acquired an additional $124 million debt to no discernible purpose. And, of course, once the library is completed, pressure will mount, to repeat the exercise all over again in a never-ending spiral (sounds like Sisyphus, doesn't it!), leading to an accretion of liabilities, an antediluvian infrastructure ill-suited to it's future purpose, a fractured urban environment and yet more cynical voters.

Not only is the *raison d'être* dubious, but attempts to ensure its urban context are also being undermined. In March 1993, and on the advice of the architect, council set out the Library Precinct Guidelines to ensure that the context in which it is about to be situated will be appropriate. Currently, the area is in flux, hence the Figure 1 rendering shows the new proposed building standing alone. Among other things, "shorter buildings (to 170-feet) should surround Vancouver's future symmetrical jewel in the downtown crown" (Truscott, 1993). Then along comes a proposal to build a theatre and 31-storey (110 feet higher than allowable under the guidelines) residential tower in the designated precinct.

Of course, expediency ruled. "Councillor Harry Rankin says a favoured architect has sold out the city to win a few bucks from an entertainment mogul" (Truscott, 1993). Mayor Gordon Campbell riposted, "guidelines are not by-laws and can be manipulated" (Truscott, 1993). The mayor does not concern himself with the question of who, or what, benefits from such manipulations, and that is the

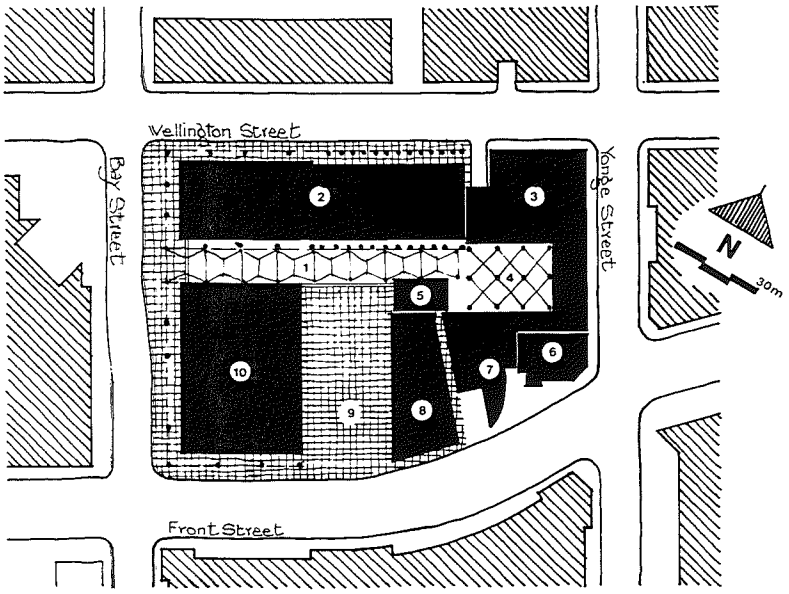

Figure 2: B.C.E. Place. Site Plan. Galleria (1), Bay - Wellington Tower (2), Retail (3), Heritage Place (4), Clarkson Gordon Building (5), Hockey Hall of Fame (6), Day Care (7), 22 Front Street (8), Plaza (9), Canada Trust Tower (10).

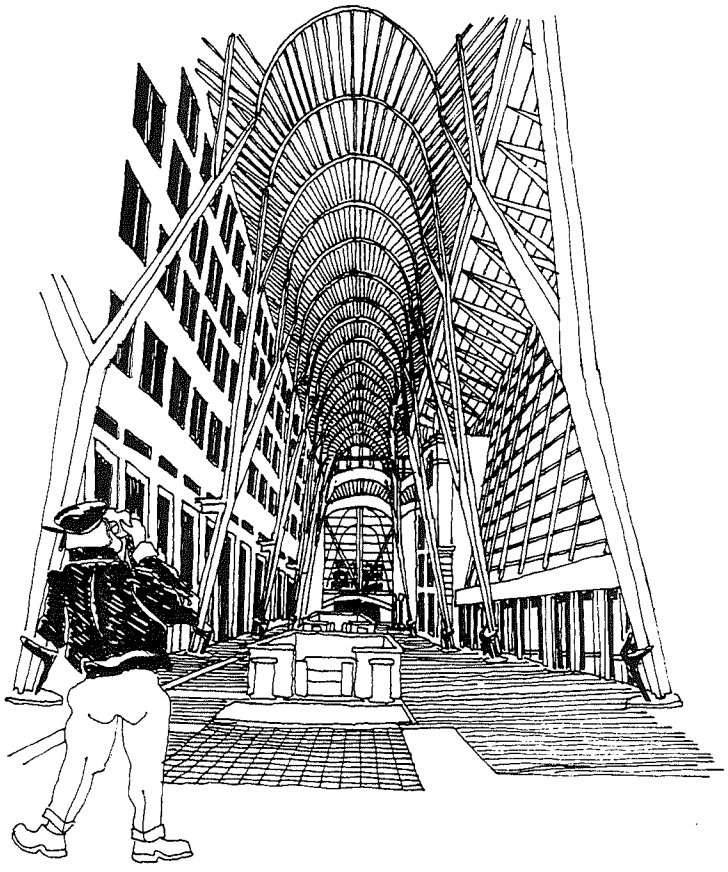

Figure 3: B.C.E. Place. Galleria. I must say, I enjoy walking through this light, modern tracery. It reminds me of York Minster.

dilemma of the city. Anything can be manipulated. Interesting, eh? Why have guidelines? Why have an expensive planning department? Indeed, why have a mayor and council?

Another intervention involving a much celebrated downtown block can also provide us with many valuable lessons. That is, B.C.E. Place, Toronto.

Toronto is celebrated as a pedestrian-friendly city. Its reputation rests on traversing Yorkville, City Hall, a couple of blocks of Queen Street West and St. Lawrence, which, by and large, is a minuscule portion of that depressing conurbation. B.C.E. Place (Annau, 1992) reclines close to St. Lawrence.

I have no knowledge of the process leading up to B.C.E. Place (see Figure 2). I do know that Toronto prides itself on its public involvement process. Yet, even at that, the same urban design mistakes made across the country seem to be repeated.

B.C.E. Place consumes a whole city block. That block is immeasurably overdeveloped, and the development is introspective, turning a blank face to the city like so many of its kind. But then, that is typical of downtown Toronto, placing it in context. What attracts my attention to it, though, is the urbanity of the inner space: no equivocating here, no reluctance to tergiversate a church pew past. Toronto is a city, warts and all, and B.C.E. Place adds to it.

Two major office towers dominate. They wrap around internal privately owned public spaces. Façades of some buildings that originally occupied the site are preserved on Yonge Street, vouchsafing, I suppose, Toronto heritage. The bank on the corner of Front and Yonge is home now to Canada's hockey hall of fame, and, next door, on the roof, is a day care playground.

And as I said, the inner public spaces are its redemption: the Galleria (see Figure 3) and Heritage Square. Each is enclosed by beautifully traceried arches designed by Spanish architect Santiago Calatrava.

His arches spring from hinged connections decorated by ingenious lighting fixtures. The tracery is finely welded, unprotected high tensile steel. A filigree canopy supporting a weatherproof skylight, much like Gothic pendentives, encloses the upper reaches of this pious splendour.

The smallest asset in the complex has possibly the most impact after Calatrava's tracery. It is Clarkson Gordon's sandstone façade, facing in towards the Galleria. Its warm surface contrasts the delicate modernism.

However, Calatrava's sensibilities are intruded upon by the massive structure to which it is appended. Obviously the traceried canopy is an afterthought.

Office walls, facing in towards the public spaces, bear no relationship to the arches. For, whereas the arches flow, the walls are punctured by static commercial fenestration.

Figure 4: B.C.E. Place. Yonge Street Front. Variegations on a richly textured street come from the schemes of many minds. More than the genius of one architect's mind can conceive this streetscape. Look at figure 5 . . .

Figure 5: B.C.E. Place. Bay Street Front . . . . But it takes a monotonous mind to think of this!

Heritage Square is enclosed behind the arches, and these are backed by sand-coloured walls, fenestrated with what looks like spreadsheet grid lines: not an easy thing to view.

The preserved existing structures, from the old bank building to the three-storey Italianate structure on the corner of Wellington (see Figure 4), pay obeisance to Yonge Street. Front, Bay and Wellington streetscapes (see Figure 5) have no attractive qualities at all.

A south-facing public open space connects Front Street to the Galleria and is a generous entrance plaza to Canada Trust tower. And since the quality of such spaces depends upon the design and proportions of their enclosing surfaces, the effect of this public space is moribund and happenstance.

What ever happened to the meritorious notion of use of materials? Had proportions and materials been considered more carefully, this space would have presented a much more responsible corporate presence to the public realm.

So much for the large city block developments. Things get even bigger, though. Nowhere can the effects of the urban design process be experienced more vividly than in the many proposed, so called mega-projects. Vancouver Library Square and B.C.E Place, to a lesser extent, are large interventions in areas of their respective cities in transition. Across the country, however, there are mega-projects that are, indeed, whole new cities within their host cities.

During the euphemistically dubbed years of unprecedented development, the 'eighties, mega-projects across Canada, indeed across the world, attracted attention: railway lands in Canada; Canary Wharf, London; *La Defense,* Paris; Mission Bay, San Francisco, *etc.* Most are now dormant, and to my knowledge, only one has been completed, that is *La Defense.*

I refer to *La Defense* in this paper to illustrate what may befall similar projects proposed in Canada.

In particular, I have in mind the Concord Pacific development on the north shore of False Creek, Vancouver. According to its developers, the public were engaged in more than 200 meetings to discuss the design. Which begs the question, to what avail?

So far this project is behind its scheduled advance publicity. In a supposed twenty year building process approved in 1989, two towers have now been built. Hundreds more are to follow! The completed towers, nevertheless, ominously portend a brutal urban environment, and a close look a *La Defense* may alert Vancouver before a chance is lost to change a dismal future.

La Defense (see Figure 6) is a new town on the northwest edge of Paris, publicised worldwide as a modern achievement. In theory, it is magnificent; in reality, it does not live up to its billing. Corporate ideology overwhelmed common sense. Paris may once have been the "Cosmic" city

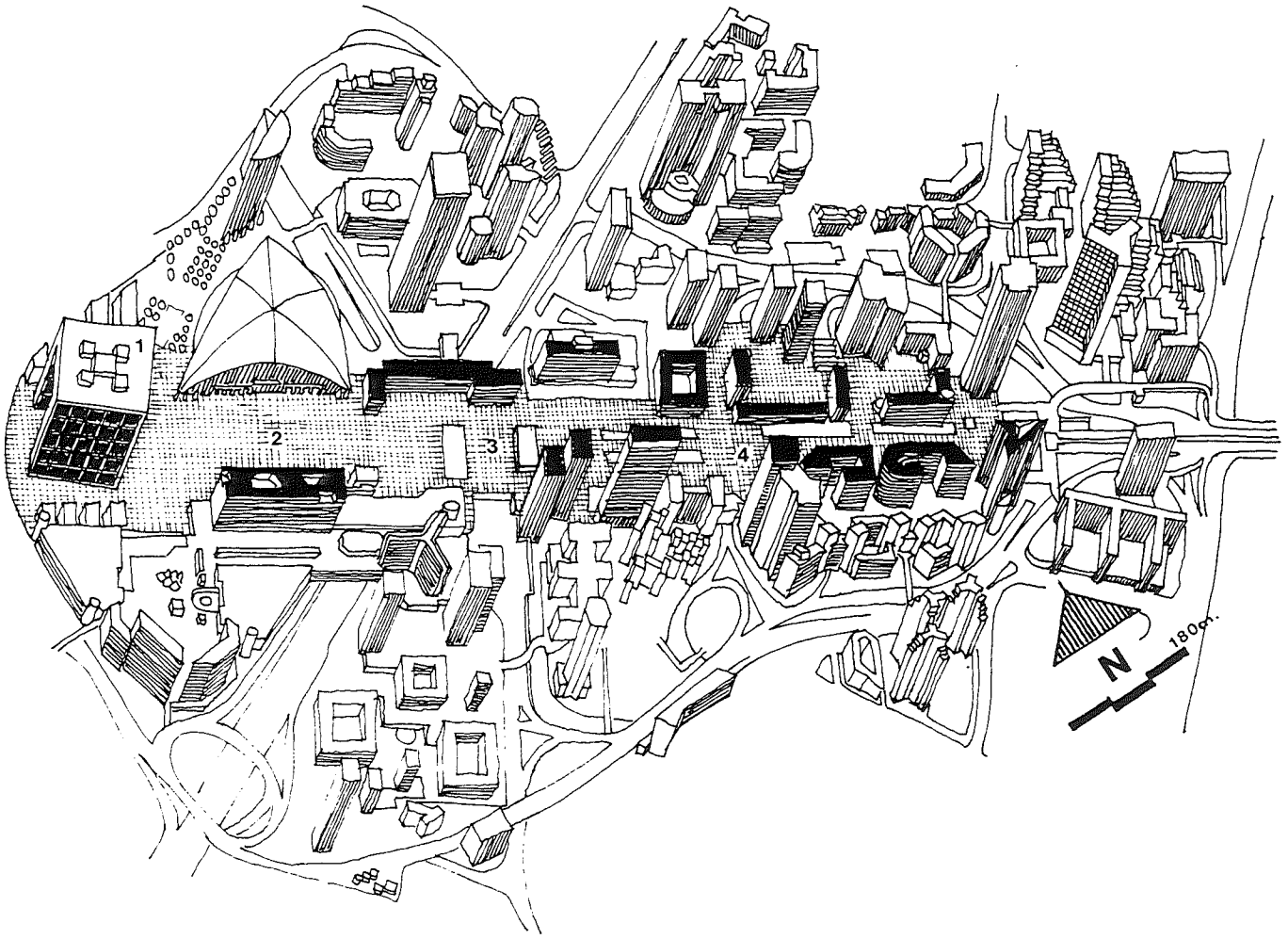

Figure 6: *La Defense.* An overview, from the South. Surrounding *Le Parvis*, buildings are designed as discrete objects almost in defiance of context. Whatever happened to the party wall? Underneath is a whirligig of traffic, on fast freeways, and parking.

La Grande Arche (1), *Le Parvis* (2), *Place de la Defense* (3) and *Esplanade General de Gaulle* (4).

(Rybczynski, 1992), but no longer.

La Defense is self-contained, dominated by office towers with housing, commercial and ancillary activities. Fault lies in Brobdingnagian scale, the separation of traffic, urban spaces that coalesce, haphazardly, around *Esplanade General de Gaulle*, and an east-west pedestrian access coming visually from *l'Arc de Triomphe*, terminating at a massive, sprawling open public space called in French, *Le Parvis.*

Le Parvis is the focus. It is a pedestrian domain built over a morass of traffic and parking. But the lasting impression is of solitary buildings keeping sentry-watch over empty spaces. Contrary to Parisian tradition, it lacks the cohesion of buildings designed in relationship to one another, or to their contiguous spaces. There are no "main streets." *Hokoosha tengoku*—or pedestrian heaven, as the Japanese like to call their way of circumventing corporate destruction of their sense of neighbourhood—is not so much neglected at *La Defense* as it is simply put, foreign to the corporate and compulsive way in which this sorry concrete mass has accreted.

Walking on *Le Parvis*, I was reminded of my days as a young sailor on the flight deck of HMS Illustrious, hardly a people-friendly urban experience. A profusion of public art, that as dazzling one-of-a-kind pieces have great merit, does nothing to the mitigate the deadly effect.

The dimensions of *Le Parvis* are 300 m by 140 m, flat and unrelieved. *Place de la Defense* connects to it, and that in turn connects to *Esplanade General de Gaulle:* the prospect is interminable. *La Grande Arche* is 110 metres high, so the proportion of highest vertical to longest horizontal is about 3.0. There may be hundreds of people on *Le Parvis* yet they look so sparse, no one would know.

Building façades are stark and reflect mockingly. Others are drab, unrelieved. Whatever design philosophy may underlie La Defense, it adheres too well to Gertrude Stein's quip, "there is no there there," and for all its monumental scale, it is nothing more than commercial mediocrity. It demonstrates all that is wrong with the modern city.

La Defense! What an overpowering prospect. Scale is monstrous, diminishing human dignity. High buildings, like stand-alone-get-out-your-camera packing cases, are tombstones to an ant. So, be warned Canadian recipients of mega-projects, especially those close to the north shore of False Creek, Vancouver!

A SHARED VISION OF THE CITY

How can urban design be made palatable to a population 80 percent urban, yet hankering for their rural past, and misled by politicians who promise the moon and deliver quick-sand?

Canadian cities have evolved through the expediency of economic determinism, with little more

direction than immediate political advantage. No one articulates an alternative vision.

It is easy to crow about how beautiful it all is (despite glaring evidence to the contrary), because no one will acknowledge attainable alternatives to the speculative horror. That there are alternatives to this economic and aesthetic degradation is excluded from the debate, probably because we persistently believe outlandish rhetoric emanating from vested interests.

This must change, for there are many alternatives to current denial, and I propose to articulate one here.

Urban design comes out of a shared vision of urban space (Kemble, 1989). Many thoughtful people have proposed this before. Indeed, Edmund Bacon demonstrated such a concept in Philadelphia (Bacon, 1974). Clearly, though, his vision fell victim to the same determinism that besets the best of urban intentions: probably because he placed his faith in a corporate agenda that has so often demonstrated a lack of ability to handle the delicacies of urban design.

Jane Jacobs was, to my knowledge, the first to articulate a vision of urban attractiveness through density and activity (Jacobs,1961). Unfortunately, planners adopted only the superficial aspects, cute shop fronts and retail activity, of her vision, while ignoring the underlying profundities.

Under present circumstances, I contend, a shared vision of urban space is possible only through a committed group of people: an elite, if you like. Willing to learn, to exert their influence, these people proselytise the general public until they have a constituency of support. And although I call it an elite, in fact, anyone may join, with the only stipulation being that they do their homework.

I say under present circumstances, that is, the quasi-democratic public information process, advisedly because I see no evidence that any good is being served by this process. Public participation supposedly sanctifies the voter's will following the notion that if the public is heard, the plan will be "right." There is no evidence to support this illusion. There is no reason, historically, to believe a popular idea is necessarily the right idea. In practice, in fact, the public process is more a screen to legitimise real estate deals than it has anything to do with city or neighbourhood design.

The apocryphal "public participation" process has gone through successive changes, though, in Vancouver. First it was genuine public input, then it slipped into "public information meetings." Now we are invited to a "public open house." And Vancouver's planning department adopts the role of its nemesis, real estate, every passing day.

How can this be? In a consumer democracy, the public jealously guards its property rights. Those rights apply to large and small land owners equally.

Traditionally, Vancouver's economy was resource based. An aggressive development and real estate industry grew to accommodate it. Over the last decade, however, this economic relationship

changed profoundly. The resource base foundered; all that remains is real estate.

The growth of a viable secondary manufacturing base is hampered by artificially inflated real estate prices. Yet the development and real estate industries still hold a suffocating hegemony over the planning process. It remains unchallenged by a loaded public planning process, presided over by a compliant planning department. Accordingly, sunset industries call the shots, despite their declining economic viability. Similar antediluvian relationships must exist across Canada, for the urban effects appear similar.

Professionals and devoted lay persons may be passionately interested in planning yet, hard as it may be for them to accept, thousands find it intimidatingly boring. So long as house prices keep going up and taxes don't rise too much, lay people stayed aloof.

Bus drivers, doctors, wood workers and police officers have other interests. They can be aroused by specific issues, but slow-forward planning leaves them underwhelmed. As a result, unfortunately, what passes for public participation has degenerated into easily-sloughed-off routine.

The people whom Noam Chomsky accuses of being the "stupid masses" evidently would rather watch "THU GAME" than take an interest in the events that shape their lives. For instance, in Vancouver's civic elections, never have more than 30 percent of voters turned out. Would that the majority were interested!

So, since no one takes the interest of the city to heart, it remains for a dedicated elite to fill the void. Past elites have been surprisingly influential in modelling our cities. Draftsmen and surveyors working for the early railway developers would be amazed at the resiliency of their humble plans. The grand visions of étoiles and radial boulevards such as Haussmann's Paris, Nash's London, Griffin's Canberra, Costa's Brasilia have all been the germ from which their cities flourished.

In caution, though, they can also be their own worst enemy. Anthony Sutcliffe explains how:

> Only in aesthetics did the Americans remain susceptible to European currents . . . This sense of inferiority was succinctly expressed by Burnham . . . "We have much to learn and much to live out before we can equal old England or any place in Europe." This cringing deference could, however, lead to grotesque bravado, as on the occasion when Burnham's committee planning the Chicago exhibition buildings broke up in mad self-congratulation after August St. Gaudens, the sculptor, had suggested that it was the "greatest meeting of artists since the fifteenth century." (Sutcliffe, 1981).

We, too, must endure such self-congratulatory indulgence today! I suppose the trick is to know when to leave well enough alone. Charles II commissioned the renewal of London after the 1666 fire, and his architect Sir Christopher Wren took that opportunity to continue, adapted to the English medieval town, baroque geometry. However, his radial plan for the central city (see Figure 7) had to

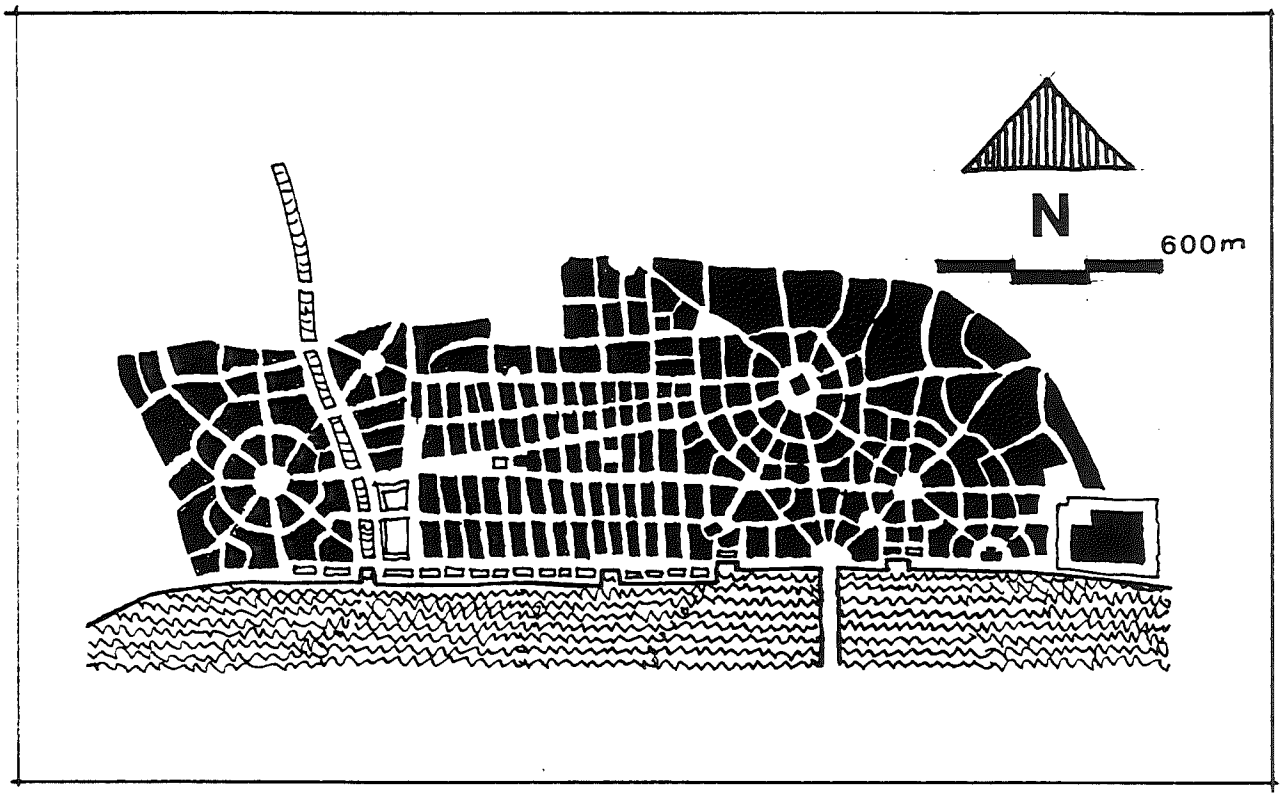

Figure 7: Wren's plan for the City of London, 1666: "Instead of the tangle of narrow and often twisting streets which were the legacy of the Middle Ages, he proposed an orderly city with streets of three different widths. A civic centre (where the Royal Exchange now stands) was surrounded by buildings for the Mint, the Post Office, the Excise Office and 'Ensurances'" (Whinney, 1985).

The River Thames is at the bottom of the diagram. The bridge, shown, is in the same place as the present London Bridge. The rectangle on the right is the Tower of London.

be abandoned, because the urgency of the situation left no time to prepare the groundwork (Whinney, 1985). The merchants were not about to hold up their trading for the benefit of a grand design. Charles II knew when to leave well enough alone

London never succumbed to Wren's geometry. Instead, it became the physical embodiment of liberal "freedom" and the popular interpretation of principles expounded by Adam Smith.

Adam Smith's free-market-and-competition theories, long an ideal model emulated by today's economists, bear little resemblance to what ideologues claim it to be. Andrew Skinner on Smith:

> Smith was particularly scathing with regard the political powers exercised by economic interests and frequently insisted that legislative proposals emanating from members of the merchant classes: "ought always to be listened to with great precaution . . . it comes from an order of men, whose interest is never exactly the same as that of the public, who have generally an interest to deceive and even oppress the public, and who accordingly have, upon many occasions, both deceived and oppressed it" (Skinner, 1979).

Contemporary economists seem to have missed this qualifying principle.

Yet for some inexplicable reason, we still buy the popular interpretation of Smith, and rather than daunting our trading competitors, we destroy ourselves. Nowhere is this more dramatically evident than in our cities. And after suffering almost irreversible damage from the people Adam Smith warns against, London is again searching to renew itself.

Mark Fisher, a U.K. Labour MP, and Richard Rogers, a celebrated architect, have proposed a new vision for London (Rogers and Fisher, 1992). Their proposal is inclusive, acknowledging London as a European city, directing attention to its most valued asset, the Thames. Unfortunately, there are few illustrations in the book. Their vision is articulated verbally: accordingly, it is far too complicated for it to be represented graphically in this paper.

They question at a deeper level than appearances, though. What, they ask, among other penetrating questions, is the implication of private property shopping malls on urban public life? Is the public attracted to the bright, warm glitter only to be pit-lamped like deer on a dark, cold night? The grim social consequences of the private shopping mall are already becoming apparent in the United States.

Canada seems to be a willing recipient, without thinking out the consequences, of many bad habits from the United States. Malls are among the worst. Universal City Walk, in Los Angeles, is an exclusive shopping mall that assures its rich patrons security from such "effronteries" as contact with the homeless. It is founded on a sophisticated form of apartheid (Beckett, 1994). But its regulations go far beyond draconian edicts that keep out undesirables. Patrons are warned by prominent signage

like, "You may walk thru or stand on this fountain. No other action (running, climbing, rough-housing *etc.*) is permitted." Such innocuous control has the potential to become insidious.

"Universal City Walk will be safer than those places" (referring to the notorious ghetto shopping areas of L. A.), says its architect John Jerde, "because this is private property." Then he goes on to claim it has "a public feel." Isn't that somewhat schizophrenic?

Are closure laws about to rear their ugly head again in the form of the private/public space of the shopping mall? Innocuous laws at the end of the eighteenth century, allowing the fencing of common land by anyone who had the cash to buy pickets and conveyance papers, dispossessed thousands. Will private glitzy malls, at the end of the twentieth century, dispossess unwitting thousands of the free use of their urban land?

Such important issues question the veracity of the current planning process for, while an ingenuous public ululates over pretty pictures, these underlying implications are not raised. Politicians don't bring them up. Planners, who swear a professional oath to uphold the public interest, avoid them. That is why only a vigilant elite, willing to cut through political nostrums, can alert the public and eventually lead them towards a shared vision.

In closing this part of the paper, it is fair to say that a shared vision can be anything its proponents want it to be. There is no normative principle, although in the next part, I intend to list a set of broad and guiding principles. I would hope, however, that despite the complicated, often conflicting, diversity in which we live, there are some common causes. Surely by now we can agree on such homilies as a sustainable urban environment, security of tenure, recognisable neighbourhoods free of arterial traffic, beautiful buildings surrounding and related to one another and the urban space they define—the list goes on.

Many people have expressed visions. I have attempted to express mine (Kemble, 1992; City Circles Ideas, 1993). But the finest yet comes from Chris Alexander (Alexander, Neis, Anninou, King, 1987). All add to the common weal and no one should be shy to express their own. During the great age of Athenian democracy, Pericles said, "We . . . regard the man who holds aloof from public life not as quiet but as useless" (Todd, 1955).

IMPLEMENTATION

Visions, rare as they are in current planning practice, have no meaning if they are shelved and forgotten. The major challenge urban designers face is to put into practice what they already know: how to implement their vision.

We are busy building no doubt, but what are we building? Developers constantly boast that

their projects are "on time, on budget," but no one pauses to reflect on "what is on time, what is on budget?" Busyness distracts us from the essentials while we fill holes we have dug for ourselves, compiling by-laws and regulations that do not fulfil the purpose for which they were intended. We conveniently attribute urban deterioration to inanimate objects, economic determinism, technology, globalization and the automobile: all convenient excuses. So long as we continue in denial, the *status quo* will remain.

WHO SHOULD BE HELD ACCOUNTABLE?

It is people, us, who have created this mess, and sooner or later we must point the finger at those we entrust to manage the city and its development. And that brings me to those nominally responsible for this state of affairs: the planners, the design professions, developers and politicians: indeed those people whose outlandish rhetoric we continue to believe.

First, planners. Planners burrow endlessly through ineffective regulations. Their skills are redundant. Vancouver has countless regulations. Other Canadian cities vary. Toronto is similar to Vancouver. Of Toronto's 200 professional planners, Jane Jacobs was recently quoted as saying, "our official planning departments seem to be brain-dead . . . [they] are irrelevant and overblown relics from a past long gone" (Barber, 1993).

Montreal, before 1987, had virtually no planning structure. It is now busily building one up, replicating the errors of other cities. Moncton's planning authority rests with a private developer, and Edmonton is more intent on promotion than planning. Yet all those cities seem to suffer the same dilapidation.

A reassessment of planning education is essential. Too much emphasis is placed on routine repetitive tasks, and not enough on the creative process. When all is said and done, planning is, by definition, a creative act.

Urban planners should be versed in spatial relationships, visual effects, physical forms, creative techniques, creative risk taking and professional integrity.

Professional integrity? Indeed, planners may well take courses on the subject, but they seem to have overlooked the practice. I cite as an example the political proclivity to defer contentious urban design decisions to planning reports that appear to be intentionally forgotten, or at best postponed indefinitely. I contend that this is using planning departments for political purposes. Professionals should not allow themselves to be used in so perfidious a manner. Ostensibly, the planning department represents the interests of the city regardless of the political party in power.

Within this milieu of conflict, planners are still struggling to attain acceptance as a profession.

With professionalism comes privilege. Privilege is balanced by responsibility. Responsibility implies speaking up when planning issues call for public scrutiny. In all my 40 years, I know of only one planner resigning over a principle, yet I often hear representatives of the planning department expounding in the media as though they were sales agents for their respective developer clients.

Lack of professional integrity can be seen in acts of omission too. An example: a myth surrounds tourism. Evidently it is a major component in the "new economy." In British Columbia, we are persuaded that it is the second largest industry after forestry. In fact it ranks somewhere between tenth and thirteenth (Threndyle, 1994). Imagine the impact that misconception has on planning decisions in Vancouver. Now, if planners were doing their job, that fact would be debated. Yet from the planning department, not a word! Does it, in fact, know? If not, it should! Does it keep mum to preserve its turf? Either way, professional integrity is missing.

Second, design professionals. The architectural profession is confronted with the same integrity dilemma as are planners. The design professions, that is architects, landscape architects, *etc.,* flirt with the fantasy of professionalism to distract themselves from the reality that they are irrevocably mired in a very competitive and petty business. One up-and-coming member of the profession once excused himself to me personally for tearing down a perfectly sound, affordable apartment block only to replace it with and over-priced tower, that to this day remains essentially unsold, by claiming "he is not Mother Teresa." How true!

Excuses such as this are commonly held—though seldom spoken—yet architects wonder why their professional status is coming into question! And in this rapacious business environment, urban design is subordinated.

Design professionals long ago jettisoned integrity for marketing. The public knows that. Design professionals don't. I know from personal experience the architectural profession confines its interest in ethics within narrow limits, i.e., business practices between members, while ignoring the larger picture, its responsibility to the public urban realm. This is understandable, for the larger concern is fraught with controversy, while interaction between members goes largely ignored outside rarefied halls of professionalism.

Still, that is one reason why the profession is losing ground, and why the development industry runs roughshod over earnest attempts to preserve the public domain. Architects and designers, and architectural values, no longer hold currency.

In fairness, though, the dilemma is a societal condition far beyond the grasp of any one profession. Still, the design professions can be faulted for the pusillanimous, indeed, self-serving manner (to wit: standing passively by while planning departments usurp their design prerogatives) with

which they brush the issue under the carpet.

Instead of dealing with the reality that stares them in the face head-on, design professionals are off on their magic carpet escaping into the bosom of their heroes: no less than Le Corbusier, among those heroes, who is described by Tom Wolfe as: "the logician who flies higher and higher in ever-decreasing concentric circles until, with one last, utterly inevitable induction, he disappears up his own fundamental aperture and emerges in the fourth dimension as a needle thin umber bird" (Wolfe, 1981).

When, and only when, architects come down to earth will their work be valued as it should in a healthy society. Only when elites come to respect architecture will it regain its rightful position. The public will come to respect it when they see how it can improve their lives.

Third, developers. Developers create little community wealth. Recent events show many to be inept amateurs. Their fortunes are made riding the waves of inflation, using their resources to pressure friendly politicians for subsidies, write-offs and tax dodges, and passing the debts on to us.

Users taking charge is the way to avoid these wasteful middlemen. No one knows better how to build appropriately than the user. Commissioning an architect to design buildings according to needs, constructing them on the basis of good contracts, in a straightforward manner, is the most economical, publicly responsible way to develop the city.

Fourth, politicians. Politicians perform in the manner mentioned previously, regarding Vancouver Library Square, because they can get away with it. They don't care because voters don't care. I doubt voters will ever care. Accordingly, I believe an elite committed to the city's well-being by keeping the pressure on, monitoring the intent and its outcome, is the only assurance of good urban design.

A startling example of what politicians can get away with is the Greater Vancouver Regional District's town centre at Metrotown, Burnaby, B.C. (Kemble, 1991). It typifies the ways politicians use public apathy to play with whatever whims tickle their fancy. It was a conception, shared by politicians and their developer cheerleaders, and imposed on the public, to propose regional town centres for B.C.'s lower mainland in the mid 'seventies. It was a good idea, in principle, and great effort was expended promoting it.

Still, it fell short on two counts. First no one bothered to make a distinction between a sprawling mega-shopping mall and a town centre and, secondly, while points within the lower mainland were designated for the supposed town centres, no one bothered to place restrictions on secondary malls. The result is a region saturated with malls, indistinguishable from one another, and no discernible urban pattern.

Metrotown centre itself was supposed to be developed along guidelines that mediated the public's wishes. All the guidelines were flouted because they comprised a soft edged wish list to which a disengaged council, a disinterested planning department, arrogant developers and untalented architects paid no heed. Clearly it is a politicians' idea gone wrong, because while ignoring condescending and pandering glossy hand-outs, the public, justifiably, wasn't interested enough to demand fidelity to the idea.

In a nutshell, Canada's urban development system is morally bankrupt, and the above participating groups must accept culpability. They had their chance. It is now time to find a better way.

FROM DENIAL TO AFFIRMATION: URBAN DESIGN AND ITS IMPLEMENTATION

To a certain extent, we have been led down the garden path regarding urban design by comforting, though misleading, wishful thinking. What immediately comes to mind in this respect is heritage preservation. Heritage preservation has attained almost manic proportions. Almost anything built yesterday qualifies. We must shed our yearnings for greater times. Those times were, in fact, horrific for the likes of you and me.

More to the point, though, well respected authors such as Kevin Lynch and William Whyte have also contributed their share of wishful thinking. Whyte, in his later works (Whyte, 1988) has, in my opinion, resorted to nothing less than voyeurism. Setting up hidden cameras viewing unsuspecting people has little to teach us. He would have more impact setting his cameras in city hall offices and the board rooms of developers.

Lynch, on the other hand, leaves a lingering feeling, in myself anyway, of an urban design attainable only in ancient Rome or the Greek Isles (Lynch, 1981). In Chapter 4 of his book *A Theory of Good City Form*, he enunciates Three Normative Theories. As I stated previously, I believe there is no normative in city design. Indeed, Lynch goes on to question the very prospect of "normative" in the next chapter.

All regions, cities and neighbourhoods are different. No sooner do we know how to do "it" than circumstances change and transition takes over. When we change an urban pattern, one set invokes another. Decay follows rebirth, and rebirth follows decay.

Good urban design must be supported by much more than nostalgic yearning for picturesque Greek villages and wistful handshakes on a busy street, for as Whyte said in his earlier work, if the city doesn't spell out in detail its precise requirements, developers will interpret the guidelines to their convenience (Whyte, 1980).

Good urban design must, therefore, be supported by legitimacy. Legitimacy is, so far, not established. In its infancy, it means all things to all people. The following paragraphs are an attempt to pin it down.

Urban design combines political persuasion and spatial vision. It is the art of coalescing many disparate vested interests into cohesive physical, spatial and environmentally sustainable relationships. Scale and familiarity come into play. The scale of an urban environment depends on the humane manner in which it is designed and the economic circumstances of its underpinning. Familiarity can come from frequent use of a stable neighbourhood and security of tenure. Economic underpinnings can be affected by who owns what, therefore who decides what, and were is work in relation to where to live.

Spatial vision is expressed as art: the composition of lighting effect and our movement within its spectrum, and the way we convert technique and motivation into public urban space.

The practice of urban design consociates architecture and urban planning. It co-ordinates architectural design, movement and activity into predetermined forms. The urban designer co-ordinates separate acts of development into a whole that adds up to more than the sum of its parts.

But administering urban design under the current ponderous civic bureaucracy is demonstrably inadequate. Indeed, unless integrity is returned to the process, no amount of administration will suffice. Caving in to cavilling special interests will lead to a breakdown in the system. Rules without purpose, or worse, rules with a hidden agenda, lead nowhere. I believe that only by virtue of first envisioning the direction in which requirements must proceed is there any point having them in the first place.

Practical mandatory requirements must be motivated by the shared vision. They should then replace guidelines, for as William Whyte says, and I reiterate, if we do not spell out in detail precise requirements, developers will interpret guidelines to their convenience (Whyte, 1980).

Mandatory urban design requirements acceptable to those affected and simple to administer should therefore be formulated, and they must be proscribed by a monitoring process to ensure the intent materialises. Here is a list, and I refer the reader to my book *The Canadian City* (Kemble, 1989) for a more comprehensive explanation of what follows, to replace the current vast volume of mostly ineffective regulations.

1. **Interim land use.**

   Requirement.

   Undeveloped land shall be allotted interim use, planting, *etc.,* and provide useful temporary amenities. Demolition of existing buildings shall occur only when a viable replacement is inevitable.

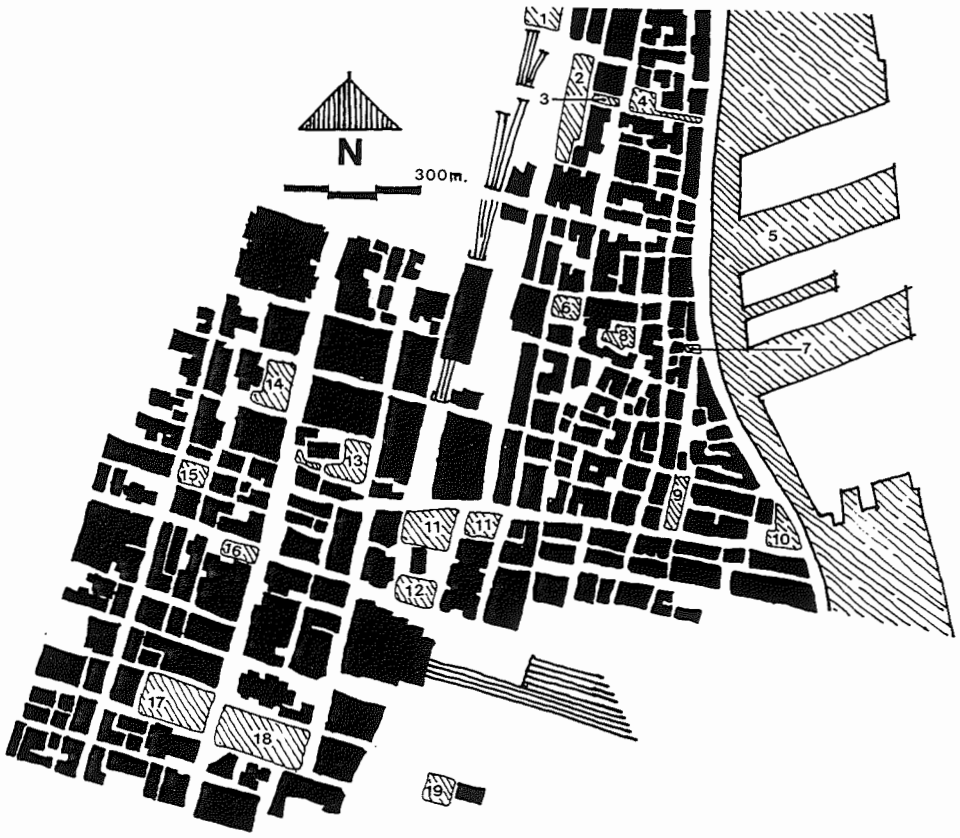

Figure 8: Montreal: Downtown and Old Town. Building footprints, the black forms, describe and emphasise the network of public urban spaces. Montreal is reputed to have 250 named urban spaces. Most remain unrecognised: e.g., *Place Mon. Charbonneau* (16), which is a taxi drop off and *Champ-de-Mars* (2), a parking lot.

Square Viger (1), *Place Vauquelin* (3), *Place Jacques Cartier* (4), Old Port (5), *Place d' Armes* (6), *Place Royale* (7), *Notre-Dame* garden (private, accessible to public) (8), *Place d' Youville* (9), *Potential* (10), *Square Victoria* (11), *Potential* (12), *Saint-Esprit* garden (13), *Gésu* garden (14), *Square Phillips* (15), *Square Dominion* (17), *Place du Canada* (18), *Square Chaboillez* (19).

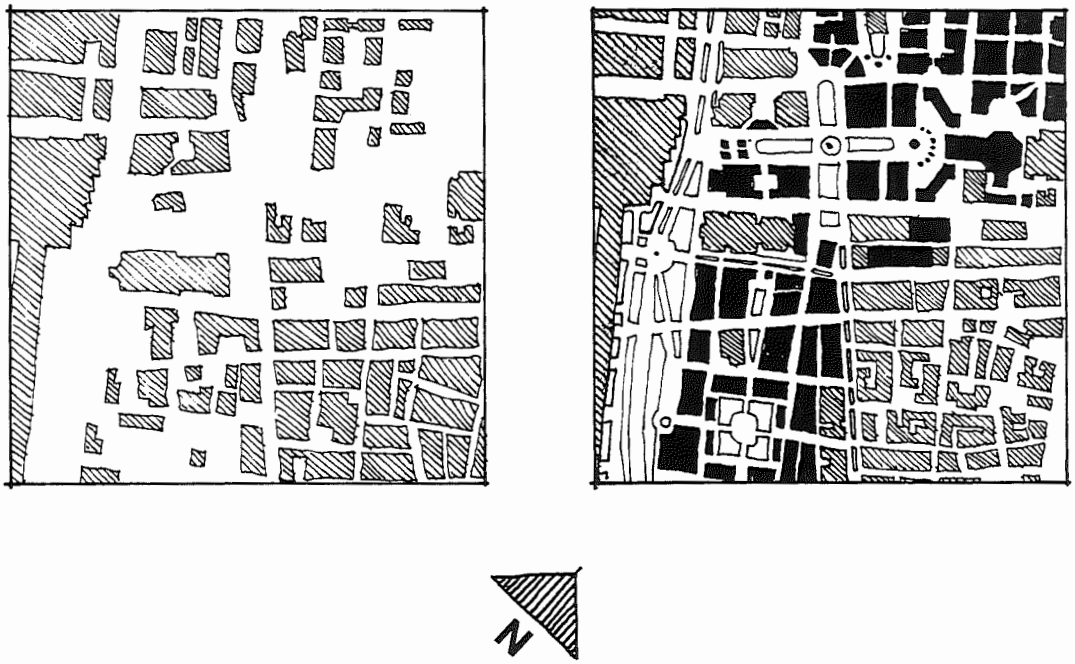

Figure 9: Networking spatial nodes. Left: Building footprints in the vicinity of Square Victoria, Montreal, 1993. Right: Steven Peterson's (Peterson, 1990) remarkable designs for urban repair. Many large parcels of urban vacant land (e.g., railway lands) could also be readily adapted to this principle.

Sitte (Collins, 1986) and Trancik (Trancik, 1986) describe an inventory of historic urban spaces. But to slavishly replicate their shapes and to follow conventional orthogonal grids would miss opportunities, opened up by the "Principle of Sustained Interest," to address contemporary needs.

Reasoning.

Much urban land lies dormant: mud flats, storage, underutilized. Many cities suffer from this blight, sometimes for decades. In the time between acquisition and development (which should be truncated, see Requirement 2), vacant land should provide urban amenity and not be allowed to become an eyesore.

A recent incident brought this home in Vancouver. It was found that the stones used to vandalise the shops on Robson Street during the Stanley Cup riot in the spring of 1994 had come from dormant underutilized land close by. Needless to say, merchants are now petitioning city hall to do something about such a blight.

2. **Land development.**

Requirement.

Land shall be developed incrementally, as in-fill and within a prescribed perimeter of urban development. Land titles shall not exceed "x" hectares in area. Ownership of titles will be restricted within a "y" radius. A time limit "z" shall be imposed between acquiring ownership and development, with a restriction on how many changes may occur.

Municipal land shall be developed leasehold.

Municipal taxes shall be applied on an upwardly sliding scale to undeveloped land and on a downwardly sliding scale to buildings and improvements.

Public urban spaces, spatial nodes, shall be developed as humanely scaled areas, recognisable to the public as places where they may transact, informally and with freedom, the activities of their daily lives. These spatial nodes shall be strategically located to connect as a network of communications (see Figure 8). Spatial nodes shall be established, in existing urban areas, as opportunities arise (see Figure 9).

Reasoning.

Concentrate on planning, not planning departments. Urban planning has degenerated into little more than *ad hoc* reaction to an economic determinism imposed by development and real estate interests.

"*Ad hocism*" is vividly demonstrated by the Vancouver Land Corporation's (set up by the city to provide affordable rental housing) casino, convention and cruise ship facility currently proposed for the Vancouver waterfront. This proposal is particularly audacious, because for-profit gambling is illegal in B.C. (as of the date of the DPA, early 1994). But just as importantly, a large gambling facility was never mentioned in CityPlan. In fact, such a facility will destroy many of the neighbourly values so often expressed by CityPlan, by virtue

of its imposing size and proclivity to drain foot traffic and economic activity from the smaller surrounding businesses.

The demonstrated result of *ad hoc*ism by large-scale intervention is urban economic stagnation, dull monotone development and an ever decreasing viable tax base (Kemble, 1991). No one corporate entity, authority or individual can envision, even into the foreseeable future, the variety appropriate to urban viability. Therefore, successful urban design depends to a very large extent upon incremental ownership, design and development. But incrementalism must start with ownership.

Another element of land development is ideology: i.e., market forces. Although urban land development is supposed to be market driven, attention should be given to the way hidden tax loopholes and subsidies are, in fact, militating against the diverse economic fabric of "main street." (Lest there be any doubt as to what constitutes a successful "main street," look to Commercial Street, Nanaimo, B.C. or St. Laurent [the main] Montreal).

It is well known that large box warehouse retailing on the outskirts of town is killing the traditional retail main street. What is not as well known is that it is invariably the tax structure and subsidised infrastructure that make these monstrosities profitable (to say nothing of their exploitation of the Third World environment and cheap labour). We must take a closer look at how the market economy is structured!

Furthermore, this is yet another issue that brings into question the integrity of the planning process, for where, on the one hand, expectations are raised as to the sanctity of the neighbourhood, planning departments are busily approving these box warehouses, the effect of which militates against the neighbourhood.

On a regulatory level, a set perimeter of urban development is essential to avoid sprawl and maintain sustainable communities.

3. **Environment.**

Requirement.

Spatial nodes shall be designed as microclimates. Size and location shall follow function and dimensions of human scale. Buildings shall wrap around contiguous public and private urban spaces as noise buffers, privacy screens and sunlight deflectors. Spatial nodes shall be designed as garden-like areas, whose uses and climates differ. Planting, paving and building volume shall be composed towards this effect.

Circulation rights-of-way shall occupy no more than "a" percent land area in new developments (Urban Landscape Task Force, 1992). Road beds in existing circulation rights-of-

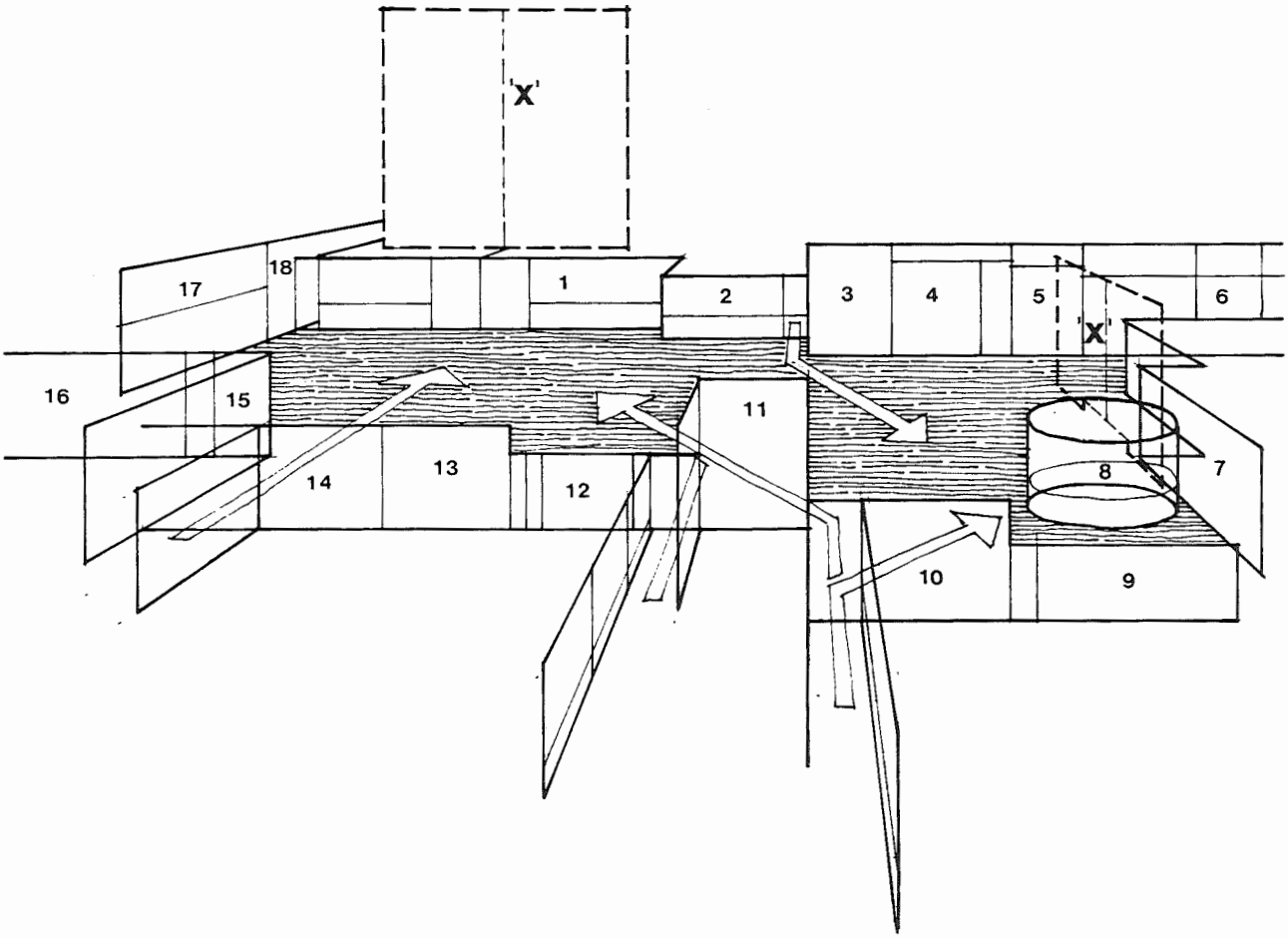

Figure 10: IBEX. The Imaginary Building Envelope defines edges of urban space, and volume and heights of surrounding buildings. Grid lines guide architectural features and co-ordinate separate developments into a cohesive whole. Arrows show views directed to design features. There are 18 separate land titles surrounding this urban space.

way shall be reduced in area by "b" percent, and residual land shall be turned over to pedestrian use, planting, paving and recreation.

Reasoning.

Planners see public urban space as splotches of green on a zoning map, manicured like The War Grave Commission's cemeteries and used to walk the dog on a Sunday afternoon. This attitude must change. True public urban space is at the centre of, is crossed by, and is surrounded with all aspects of city life; Grand Parade, Halifax is a fine example of what I mean.

Well scaled spatial nodes encourage humane use. Thirty-three percent of urban land in existing cities is consumed by traffic circulation. This is mostly the result of careless planning. Better planning will put this land to a more useful purpose.

4. Form.

Requirement.

An imaginary building envelope, acronym IBEX, shall describe the essential volume of space and the height of its surrounding buildings. An "X volume" shall be allocated as a free design zone. Roof lines, bays, canopies and other architectural features may project "p" percent.

The IBEX shall describe continuous build-to lines (Barnett, 1982) defining the outer limits of urban spaces, public and private. Guiding lines shall set the line up of architectural features.

Building volumes attributed to parcels of land shall be outright allocations: non-negotiable.

Reasoning.

Modern architecture has not been kind to the city. Modern buildings were designed with vast expanses of dead space in front, for no apparent purpose, causing buildings to be set back from the street in a haphazard manner. This space seldom has any coherent form and it never relates to the direction or shape of the public space, be it street or square, to which it fronts. The effect is that pedestrians can no longer look down the street and be confident that it continues. The public square, that traditional haven of pedestrian activity, has been lost in this melange, so that what ever public space remains is unrecognisable and unusable.

The IBEX (Kemble, 1989) (see Figure 10) is a simple urban design tool that facilitates the co-ordination of the building to public urban space. It brings discipline into chaos and helps the many urban designers who make their built contribution during various phase of develop-

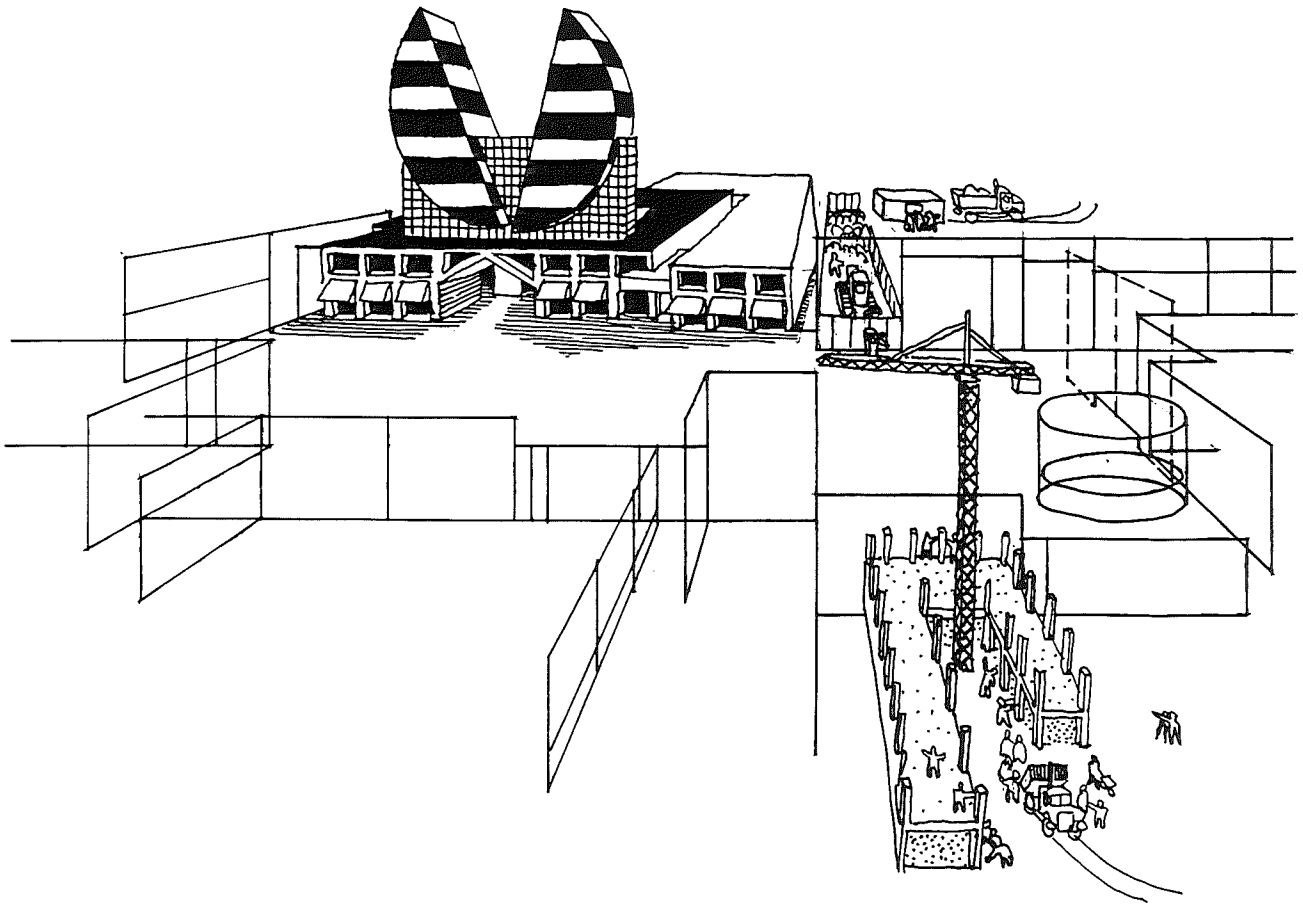

Figure 11: Development at a stage between Figures 10 and 12. Urban development never accretes simultaneously. Here is shown the extent of development, say, half way through the process. Site 1 is fully developed. Site 3 building is just beginning and site 10 construction is well underway.

Subsequent designers will still be guided to complete the concept, whenever that might be, without straying off on some unrelated tangent. Still, there is no overbearing master-mind cramping the style of creative designers.

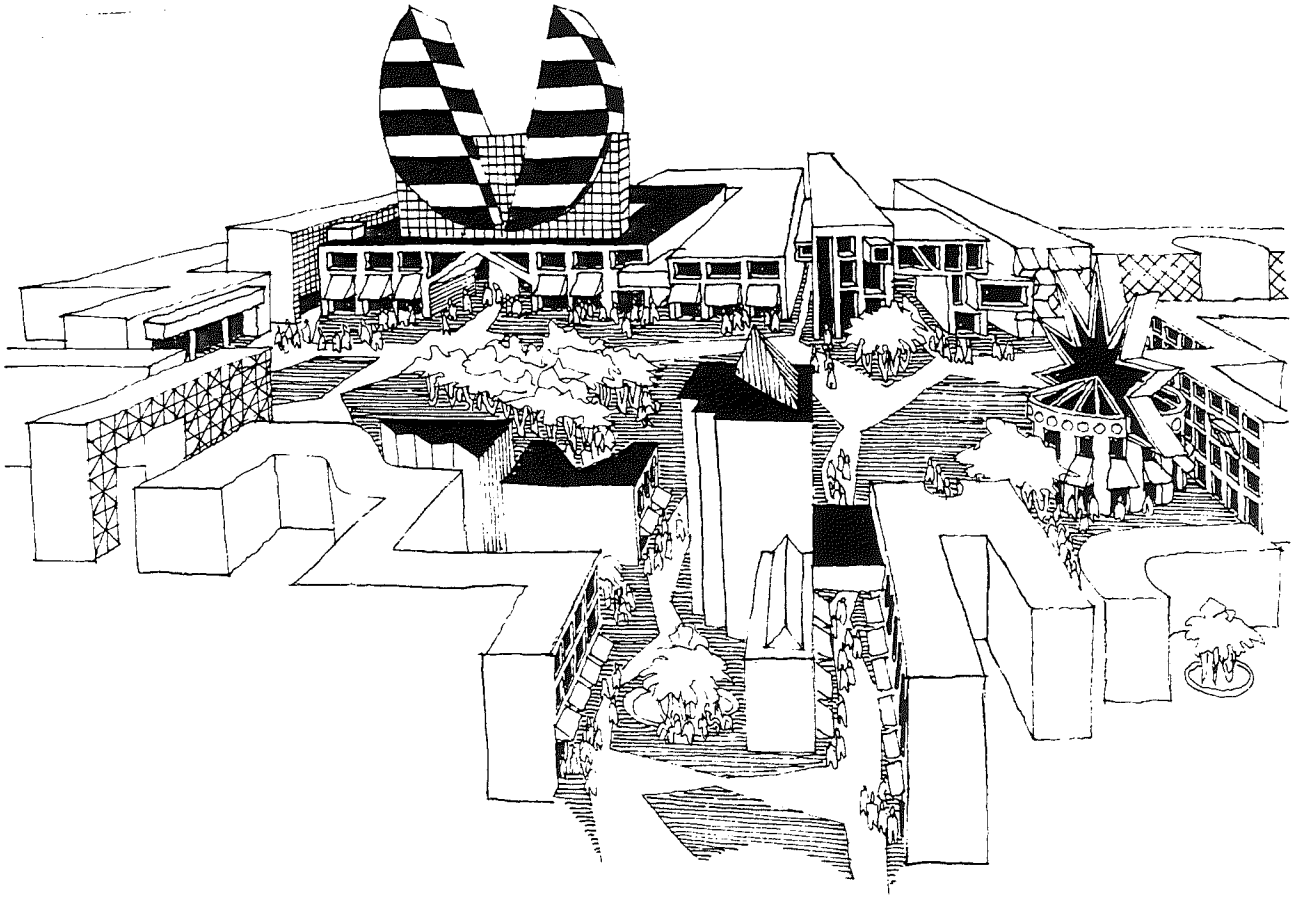

Figure 12: My interpretation, development on the face of the IBEX (see Figure 10). Note: the variety of these building designs is constrained by my own limited imagination. The purpose of the IBEX is to co-ordinate the efforts of many imaginative designers.

development, over extended time periods, to co-ordinate their efforts. As development progresses, some buildings are completed and the IBEX (see Figure 11) preserves the integrity of the undeveloped building sites for further designers. Eventually, the space is completed to the original conception (see Figure 12), and the IBEX makes allowances for individual designer idiosyncrasies without imposing a "normative."

Another point of reasoning in this respect is statistical land-use zoning. The use of FSRs, densities, commercial/residential ratios, *etc.* as a means of development control have failed to produce the desired effect. It is here that planning academics have failed, in that they have not questioned this system.

Volume and space are more effective tools to describe the urban environment. Building envelopes have successfully described development on Granville Island, Vancouver, for a decade (Kemble, 1980).

Transfer of development rights, air rights and bonuses have not proved satisfactory (Barnett, 1982) in distributing building volumes for aesthetic purposes or community facilities in the right place (see Requirement 5). After their application, it is found impossible to account for the accruing extra space. New York, the city that first experimented with these techniques, abandoned them decades ago.

The appearance of urban space has, up to now, been an unappreciated civic asset. Accordingly, the aesthetic disposition of building volumes shall be composed to encourage the amelioration of this situation.

5. Use and Occupancy.

Requirement.

Use and occupancy shall be open. Any use may prevail, restricted only by noise, nuisance and sustainable environmental amenity. Single use, excepting farm and industrial, shall be prohibited. Buildings of "v" volume shall provide "w"' community facilities.

Reasoning.

Sustainable development is an oft spoken subject but seldom acted upon. Little do we realize how the use and appearance of an urban space can add to sustainability. If we enjoy our surroundings, if we live in the vicinity of our work, if all the small amenities of life were close at hand, would that not diminish our dependency on the automobile?

Incremental economic activity, creative manufacturing of a nature that brings new wealth into the community and locally controlled financial institutions (and let me make one thing eminently clear, the popular notion of economic revival based on service industries, legal

haggling, flogging real estate, retailing jewellery and flipping hamburgers, is untenable) have so far not been considered as a means to ameliorate the urban environment; nevertheless, they would be potent motivation for improvement.

Besides, few world cities segregate land use. Single-use land zoning has resulted in stagnation. Use next to amenity reduces time wasted, and human resources, commuting. Residence next to work, education, recreation, *etc.* widens lifestyle choices.

Manufacturing establishments networking closely with subcontractors and employees' homes enhances efficiency.

Home businesses offer individuals more control over their lives. Integrated manufacturing, *e.g.,* watch making in the small cantons of Switzerland, just-in-time inventory techniques that reduce space requirements, less environmentally damaging production such as creative, entrepreneurial manufacturing, information processing, movie making and animation can be carried out in homes designed for that purpose.

The proliferating dormant mud holes that regale just about every city in the country must be turned over to useful purpose. Too many are held by cumbersome corporations that lack the skills, imagination or motivation to do anything with them. If individuals are given the opportunity, free from negative, not-so-diligent planning departments, to develop incremental, diverse opportunities of their own making, no doubt at least some of the economic disparities plaguing us will be addressed.

6. **Movement.**

Requirement.

Rights-of-way shall be multi-purpose. Traffic will not be separated except for pedestrian use. Traffic rights-of-way shall be punctuated by nodes (urban squares, plazas, *etc.*) for meeting and repose.

Reasoning.

Conventional, 18 m wide and more, streets and dual carriage ways are unnecessary. Most downtowns have made do with narrower streets for centuries. Separation of traffic wastes land and segregates neighbourhoods. A more integrated form of right-of-way is appropriate (Mackey, 1990).

The best transportation planning is to plan for no transportation at all. This, of course is unrealistic. Still, far too much emphasis has been placed on moving people and goods, and not enough on coalescing urban functions in proximity to one another. Much urban transport is superfluous, simply because transportation planning has followed habit rather than well thought out patterns.

PLASTIQUE.

Ambience. Propinquity.
Surface. Chiaroscuro. Metre-Proportion.
Enclosure-Vista-Views.
Scale.
Icon.

PALLETTE.

Materials.
Colour-Texture.
Permeability.

EMPLOI.

Grain. Motion.
Ritual.

Figure 13: Elements of The Principle of Sustained Interest. The purpose of this list is to remind the urban designer of the basic elements in his palette. That she use them is mandatory. How she uses them is a mark of genius!

The above six requirements address macro-scale. All are to some extent interchangeable; I have placed them under headings for clarity, and merge to and fro within their purpose.

There is, however, another dimension to that described above, and that is the pedestrian or micro-scale.

This I address with a set of principles—something to guide urban design into a more humane and possibly original expression of local contemporary needs. I also hope the principles will rescue the architectural profession from its slavish worship of fads, heroes and, indeed, everything that glitters so it will get down to the substantive issue of ameliorating the urban environment.

This set I call "The Principle of Sustained Interest" (Kemble, 1989) and it states that surfaces enclosing an urban space must have a lasting and stimulating quality. It ensures that architectural treatment holds our interest beyond first glance, and encourages exploration of detailed complexities.

A common mistake made in drafting urban design guidelines is to call for "character" and a "main street" atmosphere. Well intended as these guidelines may be, they are overwhelmed by the pervasive effect of corporate logos and signage. Streets and malls, from St. John's to Nanaimo, are indistinguishable from one another because logos appear repetitively.

Accordingly, I have complied a check list (see Figure 13) of elements to facilitate the Principle (Kemble, 1989). Addressing each item on the list is mandatory, interpretation is at the discretion of the urban designer. A detailed account is covered in my book (Kemble, 1989). The following is a précis.

Volume and space comes under "Plastique."

Urban objects are habitually viewed in isolation, even though human vision extends through 180 degrees. Facades of buildings together with streets, sidewalks and paving add up to the sum of public urban space.

Surface, metre and proportion guide the composition of the enclosing elements. That composition establishes spatial ambience.

Ambience and enclosure-vista-views emphasise building propinquity, neighbourly relationships and spaces between.

Chiaroscuro adds light play on surfaces: metre is the rhythm set up by column bays, doors and windows, *etc.*, and proportion is the optic appraisal of one form in relation to another.

Dimensions of the human form circumscribe scale. Managing scale is made easier, dividing buildings into scale at street level, the mid-portion and roof. Each should be scaled according to proximity to the pedestrian level and related structures.

Successful urban spaces abide by no general rule. But it seems to me scale is the governing

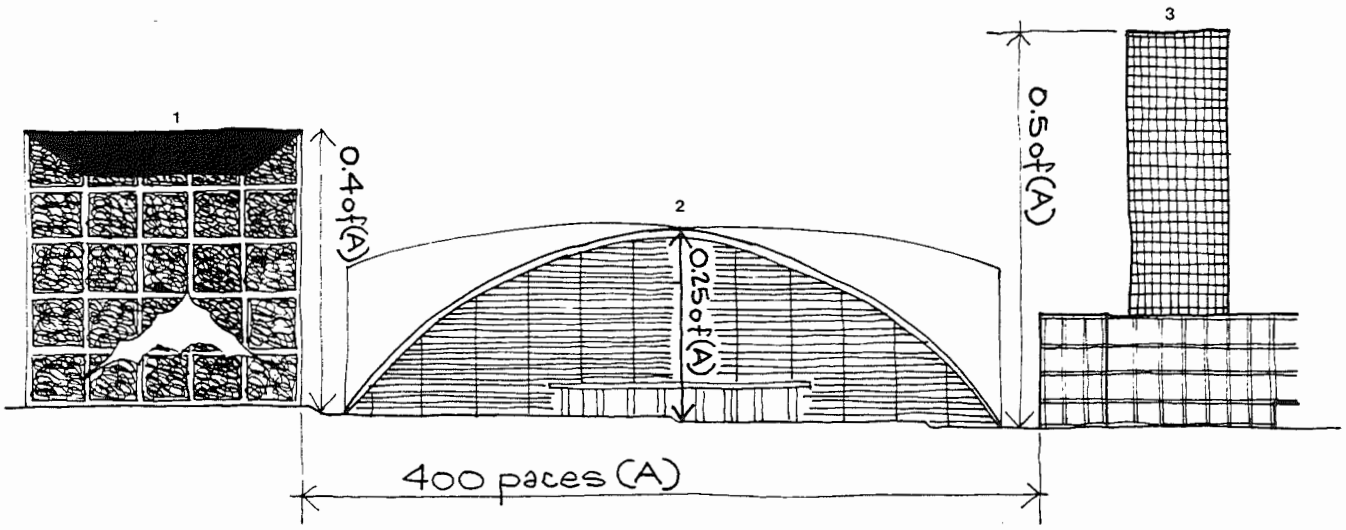

Figure 14: Comparative section. *Le Parvis, La Defense.* This section is scaled the same as *Place d' Armes* (see figure 15). Compare their scantlings.

La Grande Arche (1), International Communications Centre (2), *Fiat* (3).

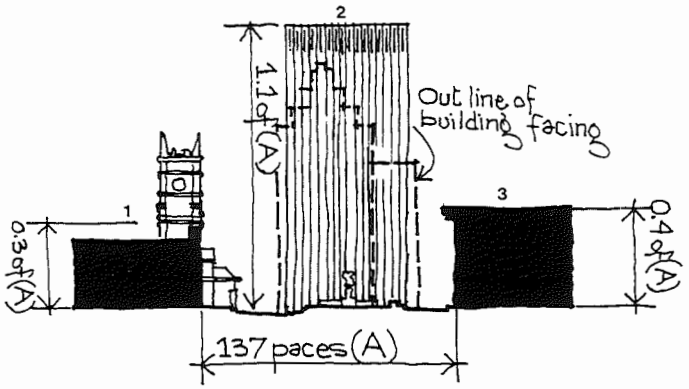

Figure 15: Comparative section. *Place d' Armes.* Although not apparent here, all the attributes of the "Principle of Sustained Interest" are present. *Cathedrale Notre-Dame* (1), *Banque Nationale du Canada* (2), Bank of Montreal (3).

factor. Compare *La Defense* (see Figure 14) with Montreal's *Place d' Armes* (see Figure 15). These sections (one pace is 0.75 m) show obvious differences in relative dimensions. Overall dimensions in relation to human perceptions are, surely, what count, and in my opinion, the latter (referring to scale in Figure 15) is eminently more humane, probably because scale enhances the sense of enclosure.

Icon, in this context, represents values of style: traditional or heritage. Preferably it would be original, responding to the local environment, resolving conditions of the time and place.

Applied surface treatment is described under "Pallette." It refers to the paints, chalks, and clay if you like, that alter the appearance of the surfaces. Materials range from masonry, to signage, to metals. Colours and textures are an inherent part.

In this regard, corporate logos need not reduce public space to monotony. Piccadilly Circus is a profusion of imaginative lights. Monoprix (a pervasive supermarket in regional Paris) doesn't advertise overtly in the same way as Loblaws and Safeway in Canada. Still, *Le Parvis* is so demure as to be self-effacing, yet it does not suffer from lack of recognition.

Permeability describes a beyond-first-glance experience. It demonstrates the designer's ability to arrange the surface in a manner that absorbs our attention beyond first impressions.

Use of urban space, that is, what mix of events and traffic we wish to converge on a given spot, comes under the heading "Emploi."

Under that heading, the term "grain" refers to the nature of traffic: coarse grain describes a mix, autos, trucks, cycles and pedestrians. Fine grain describes single use: pedestrians or autos, but not both.

Motion describes the velocity and direction within an urban space, be it roadway or plaza. In this context, the city of Utrecht, Holland, experimented with a "shared surface," or coarse grain, "*Woonerf*" system on 200 streets. As speed of traffic decreased, safety for pedestrians increased (Smith, 1986). This method of mixing the traffic in order to reduce its velocity was also applied on Granville Island, Vancouver.

Ritual is activities we plan to occupy an urban space: direct movement or movement around a fixed point.

Direct movement is purposeful. For example, moving on a straight line from point "A" to point "B."

Fixed point movement is arbitrary, as in an outdoor restaurant with seated activity, waiters, diners coming and going within a prescribed perimeter.

The above explanation of the Principle of Sustained Interest rounds out my attempt to complete the circle. In conclusion, I ruminate: to what extent can these requirements can be made mandatory

and enforceable, which causes me to ask, why do we build?

Accepted history claims that medieval builders created for the glory of God. Baroque architects, through their ingenuity and use of geometry, built to celebrate the power and infallibly of monarchs and popes.

Why we build remains unclear to me. We have ideals, we have values but we seem always to ignore them (hence our inability to decide whether or not to enforce shared values by making their use mandatory in the building process). Do we build to celebrate ever-increasing land prices and the beatification of the real estate industry (Wolfe, 1988)? Is the epitaph of our era "We knew better?"

I believe we share much greater ideals for our cities. But ideals must be supported by urban design techniques and they, in turn, depend on favourable conditions. Favourable conditions speak to the veracity of a city's public discourse and the clarity of civic purpose. Rules won't make much difference without a resurgence of respect for the built environment.

Respect for the built environment is a comforting thought, and when it is supported by the general public, it is potent. True, we have been casual in the past. We have delegated responsibilities to institutions that have long since outlived their purpose. I have little confidence in the currently structured design professions, and I firmly believe that planning departments and developers are a negative influence. But there is a growing restlessness. We know there is something better out there, even though it hasn't, so far, been pinned down, and that is cause for hope.

I place my hope in an as yet unformed elite. But it must be tuned in. It must build a constituency, for without the support of the—even apathetic—public, its idea will die on the vine. To say people make the difference is to utter one of the greater platitudes, but it is essential and very true.

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THE ROLE OF URBAN DESIGN IN THE CREATION OF SUSTAINABLE COMMUNITIES

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INTRODUCTION

The current global concern with sustainability offers an opportunity to redress the position of urban design within planning. This interest is creating a growing awareness of the critical link between environmental degradation and development patterns. Incorporating urban design principles with sustainability approaches could be essential ingredients to more material, social and energy efficiency. Urban design principles are too often, however, overlooked in lieu of more technological solutions. It also remains to be demonstrated whether approaches to urban design that are sustainable can be incorporated into existing development initiatives and decision-making structures that are hierarchical and largely driven by economic imperatives.

Urban design has too often been narrowly perceived as an adjunct discipline in the making of communities and as the "finishing trade of the planning process coming in after the fact to ornament and make palatable a shapeless conglomeration of buildings and open spaces" (Greenberg and Gabor, 1992, p. 26). Recent design and planning initiatives such as neo-traditional town planning and pedestrian pockets are attempting to restructure urban relationships by creating more efficient and livable communities. The resurgence of interest in the design of these human-scale communities reflects a deep dissatisfaction with planning and development approaches that have become divorced from the essential ingredients of livability. The preoccupation with legally enforceable documents such as official community plans and zoning by-laws that focus almost exclusively on land uses and transportation networks have often been detrimental to the development of a built form responsive to changing socio-economic and environmental conditions. Rather than using urban design at the end of the development process, urban design strategies should be fully integrated into community development.

For this to occur, the role of urban design needs to be redefined within the discourse of planning. To comprehend the planning regulations and policies being put into place, the built form implications must be clearly articulated. Integrating urban design into the planning process facilitates more workable design concepts and accompanying regulatory frameworks. This is different, however, from the way most urban designers have approached their discipline. They have seen themselves as the shapers of the physical structure that will guide other planning initiatives. As a reaction to the deterministic stance of these physical designers, planning regulations have sought to control physical design. What is needed is not a return to the dominance of physical design, but a recognition that policy and design must be entwined.

Planners tend to fall back on "band-aid" solutions, often viewing societal and ecological problems as mutually exclusive. For example, solutions to transportation problems have emphasized improved road circulation without recognizing the impact of urban form and land use on the use of various transportation modes. A sustainable urban area cannot evolve unless there are processes reflective of an ecological ethic that respects the local community, and views issues in a holistic manner. To foster a holistic approach, urban design has to become more than a formalistic response to existing conditions. Its role potentially could become one that creates opportunities for the recognition of the interconnectedness of natural and human processes. In this context, a new form of urban design aesthetic would have to develop with solutions appropriate to communities based on a new set of priorities. While much of the critical work on community design will have to be directed at reshaping existing communities, it is in the development of new communities that responsive planning and design frameworks can be created which can act as models for these new planning directions.

RESPONSIVE COMMUNITIES

In order to develop an integrative approach to urban design, there needs to be a recognition that efficiency in itself is not a useful evaluation of the livability of a community. Instead, the goal should be to create responsive communities that can adapt and change with new priorities. A dense built fabric, less separation of uses, less infrastructure and less movement become the key to creating these communities. The urban areas designed with this perspective consume resources, energy and food, and produce waste and pollution within the carrying capacity of their region. While it is recognized that physical design will play an important role in the development of such communities, equally important will be the creation of processes that will accommodate change as communities evolve and adapt to new social, ecological and economic realities. These processes need to include characteristics of incrementalism, adaptability and participatory democracy.

Incremental growth attempts to replicate an evolutionary developmental process which recognizes that communities evolve gradually in response to the development that preceded it, as well as to the changing needs of residents. Public participation recognizes that those who will be affected by development should have the right to participate actively in the planning process. An open, accessible process has to be instituted that puts effective decision-making power at the level of government closest to the lives of the people affected by the decision.

Regional integration implies a symbiotic relationship between urban and rural areas, and greater sensitivity to the uniqueness and integrity of each region. Community economic development in a

sustainable context means moving towards a greater reliance on local self-sufficiency. The integrity and diversity of the environment needs to be maintained and enhanced through careful resource management. Such a community would not only strive for an ecological balance, but should also maintain a minimum level of equity and social justice by meeting the full range of human needs. To foster this, the development of a built and open space fabric that allows for adaptation and change becomes critical.

In the urban realm, the concept of sustainability is often in contradiction with prevailing development patterns that emphasize separation of land uses and modes of transportation. These planning practices, a consequence of the belief in the benefits of limitless economic growth, are now considered to be a wasteful use of land and duplication of resources. A sustainable urban community as defined by Rees and Roseland (1991) emphasizes the efficient use of urban space, the reduction in the consumption of material and energy resources, community livability, and the organization of administrative and planning processes which can deal sensitively and comprehensively with socio-economic and ecological complexities. The three building blocks of such a sustainable community would be the recognition of ecological limitations, economic viability and social equity.

AN INTEGRATIVE URBAN DESIGN APPROACH

To approach urban design in a manner that recognizes the interconnected of society requires a return to the organic idea of the city that respects the human scale and the level of the household, community and neighbourhood. While urban ecologists and landscape architects have demonstrated the importance of integrating natural processes in city design, and have begun to work out the repercussions of ecological design on urban aesthetics, their work has yet to be brought to the centre of urban design concerns (McHarg,1971; Spirn,1984; Hough,1984). Inclusive approaches to understanding the city and its environs as a naturally balanced and ecologically sustainable environment are now being developed, but they, too, are not part of traditional urban design interests (Todd and Todd, 1984; Van der Ryn and Calthorpe, 1986; Yaro *et al.*, 1988). Environmental design researchers have examined the connections between physical form and the social ecology of cities such as neighbourhood interactions, friendship formation and the development of communities (Alexander *et al.*, 1977, 1987; Appleyard, 1976, 1981; Michelson, 1970, 1977). Some of this research has been incorporated into current thinking on urban design, but a stronger link needs to be made with ecological concerns.

Bioregionalists (Sale, 1985) are questioning the current world view and postulating a new

paradigm based on a deep understanding of each "place," and its own set of interrelationships informed by geography, geology, biota, lore and myth that makes up the place and gives it identity. Based on this understanding, it is then possible to act in a spirit of co-operation with neighbours and other living things to reharmonize oneself with a particular place. Hough (1984) has developed principles of regional design based on knowing the place (landscape and people); maintaining a sense of history; recognizing that processes must respect the inevitability of change; basing decisions on environmental education and direct experience; doing as little as possible to disrupt the existing condition (economy of means); and trying wherever possible to be sustainable.

Todd and Tukel (1981) advance adaptable design based on an incremental approach. Elements of this approach include multifunctional design that is renewable over time; transformable design that can be easily converted (e.g., from industrial to residential to commercial); and an approach that has discrete goals that can maintain flexibility. Responsive environments are typified as having several important features (Bentley *et al.*, 1985). Permeability (i.e., the ability easily to flow or circulate through an environment) cultivates choices in the urban environment relating to the overall layout of routes and development blocks, and the interconnecting layout of routes. Variety allows for a maximum mix of uses. Legibility in the environment creates an identity and a sense of place. Finally, responsive environments are accessible and easily within walking distance to neighbourhood and town centres.

The neighbourhood is now being conceived by proponents of the "ecocity" (Register,1987) as an integral urban neighbourhood or an urban eco-village that is a socially, politically, economically and ecologically integrated whole, complete unto itself as well as part of the larger system of the city. The urban village was initially a sociological term for North American inner-city neighbourhoods coined by Herbert Gans (1962). More recently, it applies to a design concept for creating compact, mixed-use, pedestrian-oriented forms as an alternative to conventional neighbourhoods of single-family homes.

Recent urban design initiatives have sought to transport urban life to a by-gone era. Duany/Plater-Zyberk's neo-traditional town planning (Krieger, 1991) and Calthorpe's proposals for Transit-Oriented Development (Kelbaugh, 1989) represent a return to the amenities of small-town life. They want to shape new suburban growth into compact, tightly woven communities with housing, offices and stores within walking distance of each other. Their goal, to create neighbourhoods where the automobile is discouraged by replicating traditional street patterns that emphasize public spaces, is seen as fostering a sense of place and community identity.

This approach to community, based on past historical references to idyllic village life, negates an experiential understanding of contemporary society. It remains to be determined whether these

historical principles can be applied to a vastly different socio-economic structure dependent on a two-income household, to maintain basic necessities and technological innovations such as the computer, which free people to pursue activities that transcend the limits of specific locales. The question also remains whether these new planned communities are sustainable. They still have a wasteful duplication of infrastructure and services, often an inefficient transportation system with a dependency on the automobile for trips outside the community, and scarce social services and cultural amenities. Nor do they address ecological concerns that critique the dominance of the private house and lot as the building block of a community. In addition, the design of these new communities tends to disregard the context where they are developed, creating communities that are ahistorical and that often lack socio-cultural appropriateness.

These approaches, while advancing our understanding of designing communities, must still be viewed as technological "fixes," cure-alls for suburban blight, and its social and ecological problems. These approaches do not address the fundamental value shifts that are needed to accomplish significant changes in planning and design priorities. Similar to more conventionally planned suburban developments, they assume that the housing consumer will "buy into" the lifestyle of the designed community. To support the vision of this new form of suburbia requires widespread acceptance of higher densities and a range and mix of housing types within a single neighbourhood. Even modest efforts to implement these initiatives in Canadian cities have come up against strident NIMBYism ("Not In My BackYard"). Rather than a move towards increased diversity within neighbourhoods, the tendency has been towards polarization and clustering within neighbourhoods of similar socio-economic and cultural populations.

Changing deeply ingrained values that uphold preferences for single-family homes and automobile use may require more than the restructuring of communities. Neo-traditional town planning appeals to a yearning for traditional values and small town life. Sustainable community planning requires acceptance of new values based on responsible consumption, and concern for the environment and the next generation. While changing the model of the city-as-a-machine to one of the city as a collection of self-sustaining villages may precipitate shifts in priorities, it may require more dramatic initiatives for more fundamental value shifts to occur. These value shifts include the recognition of the limits to growth, and the acceptance that urban dwellers have responsibilities as well as rights in the community to which they belong. By failing to grasp the powerful influence of historical, cultural, socio-economic and technological forces that shape development, the solutions offered often inadequately address the complexity and diversity that define urban life.

Precipitating value shifts requires more than designing pedestrian-oriented communities.

Processes need to be developed that allow communities to evolve and change as priorities change. Comprehensively planned communities do not allow for this flexibility. Rather than pursuing a mechanistic approach to planning that stresses efficiency, an approach is required that highlights equity and sustainability. An integrative urban design has to be based on a new set of criteria that allow for a series of incremental adjustments to be made to planning and design practices. This incremental approach, however, should have a vision that will guide action. The following sections outline such an approach.

INSTITUTIONAL REORGANIZATION OF DEVELOPMENT DECISION-MAKING

This perspective recognizes that there is a symbiotic relationship between urban, suburban, exurban and rural areas, and that the form generated in urban areas directly affects surrounding communities. For example, studies have shown that when residential density is increased, private transportation use is reduced (Wackernagel, 1993). As a consequence of this symbiosis, making development decisions on a municipal basis may be outdated. The boundaries of cities are often arbitrary, and it is questionable whether pressing concerns can be dealt with within their scope. Issues such as transportation, land use and pollution are better dealt with at the regional level, while other issues such as building form and use would be more adequately addressed at the neighbourhood level. This would require new forms of municipal governments with a greater emphasis on neighbourhood entities, and reallocation of appropriate decision-making powers from the municipal to regional levels. Existing zoning measures that guide development decisions may also be outmoded. Performance-based standards, with criteria which specific projects must meet, may be a more appropriate vehicle to develop land responsibly.

INTENSIFICATION OF USES

Uncontrolled growth is the most pressing issue facing most cities in the world. Urban design can play a powerful role in demonstrating alternatives to the low-density sprawl that dominates most urban areas. Reurbanization has become one of the operative words (though there is disagreement among scholars on its usefulness) to describe a host of urban intensification measures that look at the issues widely, in the context of changing socio-economic and environmental concerns. These measures include encouraging a shift to more mixed-use developments and away from single-purpose exclusionary zoning; and the transition from a monocentric to a multicentred urban form (Bourne, 1993).

Proponents of reurbanization describe it as "a comprehensive and long-term approach to new development, a series of steps that begin at the city-wide scale and proceed down to the integration of each individual redevelopment area within its immediate neighbourhood" (Lewinberg, 1993, p.11). In this approach, growth is to be redirected to locations where it will be the most beneficial such as along a transit corridor, allowing low-rise residential neighbourhoods to remain intact. With the integration of transit and growth planning, the relationship between work and living places can be improved. For this approach to be instituted requires proactive planning by the public sector to create appropriate conditions for private development.

A fundamental principle of reurbanization is to achieve a balance between employment uses and housing. In Toronto, 1.5 residents per job in a given area at a scale defined by a walking distance of 1 km was proposed (Berridge, Lewinberg and Greenberg, December 1991). In this report on reurbanizing Metropolitan Toronto, recommendations are made on establishing "gross reurbanization density" at the macro level of an entire urban centre or transit corridor, and then suggesting "site-specific densities" primarily based on an urban design plan for the reurbanization area. The gross density incorporates both resident population and employment population per hectare. Included in the urban design plan are the pedestrian and vehicular circulation system; the open space system; the distribution of uses; the distribution of net floor space index densities; overall height and massing of buildings; the relationship between buildings and the street; the relationship between the new development and the existing context; integration with transit service; and micro-climate standards.

ENCOURAGEMENT OF DIVERSITY

The diverse population that comprises urban life has to be considered when designing for sustainability. The recognition that current development patterns are a wasteful use of land has been adopted by only a very small percentage of the Canadian population. For the rest, controlling growth and government intervention in land allocation is viewed as an unwanted intrusion. While the utopian visions of sustainable communities laud diverse communities, the current trend has been towards homogenization of the population by socio-economic, age and cultural characteristics in specific neighbourhoods. Because of this disparity in values and needs, working towards a singular vision of a sustainable community is inappropriate. There are myriad different socially and environmentally responsible strategies that can significantly affect a community's quality of life. These strategies, however, must be appropriate to the population for which they are intended, or they will not be successful. For this to happen requires active participation in neighbourhood decisions. Most

community participation is reactive against change, and comes in after development proposals have been made. Rather than reactive participation which encourages NIMBYism, mechanisms are needed that encourage pro-active participation in community affairs.

CONSERVATION OF RESOURCES

Conservation of resources in all aspects of building technologies and household practices could significantly change a community's relationship to its environmental and social context. Conservation, as the planning and management of resources to meet future needs, is a dynamic evolving concept of the symbiosis of human and nature. Conservation has come to mean preserving purposefully, that is, giving not just continued existence, but continued useful existence. The act of conservation is not a simple one. There are degrees and types of conservation that are frequently in conflict. It includes conservation of heritage buildings, the landscape and social fabric, as well as energy consumption, waste disposal and recycling. Environmental concerns can often conflict with established employment patterns. To ensure that whole communities evolve, social conservation would have to work towards ensuring jobs for existing inhabitants, and providing services and amenities such as open space.

URBAN PRODUCTIVITY

Urban areas have largely become places of consumption, not production. There is a heavy reliance on the periphery to supply urban areas with basic necessities, creating a costly, dependent relationship. The ecological footprint of an average Canadian (i.e., the amount of land required from nature to support each individual's present consumption) has been calculated to be over 4.8 ha—roughly comparable to three city blocks (Wackernagel, 1993). The challenge is to find ways to balance human consumption and nature's limited productivity. For example, urban agriculture could replace underutilized land such as lawns. Currently, community gardens found throughout Europe and many cities in Canada are significant sources of food for their users.

Coupled with these strategies to encourage food production, economic development needs to be encouraged within the boundaries of cities that emphasizes the community as the source and base for development. Economic activity in urban areas is being altered somewhat with the growth of small businesses and home-based work in urban areas. These businesses, while largely service oriented, are important generators of economic activity. Integrating work into residential neighbourhoods by such means as home-based work, neighbourhood work centres and satellite offices could enhance the stability of a community, and reduce the enormous transportation inputs required to maintain an urban

lifestyle. For this to occur requires perceptual changes of socially acceptable uses of urban land, and recognition that reintegrating home and work is essential for sustainability.

USE OF APPROPRIATE TECHNOLOGIES

The use of appropriate technologies in urban areas could have a significant impact on the urban structure. For example, sprawl has largely been attributed to a transportation system that has allowed for dispersion of services and resources. It is now being recognized that expensive solutions to alleviate transportation problems are not cost effective. A 1993 study of transit use sponsored by the B.C. transportation ministry, B.C. Transit and the Greater Vancouver Regional District (*Vancouver Sun*, 1993) found that the region remains automobile dependent, and that this dependency is growing. The study shows that transit's share of commuters in Greater Vancouver has actually dropped 13 percent since the $2 billion SkyTrain system opened in 1986. Government officials acknowledged that money spent developing the SkyTrain system could have been better spent elsewhere in such initiatives as Light Rapid Transit to alleviate the congestion for suburb-to-suburb commuters. Rather than developing a model of public transit that is hierarchical, based on the assumption that inner cities are the hub of all employment opportunities and the surrounding communities are peripheral, a decentralized model, based on the recognition of the growing importance of suburban communities as employment generators, may be more appropriate (Garreau, 1991). Urban design initiatives are needed to develop transit stops and corridors for these alternative transit modes that are sensitive to the local context.

SUSTAINABLE COMMUNITY DEVELOPMENT

The creation of humane communities requires going back to the scale of the human being and his or her need for community and co-operation. Nozick (1992) voices a common concern that our society has lost its sense of community and, in so doing, its sense of self, family, economy and life. She articulates a need for bold sustainable community development that unites economic and ecological initiatives as a response to the increasing failure of the global economy to meet people's needs. Her book *No Place Like Home* (1992) delineates a rationale for urban decision-making that is driven by sustainable development and healthy community processes. As a consequence of these decisions, she postulates that the urban physical and institutional structure has to change to reflect the importance of communities.

PROACTIVE INITIATIVES

To work towards a holistic perspective requires ways of seeing, understanding and acting upon the interrelationships in society. For example, recent initiatives have seen the importance of linking environmental issues to larger societal patterns. In the "Clouds of Change" report, of the City of Vancouver Task Force on Atmospheric Change (1990), restructuring of land-use patterns was recommended as the most significant measure that could reduce levels of air pollutants over the long run. Urban design initiatives have concentrated on making cities more urban and the countryside more rural. Norwood (1990) has illustrated approaches for transforming a typical under-utilized suburban block into an "urban co-operative block." Yaro *et al.* (1988) have developed practical planning standards adopted by New England towns to protect their distinctive character while still accommodating economic growth. These are just a few of the numerous design measures that are beginning to be introduced that address complex societal concerns.

In Melbourne, Australia, performance-based codes and measures have been proposed to replace zoning. Other measures have been proposed to promote traffic calming and reduce sprawl. "Sprawl busting" proposals through town planning charrettes have been generated to develop innovative town planning concepts. Charrettes have also been done in Canada, most notably in the replanning of Nepean in Ontario. A University of British Columbia Task Force on Healthy and Sustainable Communities (Wackernagel,1993) has drafted criteria for measuring ecological sustainability and social health through reducing *per capita* "Appropriated Carrying Capacity" and enhancing the "Social Caring Capacity." The task force is working with the community of Richmond, B.C., a suburban community in the Greater Vancouver Regional District, to evaluate a number of policy options. These include evaluating the diversity within the community's population, the interconnection between community members, the stresses on households and family economies, the inclusion in decision making processes, safety within the community, access to outdoor green spaces and decreased *per capita* appropriated carrying capacity. Integral to this evaluation is the recognition that both social and physical planning factors, and their interrelationships, are essential for liveability and sustainability.

In Denmark, an Urban Ecology Program is being carried out by the Danish Town Planning Institute (Helberg,1993). They are acting as a clearing-house for pilot projects that are being generated on urban ecology. Among these projects is a new district on the outskirts of Horsens that will comprise 1,000 dwellings as well as day care centres and diverse businesses on a total area of 55 ha. The municipality's plan imposes several requirements on future developers, including active and passive solar energy, heat recovery, extremely effective insulation, thermal storage, reducing consumption of

water and energy, windmills, collecting rainwater, waste sorting at source, composting, healthy building materials and wildlife and vegetation integrated into the city. Another project 50 km north of Copenhagen is being developed as an ecological village community that will have ecologically sound housing and open spaces, and will be largely self-sufficient in jobs and organically grown food.

Demonstration projects like these Scandinavian examples are important tools in educating the public about development alternatives. As important as the development of new projects that illustrate sustainability principles is the demonstration of innovative proposals for existing urban areas. The restructuring of existing patterns is essential if urban areas are to change and evolve. The Affordable Sustainable Community (ASC) project at the University of Calgary has instituted user-participant design and programming workshops to develop a demonstration project in a Calgary neighbourhood along the Bow River that incorporates innovative housing form and technologies, and community design (Perks and Van Vliet, 1993). Essential in this project is the development of a neighbourhood "stewardship" process made up of educated and trained community resident-managers who manage the entire process. These initiatives point to approaches that respect the diversity of environmental choices, but are driven by a vision that develops priorities for communities in an integrative manner.

SHIFTING/REFOCUSING VALUES

Accompanying sustainable urban design initiatives must be a recognition of the need for refocusing societal values. If there are to be large-scale societal shifts in thinking on development, mechanisms need to be instituted at local levels in order for the whole spectrum of citizens to become knowledgeable about the range of development choices. Bold alternatives have to be proposed to institute fundamental changes, and this can only be arrived at with a consensus on the need for these changes. Planners and urban designers can be effective in precipitating value shifts, as educators, facilitators, and implementers of institutional change.

Shifts are beginning to occur in societal values. For example, recycling, once thought of as an obsession of those on the fringes of society, has become integrated into every part of society, starting with school children. Alternatives to developer-driven housing are multiplying, with the introduction of equity co-ops, co-housing and other community-based housing into North America. Societal values based on the love of the automobile are increasingly shifting to despair about the automobile and its impact, resulting in a shift in the value placed on liveability. Automobile dependency, though still the prevalent norm, has lessened, as cities become more dense and difficult to manouvre in a single-occupancy vehicle.

Innovative urban design and demonstration projects can influence consumer acceptance of density. South False Creek in Vancouver and St. Lawrence Neighbourhood in Toronto, both developed during the 1970s as partnerships between private, non-profit and government interests, were instrumental in developing an awareness of the benefits to higher density living in Canadian cities. By introducing sensitive urban design guidelines, coupled with a commitment to mixed incomes, uses and densities, these projects illustrate the principles of liveability and humaneness.

Education is the key to changing values. One innovative approach to educate the public about the design of their communities is charrettes. A charrette method brings together all of the key actors affected by a particular development issue to plan and design alternatives and proposals. This method is a proactive approach to developing a consensus, as well as being an effective tool in exploring design issues for people untrained in design and planning language. Rather than just talking about issues, the participants are required to work as a group to sketch alternatives and present them to their colleagues. In this process, they are learning about the constraints and opportunities that are presented by a particular development site, and the effectiveness of design in meeting larger societal goals. The charrette is not intended to provide a "solution"; it is intended to start a creative decision-making process. Charrettes have been successfully used in cities in Europe, Australia, Canada and the United States by planners, architects and urban designers in developing conceptual plans for a variety of projects.

Community participation is an important tool in precipitating value shifts. While most participation is reactive to change, a proactive process that would get the various actors (i.e., developers, citizens, planners, designers, elected officials) meaningfully interacting on development issues is clearly needed. Urban designers can play a useful role in this process by facilitating the process and illustrating development alternatives. In Ontario, CAUSE (Community Assist for an Urban Study Effort) is a program developed by the Ontario Association of Architects to assist Ontario communities to preserve the quality of life in their communities. Teams of planning and urban design practitioners work with local sponsors and other concerned groups, including members of the general public, to produce recommendations to solve problems facing the community.

As important as changing the general public's values is training planners on the importance of sustainable development principles, and the role of urban design in encouraging sustainability. Practicing planners in municipal governments are too often untrained in design principles, and make development decisions based on limited experience and understanding. Planning schools, after years of neglect of design in the urban realm, are beginning to recognize the role that design plays, and the importance of integrating social, environmental, economic and design concerns. Organizational change

in municipal bureaucracies is required in the systems, processes and methods of approving development projects.

CONCLUSION

To introduce alternatives to existing urban patterns requires exploring new models and methods of development. Critical to the creation of more viable and responsive communities is the need for decreased automobile dependency, increased residential density and mixed uses, community compactness, greater neighbourhood identity, and more flexible zoning ordinances and regulatory controls (MacBurnie,1992). While revising circulation and built form patterns are clearly priorities, decision-making processes also need to be revamped to make them more open, inclusive processes. Urban design is not just about the physical realm; it is about recognizing responsibility for community-building.

Societal preferences are still firmly fixed on low-density, single-detached homes. While this consumer demand is still prevalent, incremental changes are occurring in the urban fabric which are creating denser urban forms. For example, many single-detached homes incorporate "granny suites" and working spaces. Urban design proposals need to recognize the changing demographic structure of society, and encourage the societal shifts in values that are presently occurring. The concept of sustainability is relatively new to Canadian planning and urban development policy, and there are few examples of sustainable design and planning practices. Demonstration projects are an excellent way of introducing new concepts and testing consumer preferences.

The issue of sustainability in cities is one which academic and professional planning must address. Tremendous demands in terms of environmental and societal decay require that the city and urban design be starting points in moving towards a paradigm shift. Communities can only be generated through a responsive, accessible and inclusive process. This, however, does not diminish the importance of design to generate form and process alternatives, and to provide a positive vision for the future. To generate a sustainable approach to urban design requires that form is responsive to process. For this to be accomplished, urban design must be immersed in an ethical context that recognizes its ideological biases. As a beginning, we must observe and understand the structures, systems and processes in nature and design in concert with them. We need to look at the human and material potential in existing built form and landscapes, and concentrate our potentials and efforts there. The grassroots level of the local and identifiable community is the starting point to formulate ethical, equitable and ecologically sound answers.

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COAL HARBOUR AND MISSION BAY: COMPARING NEW "NEIGHBOURHOODS" FOR VANCOUVER AND SAN FRANCISCO

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INTRODUCTION AND OVERVIEW

Vancouver's Coal Harbour and San Francisco's Mission Bay are two highly significant urban developments occurring in Western North America. Mission Bay has been described as "the historic development," and the "single largest development in [San Francisco's] history" (*San Francisco Chronicle*, September 1, 1989). Similarly, Coal Harbour is seen as "Vancouver's downtown waterfront"; "there is nothing like Coal Harbour anywhere, in terms of sheer variety of experiences" (Public Information Bulletin, Marathon Buildings Group, 1993). Such superlatives are manifest for several reasons. Both developments' locations are among the last extensive, unimproved parcels of land in their respective cities, and are sited adjacent to central business districts. Consequently, the economic stakes in Coal Harbour and Mission Bay are high, resulting in a vast expenditure on urban design.

With respect to urban design, Coal Harbour and Mission Bay are also important in broad historical terms, particularly in the context of the last thirty years or so. Dating to the 1970s, and reacting against stylistic and inflexible concepts in modern architecture, "good" urban design has been characterized as following typical postmodern precepts of human scale, pedestrianisation, higher density, mixed-use, multi-functional streets, honouring of the past, public participation, sustainability and contextualism. These are considered at inter-related scales: specific building sites, neighbourhoods or districts, entire cities, and regions. Both Coal Harbour and Mission Bay dutifully reflect most facets of postmodern urban design cited above. Given these similarities, the developments invite convenient and informative comparison. The purpose of this paper, therefore, is to compare and critically analyze Coal Harbour and Mission Bay as postmodern urban design in a threefold manner. First, a theoretical consideration of "neighbourhood" provides a basis for comparing and analyzing the two developments. Second, major facets of implementation relating to design process and product are compared. Finally, Coal Harbour and Mission Bay are analyzed relative to the design and development communities' ability to design and plan new neighbourhoods.

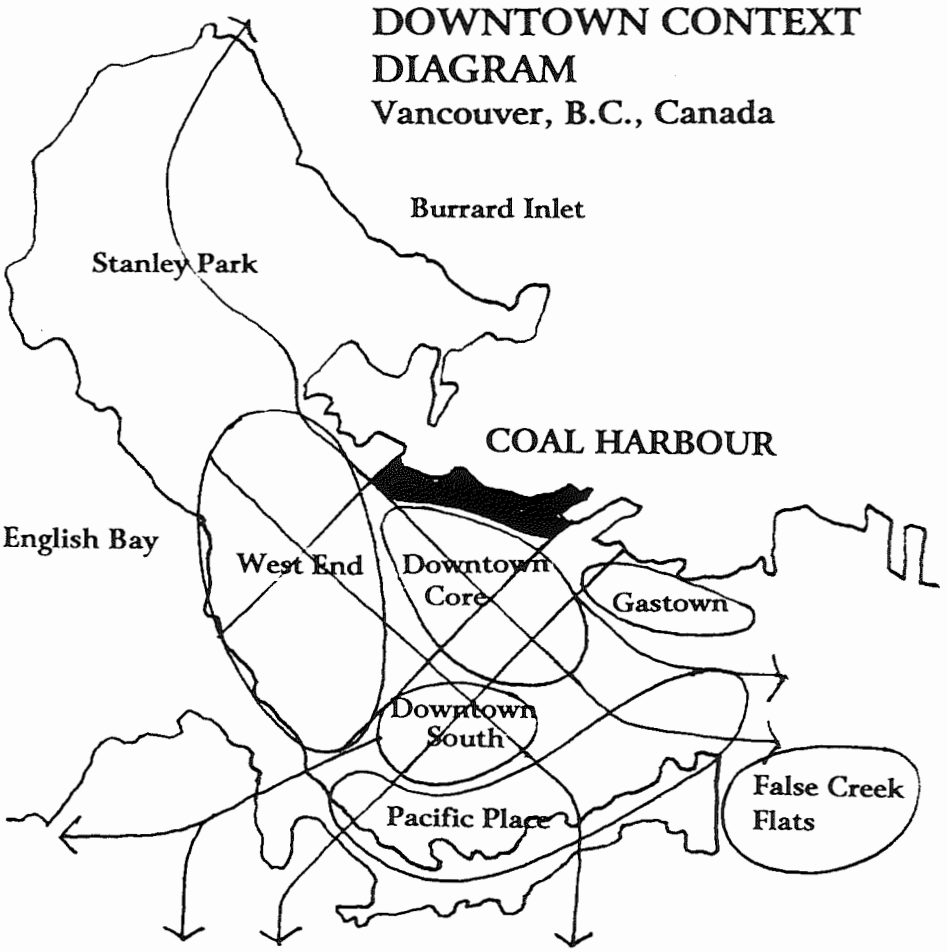


Figure 1: Coal Harbour: The Downtown Context diagram illustrates the proximity of Coal Harbour to Stanley Park, the West End, the Downtown Core, Gastown, Pacific Place (False Creek North) and the False Creek Flats.

Source: Marathon Buildings Group (redrawn by Moura Quayle).

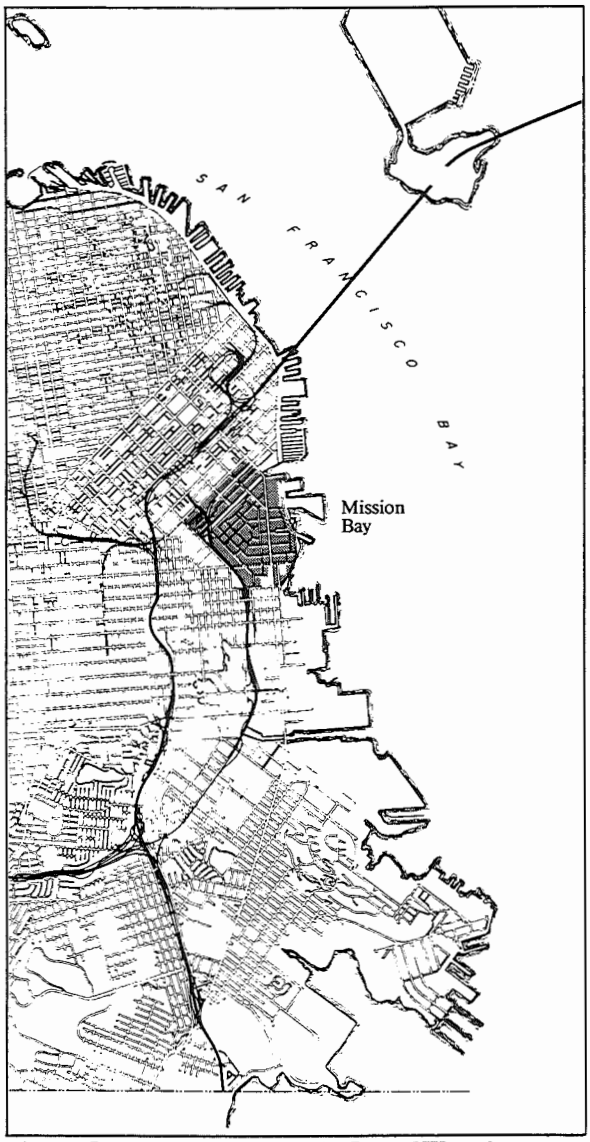
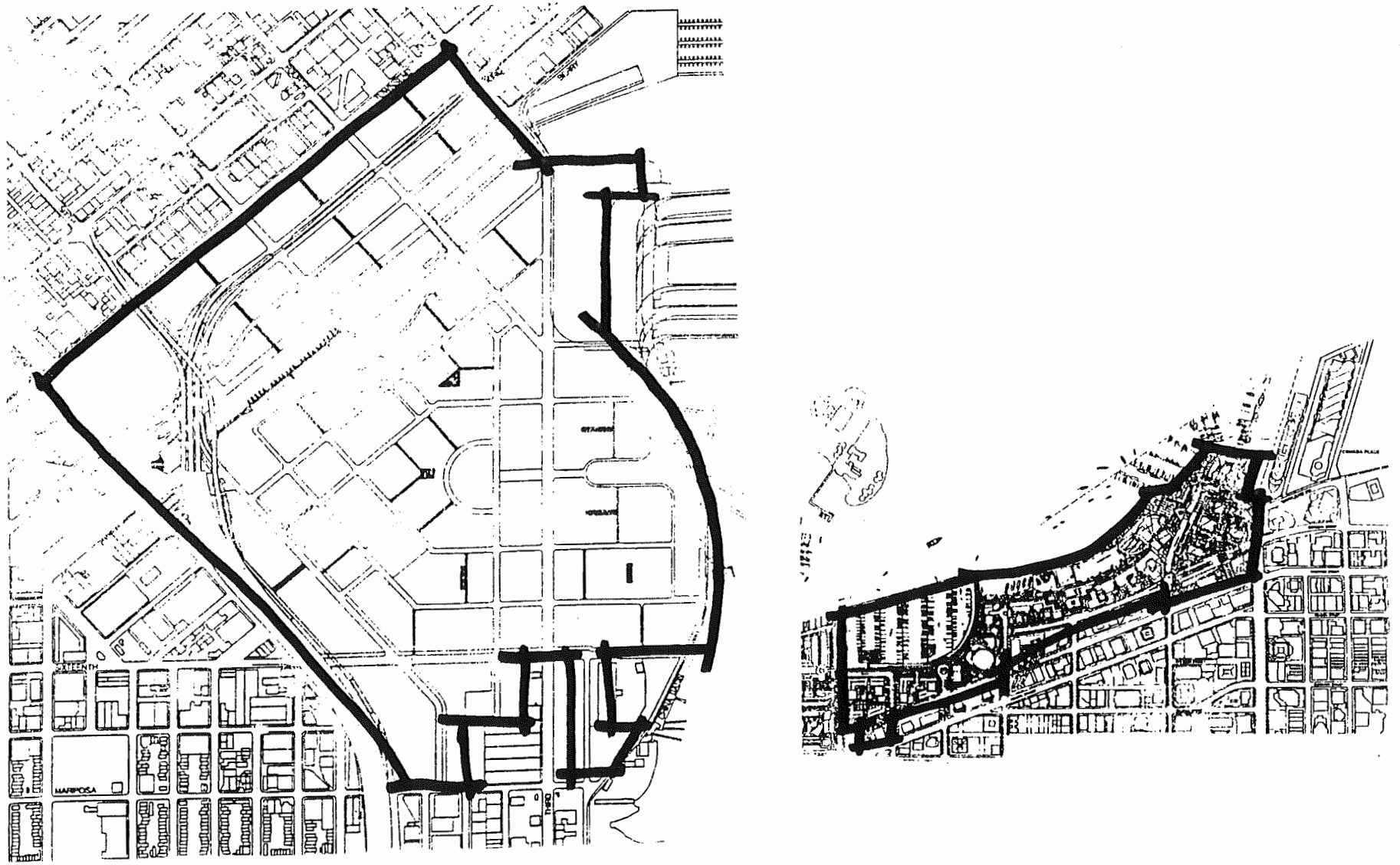


Figure 2: Mission Bay: Mission Bay Vicinity Map.

Source: San Francisco Department of City Planning.



Mission Bay - 313.3 acres

Coal Harbour - 45.5 acres

Figure 3: Coal Harbour and Mission Bay: Same scale diagrams of the two developments provide context for comparisons.

Source: Moura Quayle, 1995.

A THEORY OF NEIGHBOURHOOD

The concept of neighbourhood in urban design is important for numerous reasons. Neighbourhoods are largely comprised of housing, the single greatest urban land use, and therefore are populated and vital places. They also tend to set the fabric or pattern of cities, if for no reason other than their sheer profusion. More significantly, however, neighbourhoods provide a basis for identity and socio-cultural sustainability in urban settings. Therefore, neighbourhoods are included as a major theoretical dimension in postmodern urban design.

In terms of urban design and the theory of "good" neighbourhoods, the literature on neighbourhoods emphasizes five main physical components (see Dahir, 1947; Gallion, 1980; Gans, 1962; Jones, 1979; Lynch, 1981; Rohe, 1985):

1. *Appropriate Size and Scale*

   Population estimates of effective neighbourhoods range from 500 to 10,000 inhabitants, neighbourhoods of higher populations being more densely developed. Another criterion for appropriate neighbourhood size is a minimum of 150 dwelling units.

2. *Clear Boundaries*

   Clear boundaries are important elements by which neighbourhoods establish and sustain identity. Boundaries are created by major thoroughfares, distinct land uses, gateways and greenbelts.

3. *Common Land and Resources*

   Residents can take ownership and responsibility for common land and resources such as community gardens, community centres, parks, squares and schools. Places where people exercise decision-making power are significant, as in neighbourhood planning groups where a sense of autonomy develops and varying levels of participation are acceptable.

4. *Security*

   A key facet of neighbourhood safety is the degree to which streets and open spaces are public. Neighbourhood density and land use are directly related to the public characteristics of streets and open space.

5. *Diversity*

   Neighbourhood diversity brings sustained life and vitality. It takes many forms such as housing types, recreational opportunities, natural areas, informal and formal meeting places, commercial centres and agricultural production. This diversity allows people to interact with others and with proximity of services, daily dependence on the car is limited.

   While the criteria pertaining to good physical composition of neighbourhoods span more than

half a century, postmodern urban design has embraced these criteria as a basis for a preferable "way of life" (see Farrell, 1985). Implicit in this view is that neighbourhoods are viewed as *necessary* for four interrelated reasons:

1. *Neighbourhoods are important places of socialization,* which provide a basis for informal and formal education, instilling values, beliefs and citizenship as a means of providing identity and security for people (Chavis *et al.*, 1986).
2. *Neighbourhoods provide and foster a sense of community* by being "home" for people. A "village" concept that regards successful urban form for metropolitan areas as a series of identifiable but linked "urban villages" is part and parcel of neighbourhood relative to community. Shared values and a *sensus communis* or "common sense" is also related to the necessity for neighbourhoods (Korpela, 1989; Proshansky *et al.* 1983).
3. *Neighbourhoods provide convenience and practicality* by managing various finite resources, like time, so that neighbourhoods simply make economic and functional sense.
4. *Neighbourhoods are places of recreation* where well-designed streets, parks, truly public squares, natural areas and school yards provide for play, stress reduction, and entertainment, while nurturing people's meaningful relationships with their place (Kaplan, 1989).

Of these four conditions, the first two are topics found in literature pertinent to neighbourhoods in the postmodern realm. Consideration of a "way of life" in the context of an analysis of Coal Harbour and Mission Bay is significant. For instance, socialization within a neighbourhood can be viewed as establishing a neighbourhood culture, the study of which seeks to "understand behaviour" through emphasis on information and quantities relative to human behaviour (Spradley, 1971, p. 2). Conversely, a broader appreciation of culture for effective neighbourhoods is offered by Wendell Berry's virtually poetic regard for "land, people, and community," with the fundamental concept of harmony, or "synecdoche." This concept relies on mutual dependencies between people and their environment over the long term, wherein essential wisdom of culture "accumulates in the community [neighbourhood] much as fertility builds in the soil . . . in place for a long time" (Berry, 1983, pp. 72-72).

Mutual dependencies and similarly unifying values and beliefs reflecting neighbourhood culture are typically grounded in a *sense of tradition*. Tradition connects people by providing meaning, stability, and "mooring" to a culture. Traditions over time, as implied by Berry, are founded on practical wisdom gained through essential human activities: food and shelter procurement; raising families; cycles associated with nature; and the need for community. Traditions, including the tradition of neighbourhoods, are not cemented in place at a specific moment in time. The practices comprising a

tradition of neighbourhood evolve from judgement, trial and error in confronting of particular circumstances. This can only be done by involving those who live and work and play in a neighbourhood.

From a more academic perspective, tradition has been analyzed as a dichotomy comprised of "substantive traditionality" and "tradition of reason" (Shils, 1981). Of the former, sociologist Edward Shils defines "substantive traditionality" as "the appreciation of the accomplishments and wisdom of the past and of the institutions especially impregnated with tradition," including "regarding patterns inherited from the past as valid guides" (Shils, 1981, p. 21). Such appreciation and guidance are important for neighbourhood spirit, authenticity and sustainability.

The "tradition of reason," on the other hand, typifies current application of scientific rationality and management: "it has given legitimatory support to traditions which had relatively little to do with reason or science except that they were hostile to substantive traditionality [including] the praise of the scientific approach to the 'treatment of social problems' and the 'rational management of society'" (Shils, 1981, p. 23). In this regard, subjective experience, as opposed to "rational public participation," and substantive meaning which result in a "common inheritance" are requisite for authentic neighbourhoods (see Campbell, 1988; Franz, 1964a; Jung, 1964).

Another culture-related aspect of the theory of neighbourhood includes the concepts of instrumental action and communicative action. Instrumental action, dominant in modern Western societies, follows "strategic" rules of behaviour based upon scientific rationalism and high technology. Means and ends are understood through distinguishing between the material and the objective, on the one hand, and the social or subjective, on the other, as separate realms. Efficiency and effectiveness are evaluated in terms of dealing with the physical world and the degree of "influencing the decisions of other social actors viewed as potential opponents" (Roderick, 1986). Conversely, communicative action is activity and consciousness oriented towards shared understanding and consensus. The activities typifying communicative action are manifested in true neighbourhoods, through ritual, celebration, methods of construction and craft, means of sustenance, and the like. These activities that involve people making and doing things side-by-side are the stuff of which neighbourhoods are made.

Finally, two additional considerations are important. The first deals with the terms *Gesellschaft* and *Gemeinschaft* put forth by German sociologist Ferdinand Tönnies (1855-1936), loosely distinguished as industrialized "society" versus "community." *Gesellschaft* is typical of modern societies in which division of labour dictates the need for specialized individuals and groups, thereby creating disconnection due to detached dependencies (as opposed to Berry's "mutual dependences") on other individuals, situations and environments, and further distancing through specialized "lang-

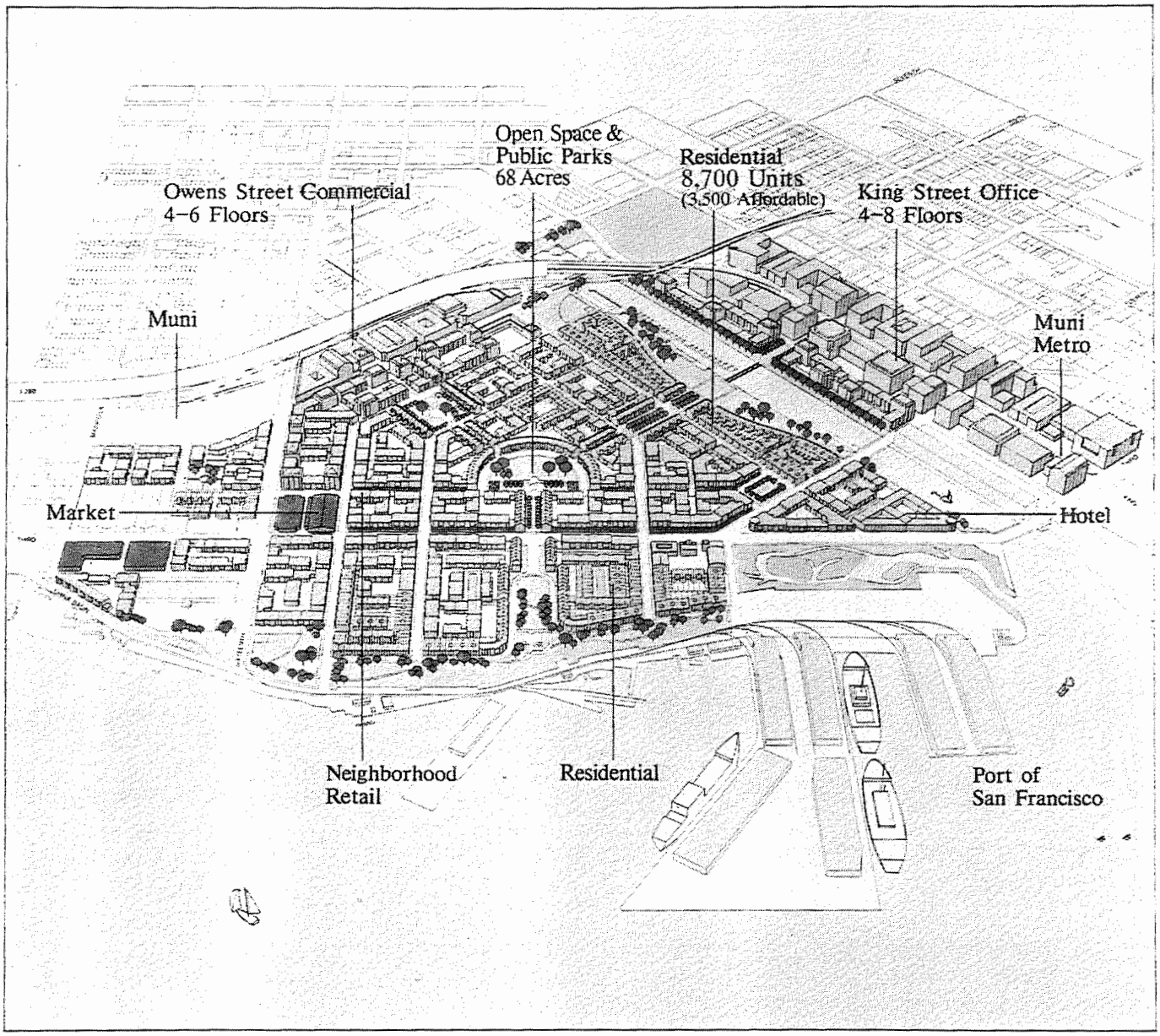


Figure 4: Mission Bay: Mission Bay is planned as a mixed-use "neighborhood" with residential, commercial, retail, recreational and institutional uses. Approximately 8500 dwelling units—3250 of which will be "affordable"—are planned for 16,000 inhabitants. The 313 acre development is forecast to cost $2 billion (U.S.) and will be phased in over thirty years.

Source: San Francisco Department of City Planning.

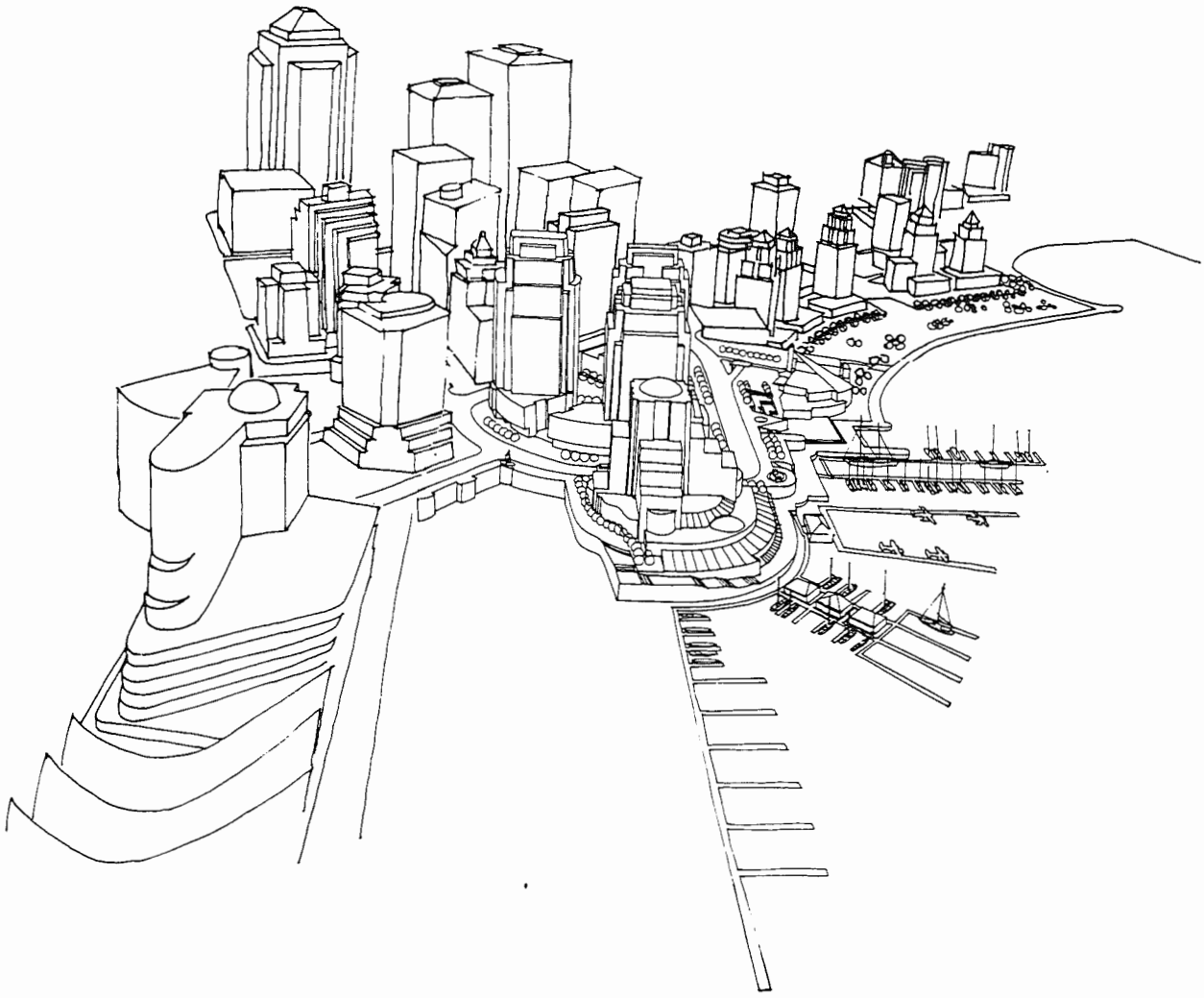


Figure 5: Coal Harbour: This computer generated drawing is a birds-eye perspective from above Canada Place looking at Burrard Landing in the foreground and Harbour Green Park and the Marina Neighbourhood in the background.

Source: Marathon Buildings Group.

uages" and values. By contrast, *Gemeinschaft* characteristics typify the neighbourhood: the family as an important institution; a binding together of people through community ties; and common connections to places, events, customs and traditions. All of this is collectively and gradually realized through time and therefore provides a basis for stability.

A final concept basic to this study: home is where the heart and mind reside in unison. Therefore, the significance of Heidegger's "dwelling," as contrasted with merely "living" or "existing," is critical for a culture of neighbourhood. In *Poetry, Language and Thought*, the following is germain:

> *Bauen* [from the Old English and High German word for building] originally means to dwell. Where the word *Bauen* still speaks in its original sense it also says *how far* the nature of dwelling reaches. The way in which you are and I am, the manner in which we humans *are* on the earth, is *bauen*, dwelling. To be human means to be on the earth as a mortal. It means to dwell. The old word *bauen*, which says that man *is* in so far as he *dwells*, this word *bauen* however *also* means at the same time to cherish and protect, to preserve and care for, specifically to till the soil, to cultivate the vine (Heidegger, 1975, p. 147).

A fundamental sense of being that transcends mere existence is rooted in the act and the quality of dwelling and building. In the context of neighbourhood, it speaks of rootedness in *Gemeinschaft*. Furthermore, the significance of Heidegger's statement speaks to the nature of the duality of the various concepts discussed within this section. Inherent in the Heidegger quotation is a call for *balance* in the way people direct their lives. This means not merely to live or exist, but to dwell; not simply to "be" but to "do"; and in the case of Coal Harbour and Mission Bay, not just to "participate" but to become involved and vested as inhabitants. This is not to say that practices of the tradition of reason, instrumental action and *Gesellschaft* should be jettisoned. However, what is required is recognition of the overwhelming effect of their constructs in precluding the realization of neighbourhoods and the meaning that authentic neighbourhoods provide people's lives.

COAL HARBOUR, VANCOUVER AND MISSION BAY, SAN FRANCISCO

A COMPARISON

Both developments occur on prime waterfront locations in young cities strategically situated in local, regional, national and global markets and environmental settings. What has occurred and will occur on these two sites is far too extensive in history and influence to be addressed entirely in a paper. For the purposes of this paper, however, we will focus on the general urban context, the proposed physical form of development, the planning and design processes, and design policies and guidelines as they relate to realizing viable neighbourhoods.

URBAN CONTEXT

Coal Harbour[1] is one of several significant areas for urban development in the City of Vancouver. Vancouver is a city of 472,000 (1991) residents, within a metropolitan region of ten municipalities and 1,600,000 (1991) people. Coal Harbour flanks the downtown peninsula to the northwest. The other major sites are a 38 ha (94 acre) site on the central waterfront portlands, due east of the Coal Harbour lands; the 82 ha (204 acre) site of False Creek North (former Expo '86 lands), flanking the south shore of the downtown peninsula, and a 120 ha (300 acre) industrial and rail-yard site to the east of downtown (see Figure 1). Chronologically, portions of False Creek North are being developed first, then Coal Harbour, and the other sites are only now under feasibility consideration. Coal Harbour is therefore important as a formative component in a series of phased "mega-project" developments for Vancouver, and for the social, environmental and economic revitalization of the downtown.

Mission Bay[2] is the last large parcel of developable land in a city with a population of 725,000 (1990) and a density second only to New York City in the United States. Located on the end of a peninsula, San Fransciso is also the heart of a metropolitan region home to some 1,576,000 (1985) residents. Mission Bay became strategically linked to San Francisco's Financial District resulting from a "cap on growth" initiative that attempts to direct future development to the "south of Market" area (see Figure 2). As discussed in more detail below, the current Mission Bay development evolved from unsuccessful development attempts for the site in the early 1980s.

FORM OF DEVELOPMENT

There is a significant difference in size between the two developments: Coal Harbour is approximately 18.6 ha (46 acres); Mission Bay covers 126.6 ha (313 acres) (see Figure 3). Another interesting anomaly, particularly with respect to neighbourhoods, is how planners and the public view these sites. Mission Bay is apparently comfortably viewed as one neighbourhood ultimately containing 16,000 inhabitants,[3] linked to the central business district and outlying areas (see Figure 4). Coal Harbour, on the other hand, is variously viewed as: (a) part of a larger downtown west-end neighbourhood; (b) a separate neighbourhood; and, (c) three neighbourhoods based on designed "precincts." These precincts include the Marina Neighbourhood (residential), Burrard Landing (office and hotel), and the Harbour Green (residential) with a total expected population of 4,000 inhabitants (see Figure 5).

There are several land-use similarities in the two developments: both are mixed-use developments of residential, commercial, retail, recreational, cultural and various institutional uses con-

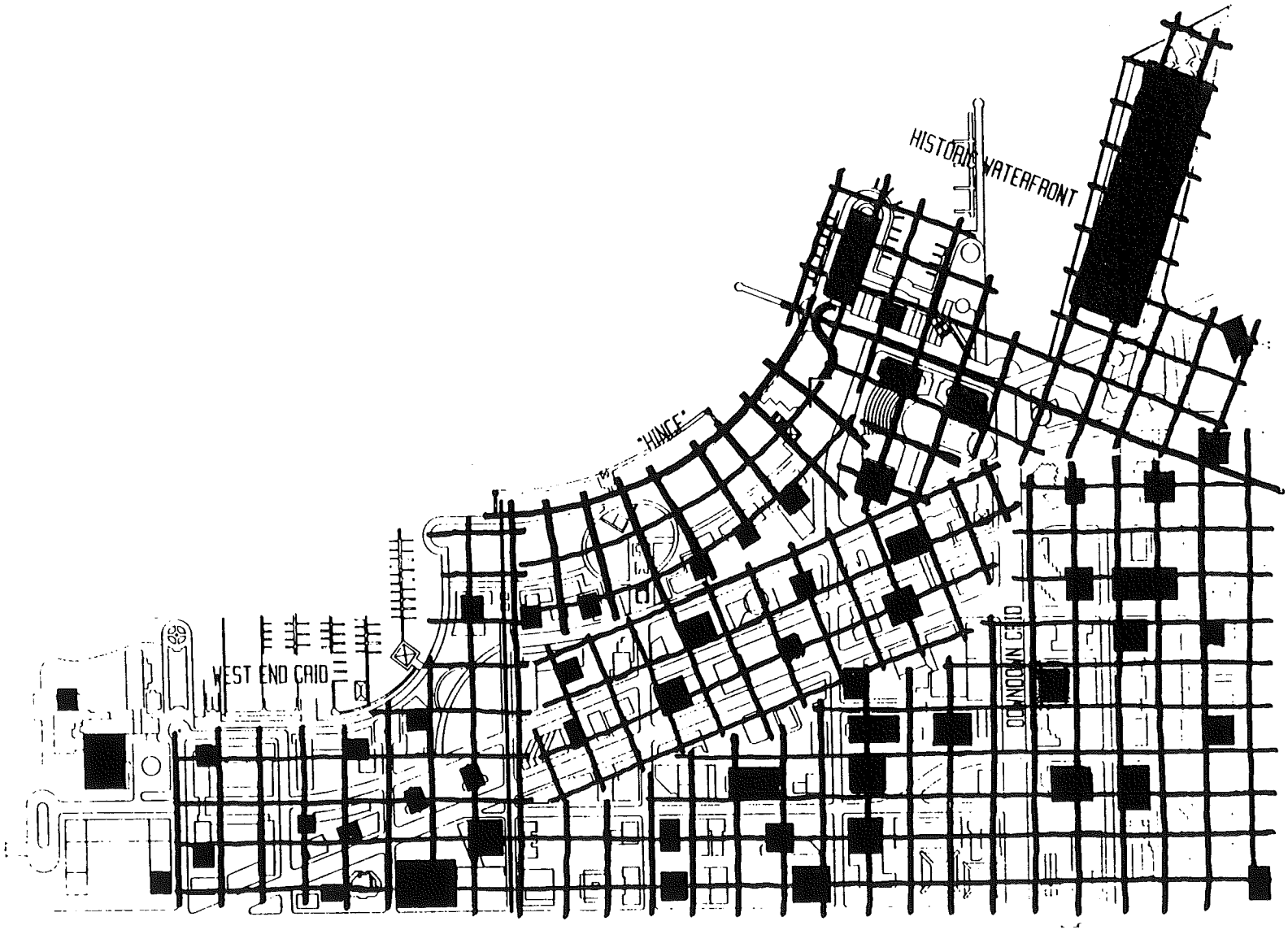
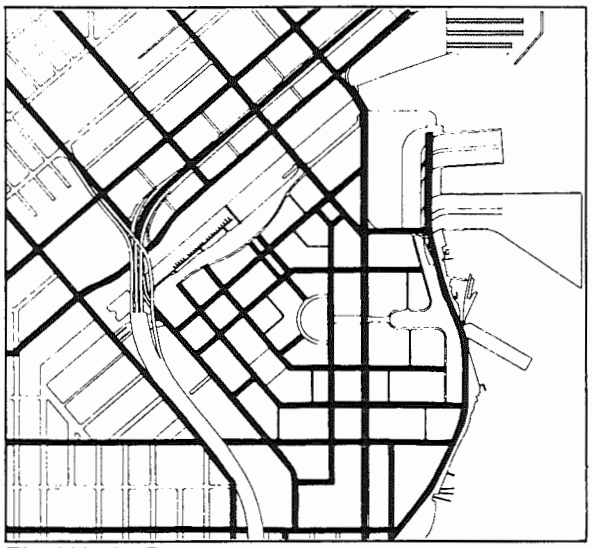
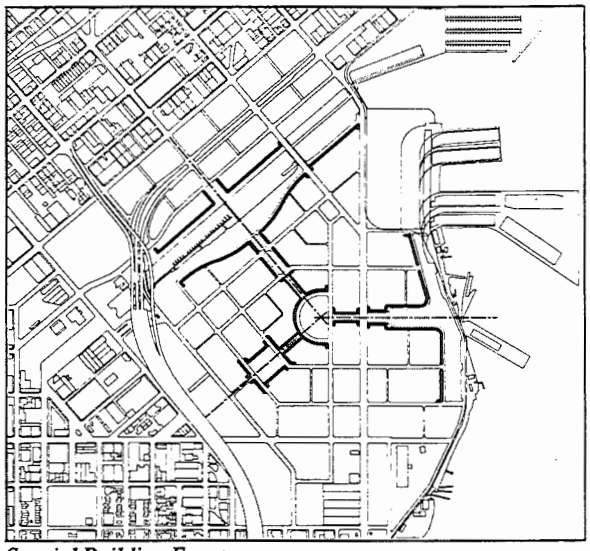


Figure 6: Coal Harbour: Building and street orientations respond to West End street grid, to grid of historic waterfront and to Vancouver's historic piers.

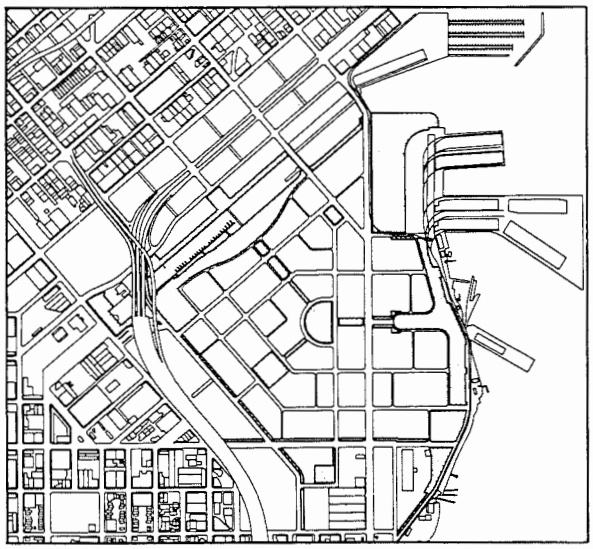
Source: Marathon Buildings Group.



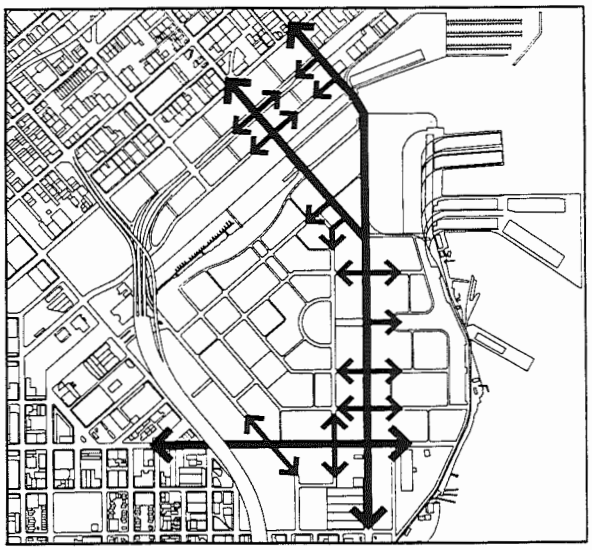
Fit within the Context



Special Building Frontages



Open Space System



Street System

Figure 7: Mission Bay: Urban design for Mission Bay is intended to be contextual where "visual relations and transitions," "avoidance of extreme contrast" and image are emphasized.

Source: San Francisco Department of City Planning.

Figure 8: Coal Harbour: View looking at Marina Neighbourhood from Stanley Park illustrating the high-rise morphology of Coal Harbour development.

Source: Marathon Buildings Group.

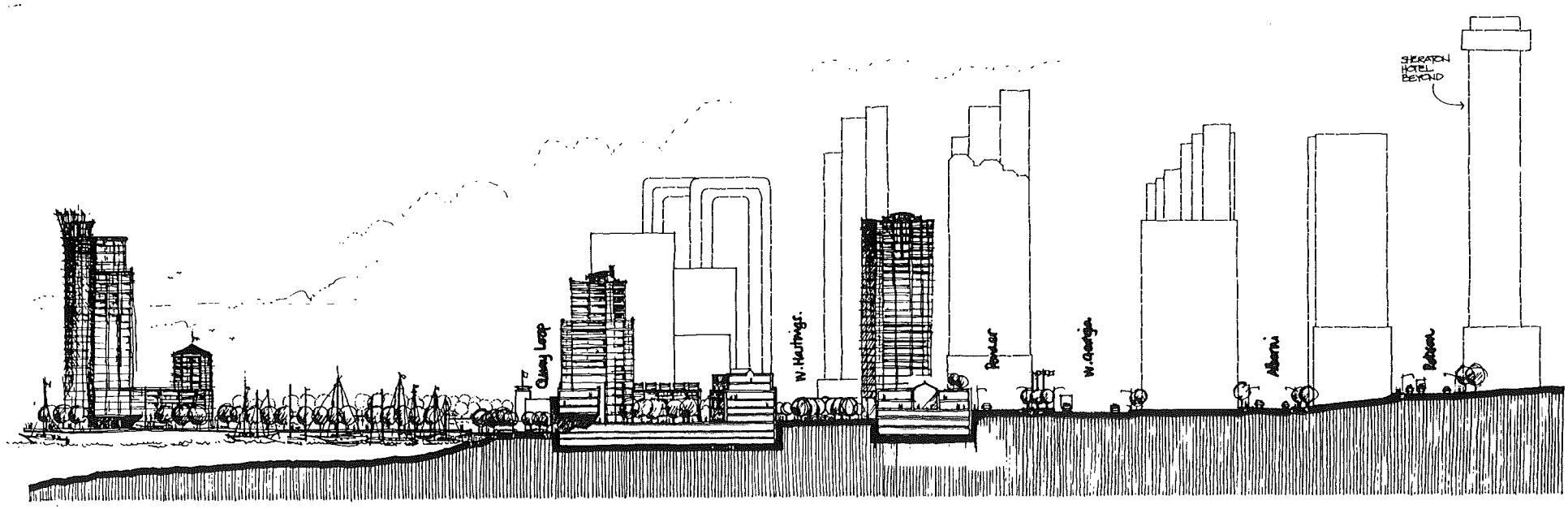


Figure 9: Coal Harbour: Housing types are shown in this section through the Marina Neighbourhood.

Source: Marathon Buildings Group.

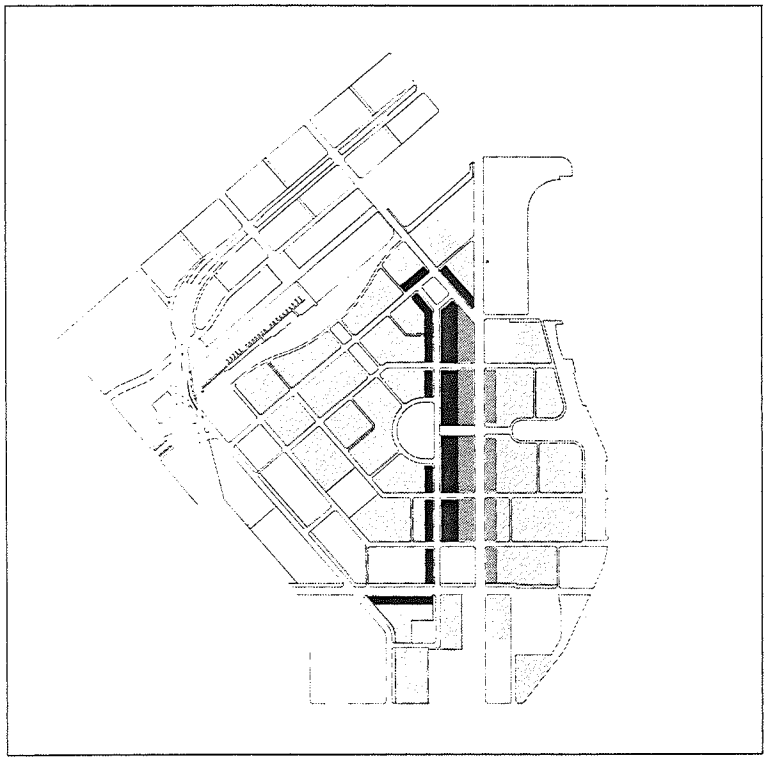


Figure 10: Residential Building Types

3-4 Story Townhouses and Apartments over Parking

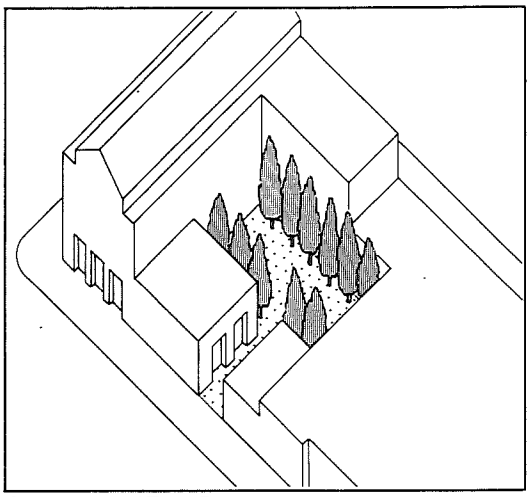
3-4 Story Apartments over 1 Story Retail with Parking

3-4 Story Apartments over 2 Story Retail with Parking

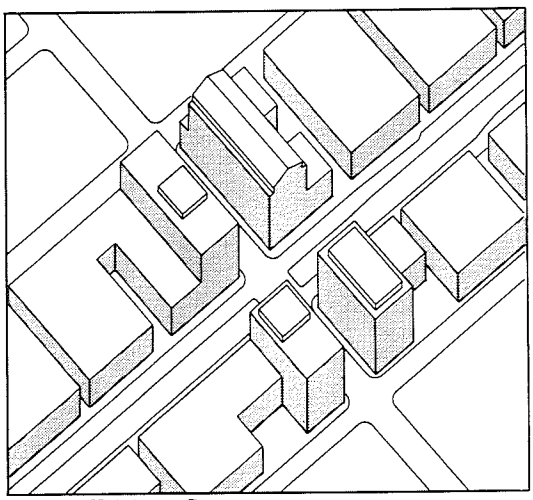
4-8 Story Apartments Plus 1 or 2 Levels of Parking Screened by Housing, with Courtyards Above Parking

5-10 Story Apartments Plus 1 or 2 Levels of Parking Screened by Housing, with Courtyards Above Parking

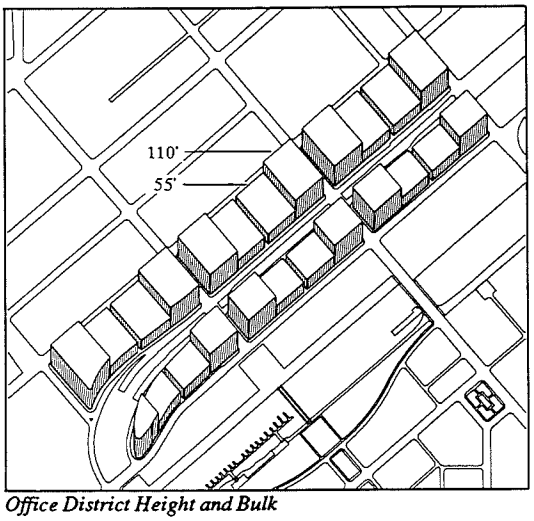
Note: The number of stories excludes parking that is depressed at least one half level below grade or lower.



Courtyards and Entry Recesses



Building Heights at Corners



Office District Height and Bulk

Figure 10: Mission Bay: Building profiles are predominantly low at Mission Bay.

Source: San Francisco Department of City Planning.

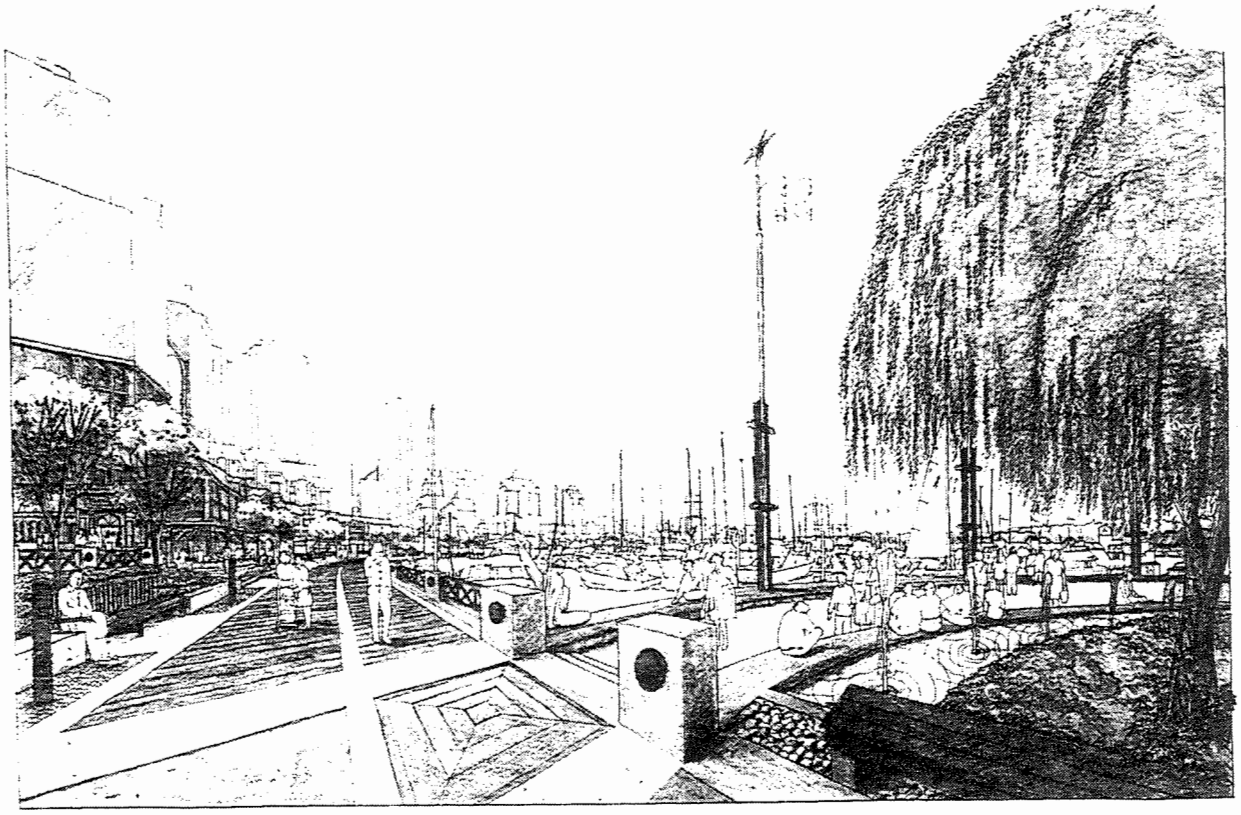
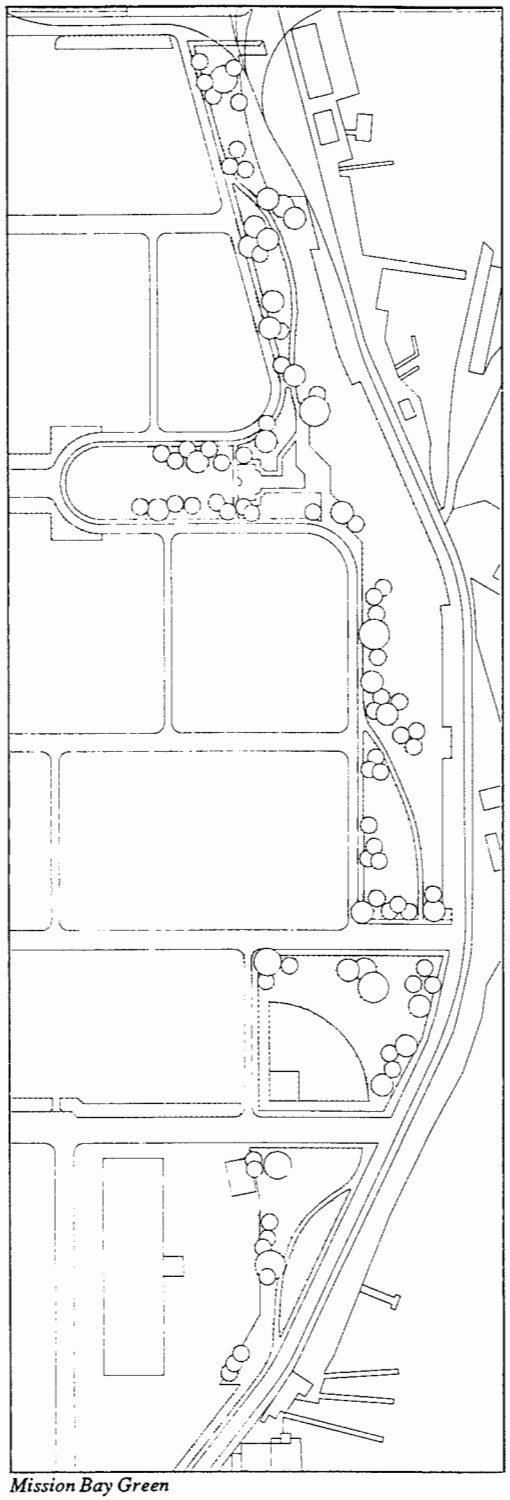
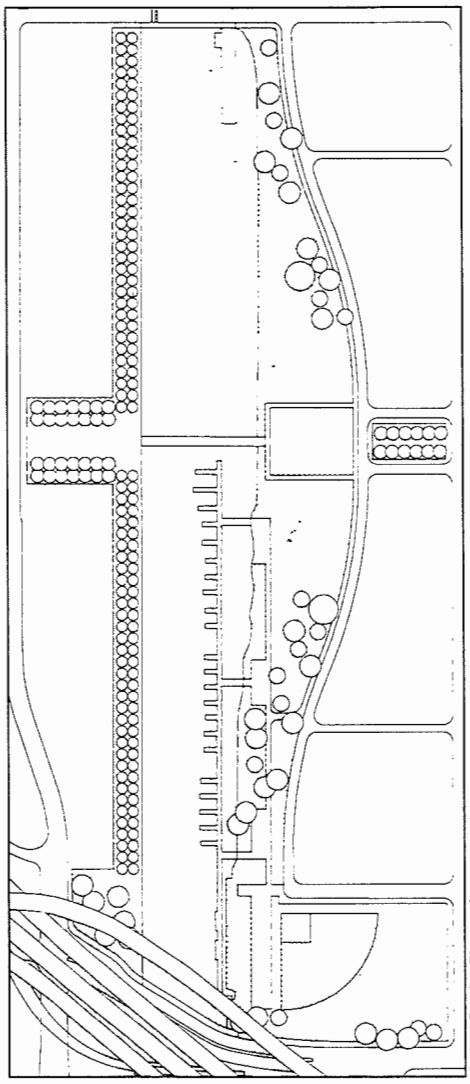


Figure 11: Coal Harbour: The character of the waterfront walkway, including bikeway, seating areas and promenade is illustrated in this sketch.

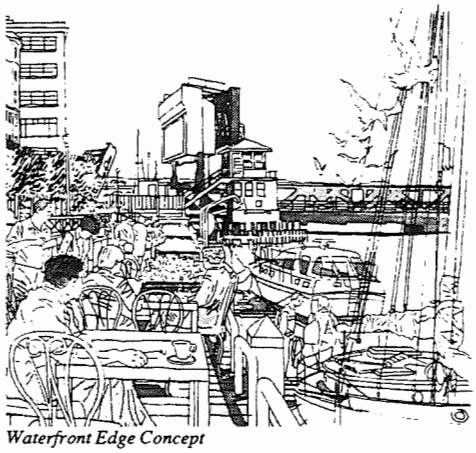
Source: Marathon Buildings Group.



Mission Bay Green



China Basin Channel



Waterfront Edge Concept

Figure 12: Mission Bay: Public access to waterfront areas at Mission Bay is possible through strategic location of parks.

Source: San Francisco Department of City Planning.

figured to create "neighbourhoods." Both developments emphasize open space and park land, and major open spaces, streets and walkways account for roughly one half of each site (see Table 1). Both developments integrate with the existing urban fabric for concerns of transportation, orientation and views (see Figures 6, 7).

Notable differences in the physical design of these developments are in the treatments of built form, waterfront interface, housing and site heritage. The overall "profiles" of the two developments are distinct: Coal Harbour uses 20-25 storey buildings (see Figures 8, 9); Mission Bay employs a 4-10 storey building range (see Figure 10). One result of both the form and site coverage is the higher residential gross density of Coal Harbour (86 residents/acre versus Mission Bay's 51). This compares to an average gross density in the City of Vancouver of 18 residents/acre and in San Francisco of 23 residents/acre.

As waterfront sites, Coal Harbour's development program promotes water-oriented activities (see Figure 11), whereas the Mission Bay development approaches the waterfront as a visual amenity only, with access to the water's edge and consideration of "view corridors," but without as much opportunity for water-related activities (see Figure 12).

Regarding housing, Vancouver's general development program allows for non-market or social housing in a number of initiatives, yet allows Coal Harbour to concentrate on housing for people working in the downtown core. A historic concern, social equity, in San Francisco makes "affordable" housing in Mission Bay important for political reasons, although providing accommodation for downtown office workers appears to be the priority as dictated by market forces.

As for site heritage, the Coal Harbour project has made an effort to respect and reflect the social and geophysical heritage of the site through site design and public art. As an historic working harbour, many of these activities will continue to be supported by the new development. The unique escarpment between downtown and the water has been utilized to accommodate road infrastructure; however, its memory is found in some of the open space design. Site heritage is not a programmed component of the Mission Bay project. Although a tremendous effort has been made to mimic the character and quality of San Francisco open spaces, streets and neighbourhoods, the site's history is largely ignored. Notable exceptions to this are retention of an older houseboat community, café, the 240 m (800 ft.) long China Basin Building, and markers locating the Bay's historic shoreline.

PLANNING AND DESIGN PROCESSES

Both San Francisco and Vancouver have histories of cautious and considered urban planning, and of involving the public in the process. In terms of final decisions, in both cases, developments of

TABLE 1
LAND DEVELOPMENT PROGRAM
COAL HARBOUR AND MISSION BAY

LAND USE	COAL HARBOUR	MISSION BAY
HOUSING	3,099 units: total 1,850 units: basic allowance 416 units: rental incentive 370 units: core need 463 units: family	8,500 units: total 2,300 units: affordable 5,250 units: market
COMMERCIAL		
Office	140,000 m^2 (1,500,000 sq. ft.) (Burrard Landing)	445,920 m^2 (4,800,000 sq. ft.)
Retail	16,500 m^2 (183,333 sq. ft.)	69,675 m^2 (750,000 sq. ft.)
Miscellaneous	19,863 m^2 (213,783 sq. ft.) (marina/marine-related)	83,610 m^2 (900,000 sq. ft.) (commercial/light industrial)
COMMUNITY/CULTURAL	16,649 m^2 (179,214 sq. ft.) (theatre, community centre, school, daycares)	58,681 m^2 (631,657 sq. ft.) (school, cultural centre, rec. centre, police and fire station)
HOTEL	40,000 m^2 (430,600 sq. ft.) (500 rooms)	37,160 m^2 (400,000 sq. ft.) (500 rooms)
PUBLIC REALM		
Open Space: Dedicated Parks and Waterfront Walkway	5.2 hectares (13.1 acres) 28.5% of total site	14.3 hectares (35.8 acres) 11.3% of total site
Streets/Other Walkways	info not available	30.7 hectares (76.1 acres) 24.0% of total site
TOTAL LAND AREA	18.2 hectares (45.5 acres)	127.0 hectares (313.3 acres)
RESIDENTIAL POPULATION	4,000 persons	16,000 persons

Note: The Coal Harbour development statistics are based on information from the Official Development Plan and other Marathon documents; the numbers are approximate. Housing, Major Open Spaces and Streets/Walkways include Harbour Green Neighbourhood; numbers are unavailable for the other categories. The Mission Bay development statistics are based on information from the San Francisco Department of City Planning.

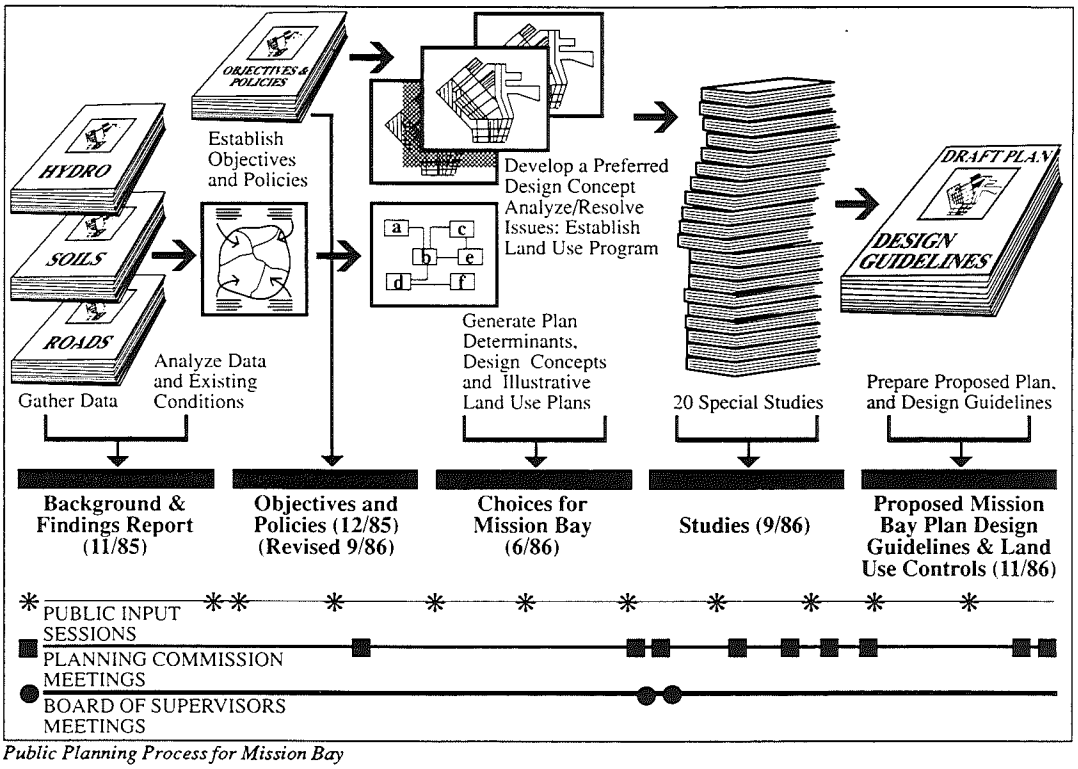
this scale require political approval. Notable distinctions are that San Francisco has a tradition of local representation through an elected Board of Supervisors, while Vancouver, on the other hand, has a Council elected at large, offering no specific local representation.

In Vancouver, input from planning staff and the public are taken as advisory "information" and the exercise of the public's right to be heard (see Arnstein, 1969). Public "influence" on decisions vests in lobbying and media influence on political decisions, and exercise of the democratic process during elections. Vancouver's current City Council and staff, however, to their credit, have initiated a comprehensive CityPlan process to review what is important to residents of Vancouver, both in substance and process (City of Vancouver, 1993). Interestingly, CityPlan responses indicate the public demanding more "neighbourhood" power. Should this initiative be successful, more opportunities for effective participation using, partnership and citizen control models will open up.[4]

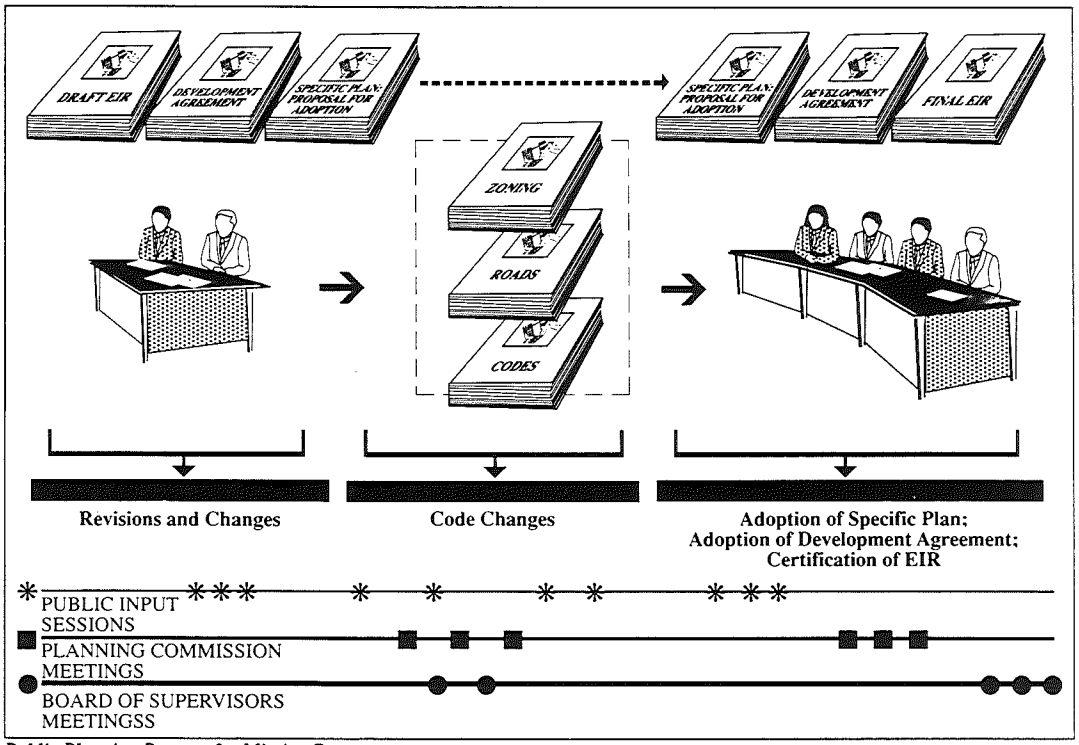
In terms of urban policy documents, both San Francisco and Vancouver had the foresight to seek principled and sensitive approaches to growth in their cities. San Francisco has its landmark 1971 Urban Design Plan as part of the city's comprehensive plan and a 1985 Downtown Plan to regulate growth in the Central Business District; Vancouver has its 1980 Goals for Vancouver, 1983 Coreplan, 1986 Vancouver Plan and various local area plans. However, comprehensive urban design guidelines and public open space planning are conspicuous by their absence.

Design policy, public input and site-specific planning reflect reciprocating exercises at Coal Harbour and Mission Bay. Conceptually, in terms of project management and design, similar approaches were taken for both developments: in-house planning by the city departments in collaboration with the developer, and extensive efforts to inform the public, if not outright participation. This is a significant departure from retaining independent consultants to mediate between the city departments as client and the private developers. The Mission Bay exercise was in effect influenced by two earlier failed development efforts (in 1981 and 1983), both of which sought to maximize development and density without particular appreciation of the City's urban planning and design principles or sensitivity to the public's temperament, and for a longer time frame (1984-1992, *versus* 1988-1993 for Coal Harbour). The Coal Harbour process benefited from being the second mega-development in Vancouver to utilize a consensus-seeking "co-operative planning process" (the first occurred in False Creek North). In this process, the City seeks to address concerns of efficiency and effectiveness in planning approvals by having its staff work very closely with the developer.

In terms of public process, and partially due to the spectre of prior failures for the site, the Mission Bay public participation process appears to be unparalleled. Hundreds of public meetings and hearings occurred throughout an ongoing planning and design process from 1984 to 1992. The pro-



Public Planning Process for Mission Bay



Public Planning Process for Mission Bay

Figure 13: Mission Bay: The major stages of the design and planning process for Mission Bay.

Source: San Francisco Department of City Planning.

cess was referred to as an "interactive" process of public dialogue, including meetings, newsletters, forums and open design-studio hours[5] (see Figure 13). Notable impacts were concerns for affordable housing, traffic, density, building massing, views and wetlands. A significant result was the promotion and acceptance of the project as "a new neighbourhood for San Francisco."[6]

The co-operative process adopted for Coal Harbour was intended to expedite the process, although the timeline runs from 1988 to 1993. Public participation was focused over 18 months in 1989 and 1990; over 60 meetings were held for general information or for delegations directly to City Council to comment on draft planning policies. Special interest groups included tourism, waterfront users, disabled, seniors, business, housing and boat operators. Two newsletters, one from the City and one from the developer, kept people informed of the process. Public concerns were recognized and influenced final decisions; initial plans for a recreational waterfront were diversified to respect the need for a working waterfront, and housing options were also diversified based on affordability.

Design Policies and Guidelines

Design in both developments will be guided by documents which include city- and site-specific policies and codes. In Coal Harbour, seven major planning principles, arising from the 1990 Coal Harbour Policy Statement, guide the development (Coal Harbour Official Development Plan, November 1990) (see Figure 14):

1. *Maintain a Diverse Urban Waterfront:* encourage a diversity of port and water uses to preserve the working waterfront, capitalizing on public viewing of water-oriented activities (see Figure 15);
2. *Build on the Setting*: respect mountain and water views, the natural escarpment edge and other site linkages (see Figure 16);
3. *Integrate with the City:* extend street grid and complete adjacent built form and land-use patterns (see Figure 17);
4. *Streets as Organizing Devices*: focus on streets with sidewalks, buildings with a "street address" and streets as public places;
5. *Create Distinctive Public Places*: plan and design memorable and lively open-spaces, vibrant with multiple functions, reduced traffic impact and a comfortable public realm (see Figure 18);
6. *Create Neighbourhoods*: provide neighbourhoods with distinct identities, defined edges and to appeal to a diversity of people through incorporating different uses, a sense of history, time, and incremental growth and change; and

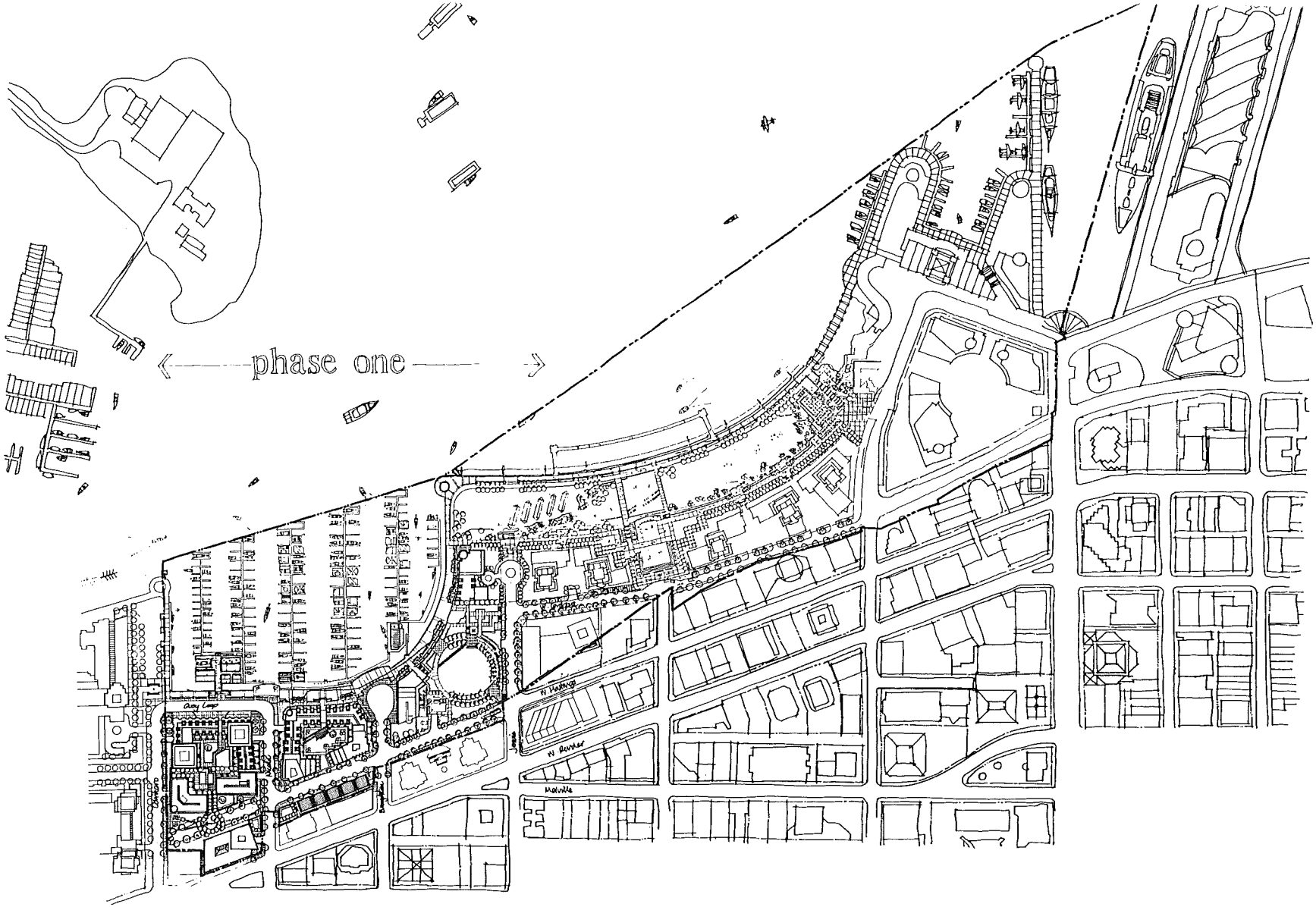
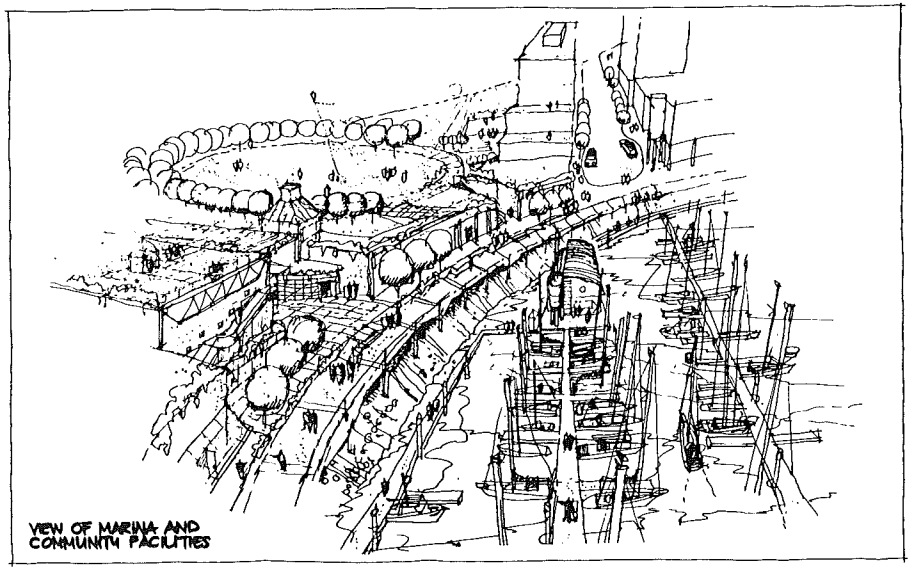
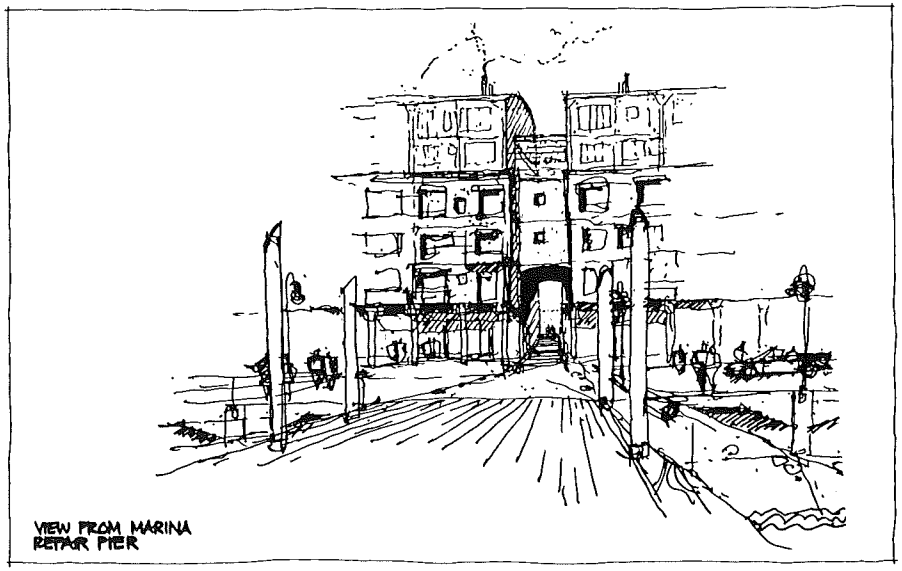


Figure 14: Coal Harbour: This plan for the Coal Harbour development (based on the 1991 Official Development Plan) clearly shows the organization of the site along the public waterfront walkway and the related marine activities. The power of the extended street grid is also evident in creating the residential enclaves.

Source: Marathon Buildings Group.





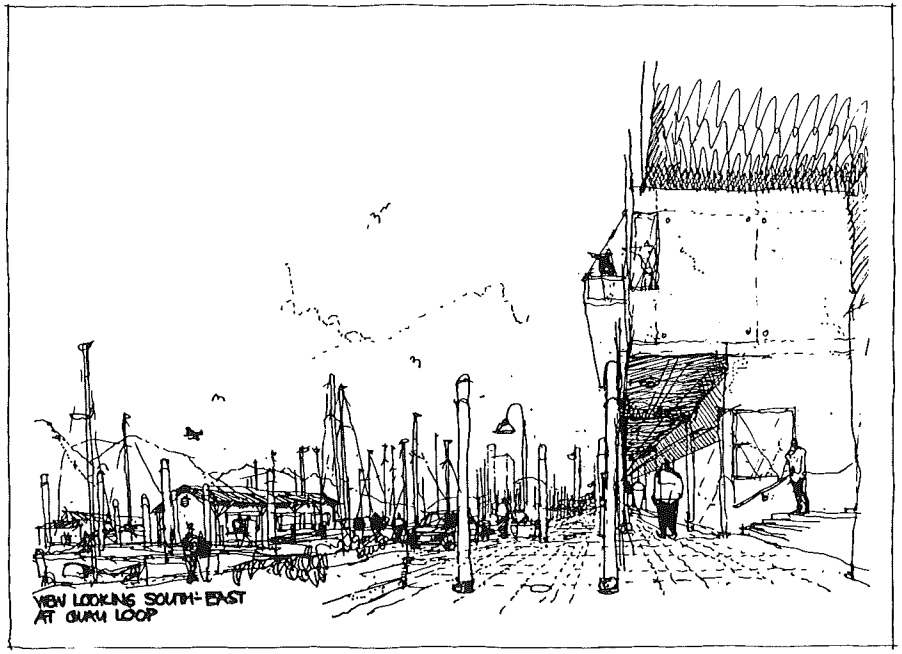


Figure 15: Coal Harbour: Open Space vignettes show proposed character for Coal Harbour's waterfront.

Source: Marathon Buildings Group.

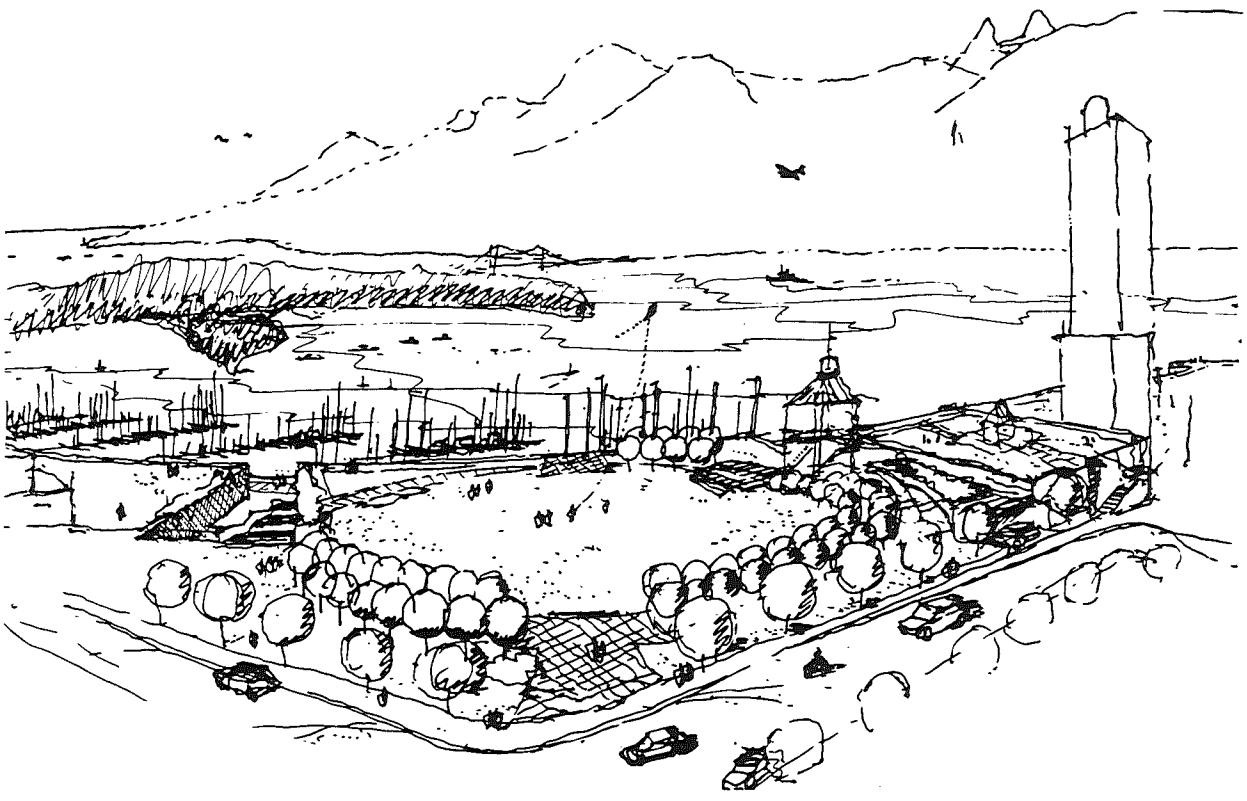


Figure 16: Coal Harbour: This view north across the community park gives a sense of the relationship of the site to the north shore mountains and Stanley Park. The in-plan form of the park itself is borrowed from the large oil tanks that formerly occupied the site.

Source: Marathon Buildings Group.

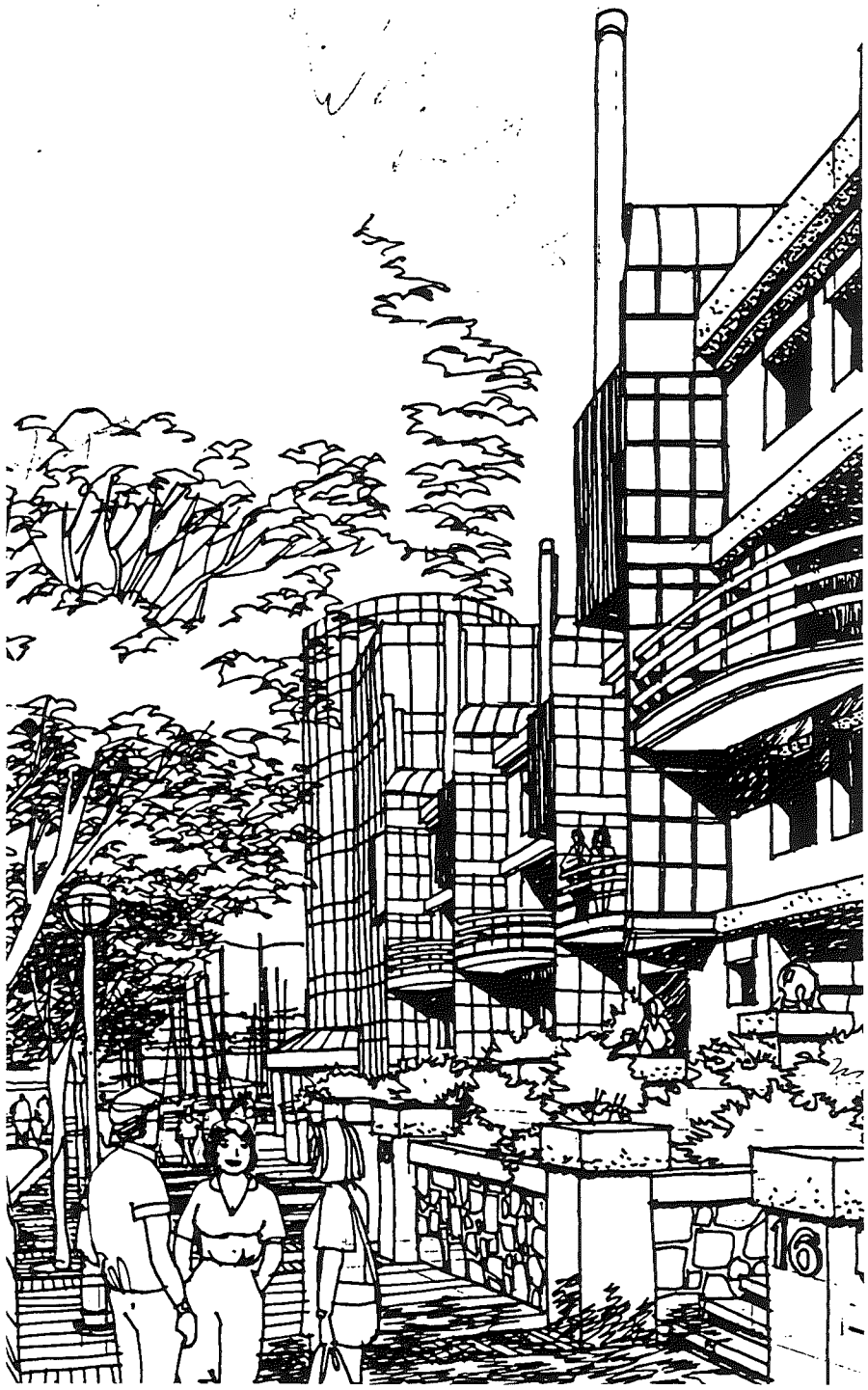


Figure 17: Coal Harbour: This sketch is a view north down Nicola Street in the Marina Neighbourhood. It illustrates the relationship between the public street and the housing.

Source: Marathon Buildings Group.

Figure 18: Coal Harbour: This sketch gives some idea of the public waterfront and the relationship to Marina Quay—the street that provides access to the waterfront of the marinas and other water-related activities.

Source: Marathon Buildings Group.

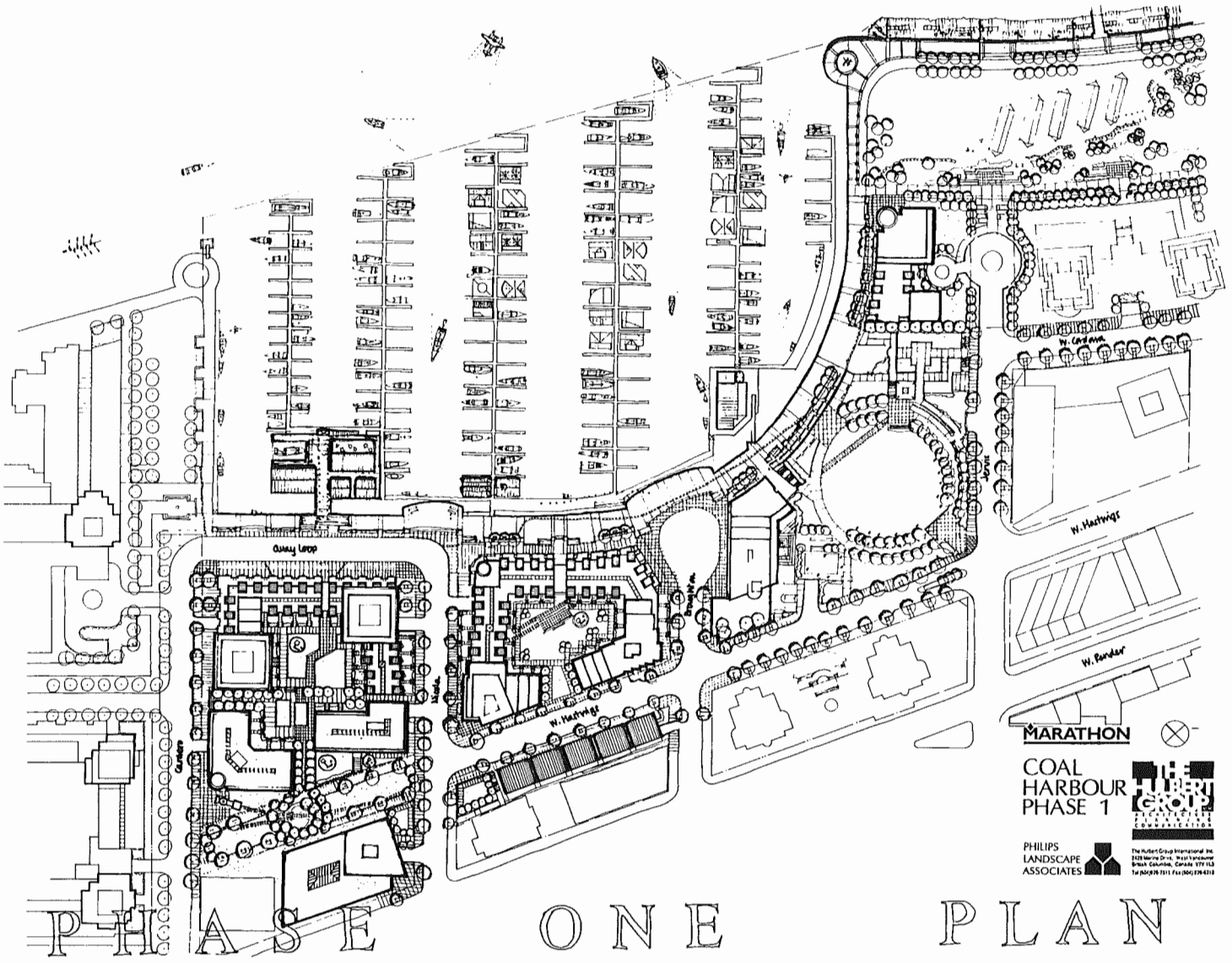


Figure 19: Coal Harbour: Plan of Marina Neighbourhood shows the open space system, with the circular community park adjacent to the school and community centre, and the beginning of the Harbour Green Park with the "environmental waves."

Source: Marathon Buildings Group.

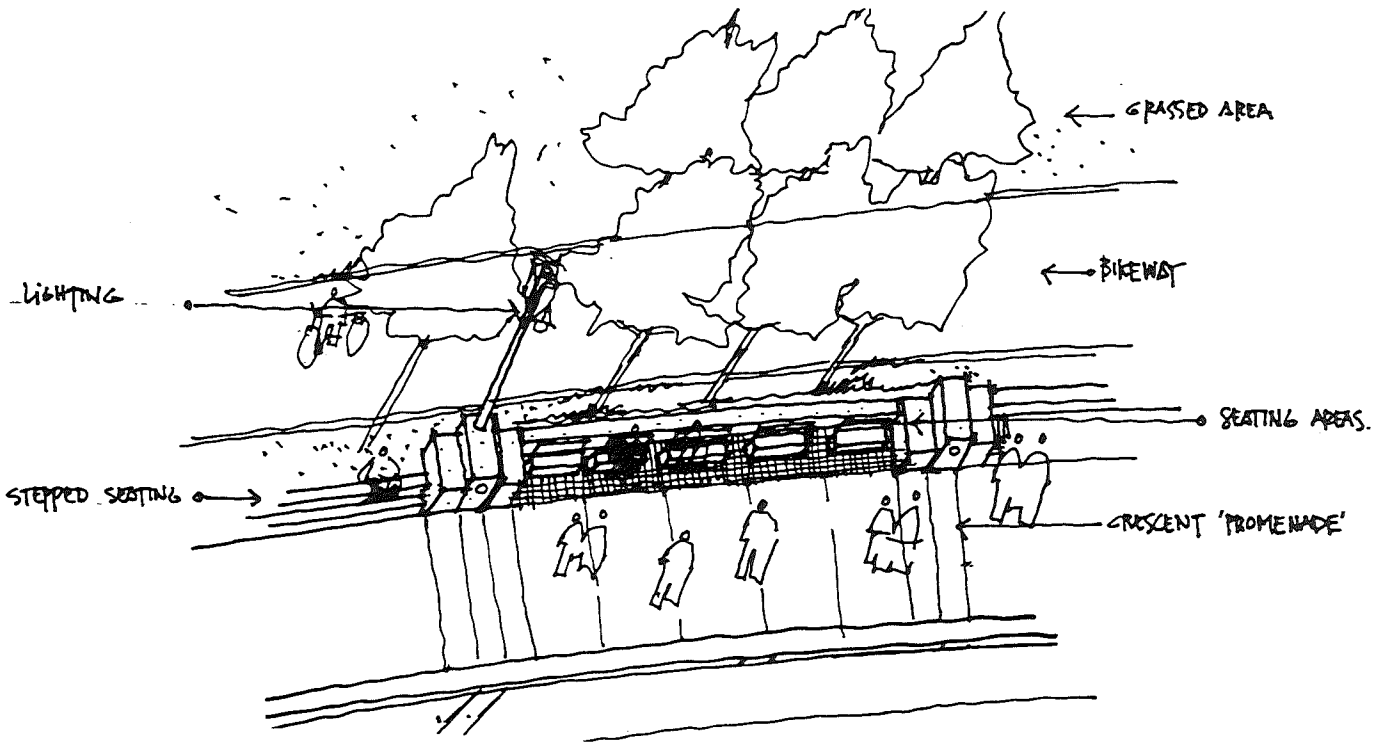


Figure 20: Coal Harbour: The Harbour Green Seawall walk is part of the organizing spine. It accommodates seating areas, bikeway and the promenade.

Source: Marathon Buildings Group.

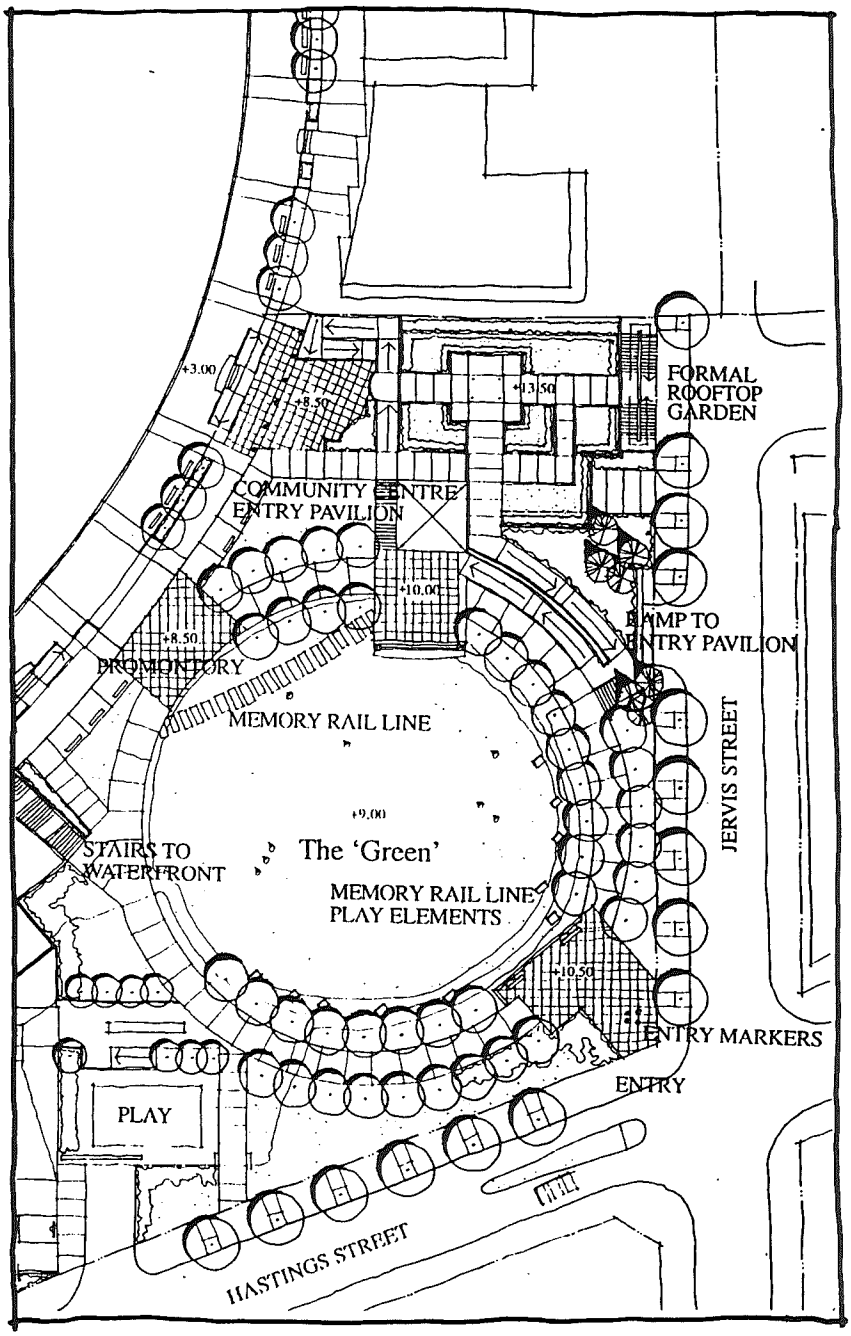


Figure 21: Coal Harbour: The community park plan shows relationship to community centre. The park is in fact built on slab at one level above the waterfront walkway so drop-off/parking related to centre and school occur underneath the park.

Source: Marathon Building Group.

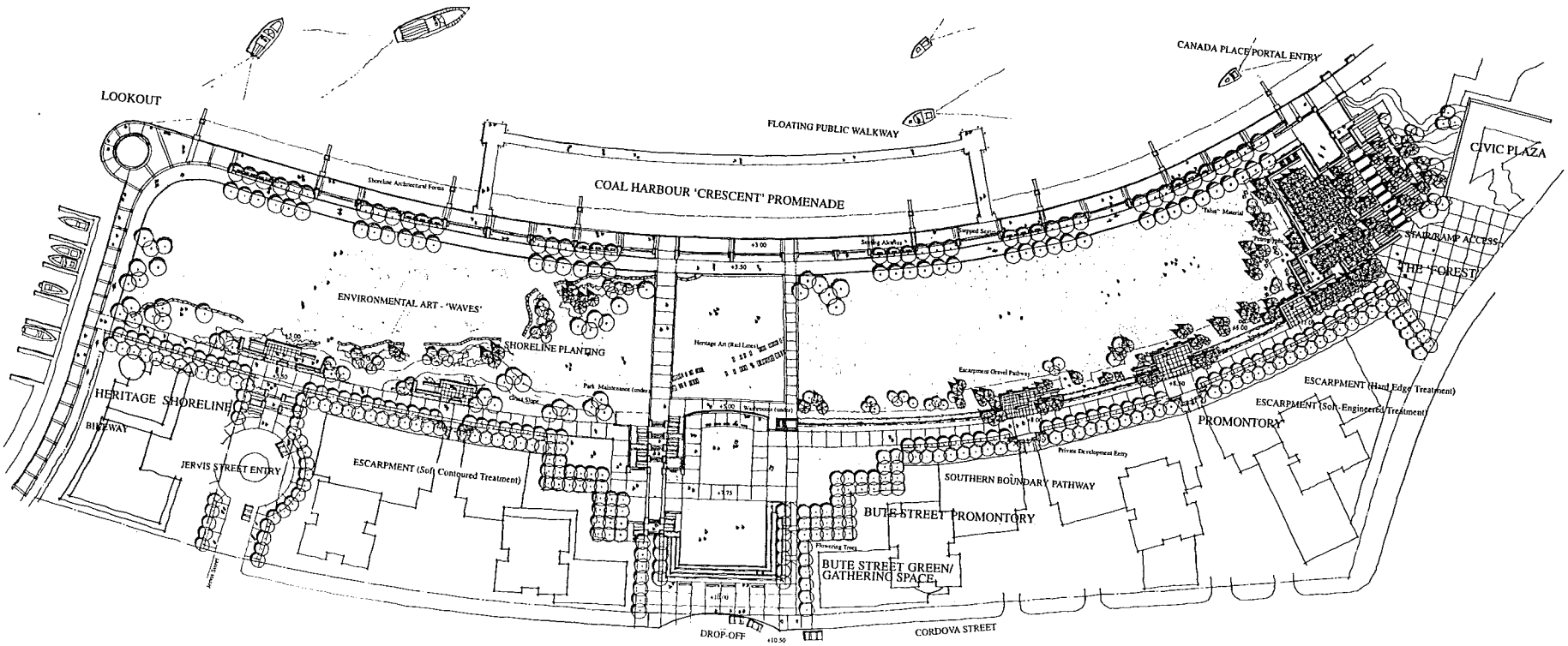


Figure 22: Coal Harbour: Harbour Green Park shows the heritage or "memory" shoreline, reference to the escarpment and the relationship between the housing enclaves and the public realm.

Source: Marathon Buildings Group.

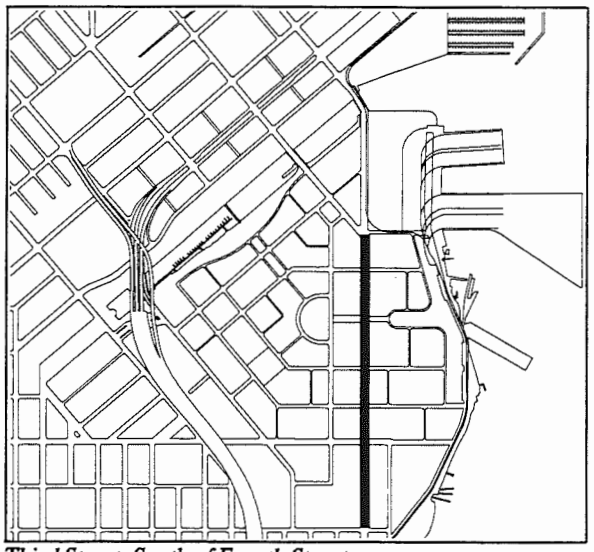
7. *Plan for All Age Groups and Incomes*: the needs of children and seniors should be emphasized with appropriate facilities.

Additional development agreements and covenants provide the City of Vancouver with approximately $100 million of public amenities and infrastructure, paid for by the developer. The Official Development Plan (ODP) outlines maximum height, maximum and minimum square footages, streets, building configurations and general public realm treatments. More detailed design submissions were then presented for sub-areas at development permit and rezoning applications. For example, the character of the Marina Neighbourhood is expressed by "a diversity of urban experiences organized along a people-oriented activity spine which recollects the area's history." (Comprehensive Development Rezoning Submission June 1991, p. 2.9) (see Figures 19, 20). The spine or waterfront walkway provides the focus and organizing idea for the neighbourhood programming, including restaurant/pub, boat repair, marine police, retail, marina office, yacht club, park, school and community centre (see Figure 21). Historical references are suggested throughout, and include the site's original shoreline in the form of "precast concrete or stone slabs, [which] define[s] the edge between open play area and natural self-regenerating foreshore landscape with sculpted landscape waves (ibid, p. 2.12) (see Figure 22).

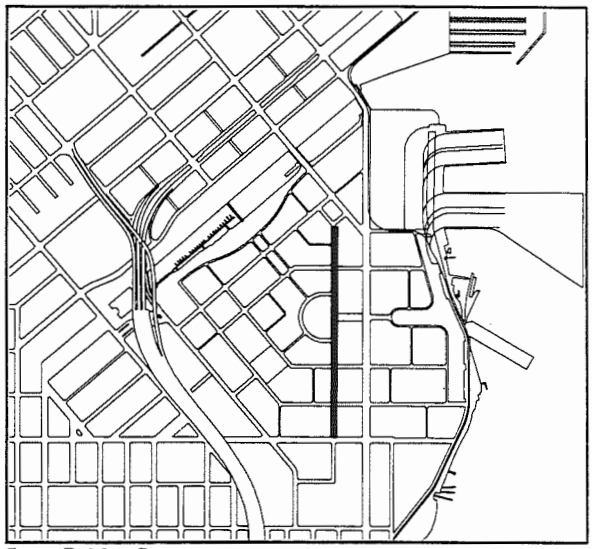
Misson Bay design is guided by 45 "objectives," 175 "policies," and a broad array of guidelines, which in many cases bear a strong resemblance to Coal Harbour. These divide among nine sections of the *Mission Bay Plan*, including the overall land-use and development program, urban design, residence, recreation and open space, commerce and industry, community facilities, transportation, environmental protection and community safety. Significant to the formulation of the objectives, policies, and guidelines are four principles in San Francisco's Urban Design Plan of 1971:

1. *Emphasize City Pattern and Image*, including character, organization, purpose and orientation (see Figures 23, 24);
2. *Conserve Resources*, including natural areas, heritage development and street space (see Figure 25);
3. *Moderate New Development Impacts*, including visual effect, height and bulk of buildings, and use of large land areas (see Figure 26); and
4. *Improve Neighbourhood Environments*, including health and safety of residents, feeling of neighbourhood, visual amenities and opportunities for recreation (see Figure 27).

The numerous objectives, policies and guidelines cannot be attributed to the 1971 Urban Design Plan alone, though. Public input, issues of marketability and the efforts of the city planning and design consultant teams are important in this regard.



Third Street, South of Fourth Street



Long Bridge Street

Figure 23: Mission Bay: Design objectives and policies for streets in Mission Bay, including "gateway entries," minimizing of engineering standards to serve the community, and attention to land use to provide multiple uses are designed around "dominant visual themes." Two examples are Third Street developed as a"grand boulevard," and Long Bridge Street as a major neighbourhood shopping area.

Source: San Francisco Department of City Planning.

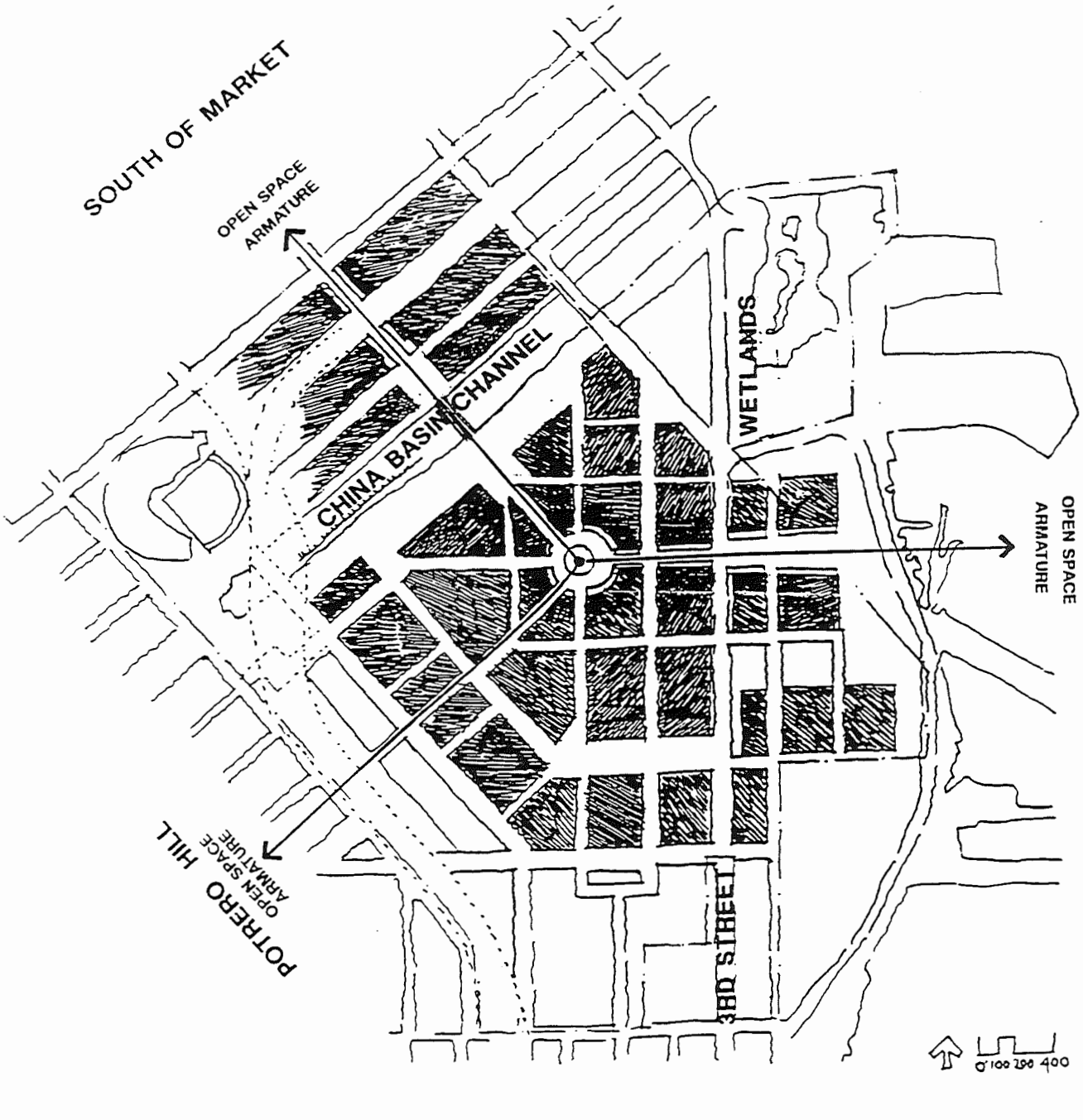
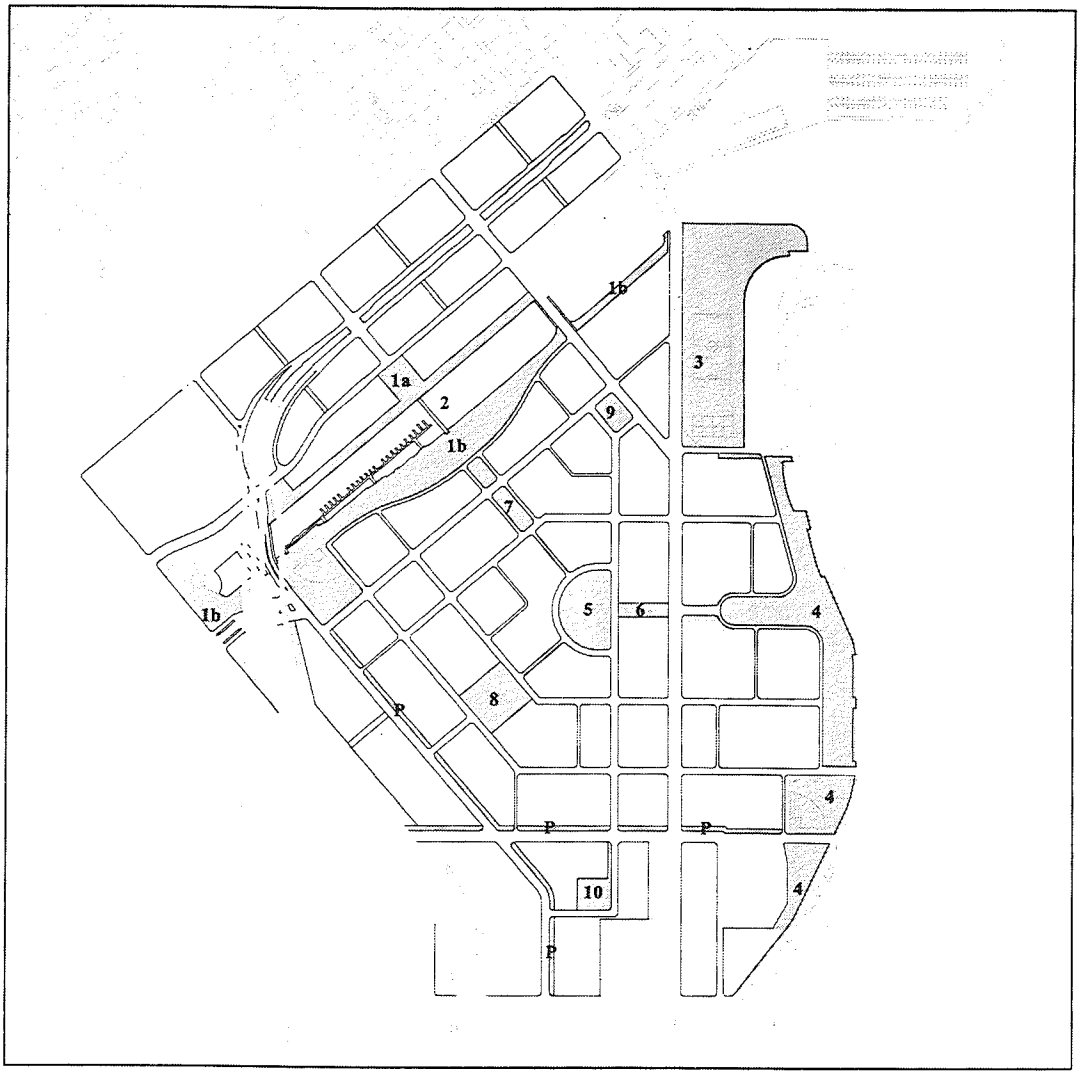


Figure 24: Mission Bay: In addition to providing a "network" linking various locations of the development, open space design at Mission Bay utilizes three "armatures" to physically or visually tie the user to areas outlying the immediate site.

Source: Danadjieva & Koenig Associates.



Public Open Space

Recreation Fields

1a China Basin Channel - Northern Edge

1b China Basin Channel - Southern Edge

2 China Basin Channel (Water)

3 Mission Point Park and Playing Fields

4 Mission Bay Green and Fountain Park

5 Crescent Park

6 Long Bridge Plaza

7 Northwest Radial Park

8 Southwest Radial Park

9 Entry Park

10 Minnesota Park

P Park Pathways

Figure 25: Mission Bay: Open space, covering approximately 68 acres, is a major facet of urban design at Mission Bay. Public and private uses are planned for residential areas. Family units are in close proximity to public open spaces. About 12 acres of wetlands would replace Mission Bay Point Park and playing fields shown on this plan.

Source: San Francisco Department of City Planning.

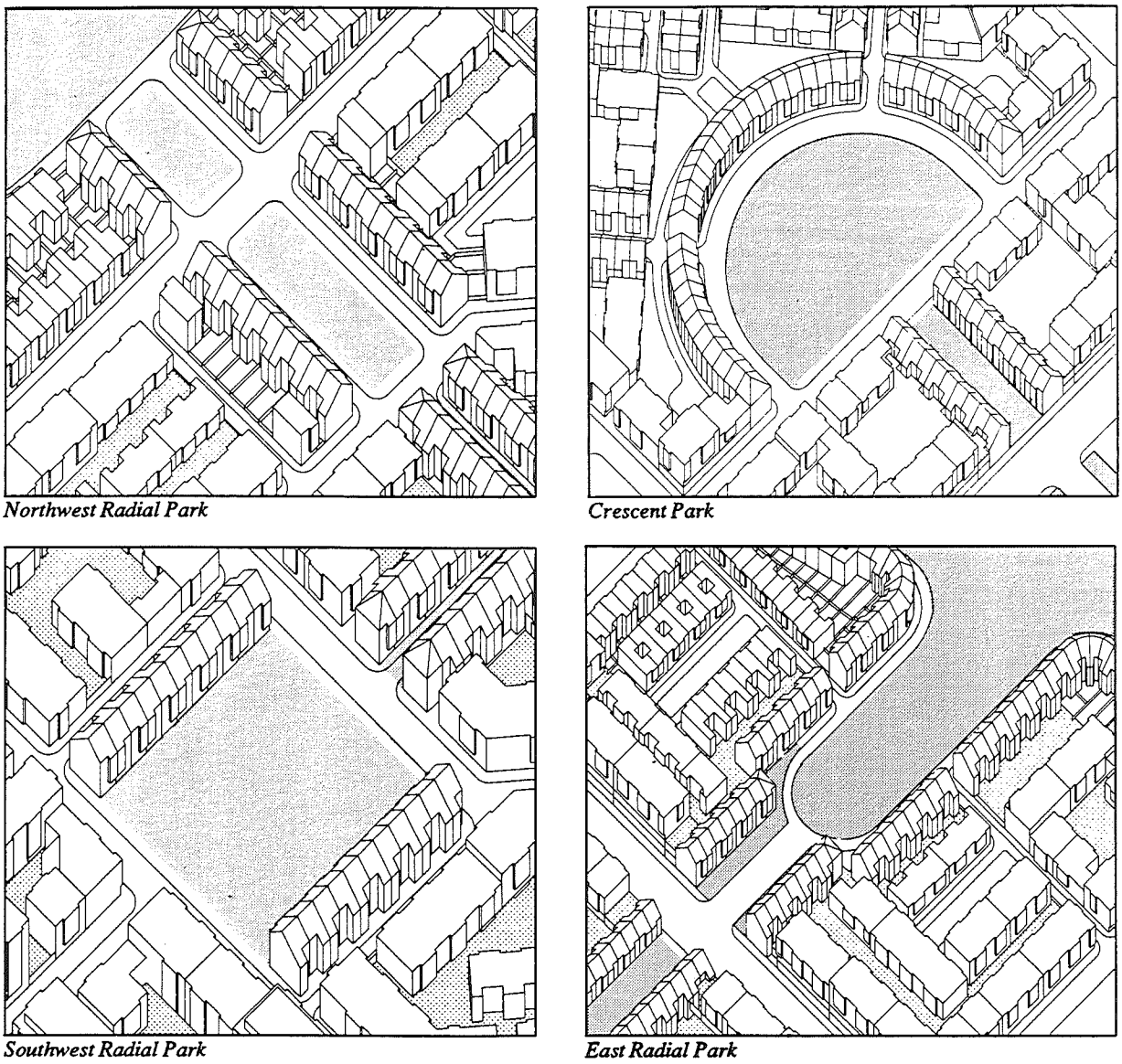
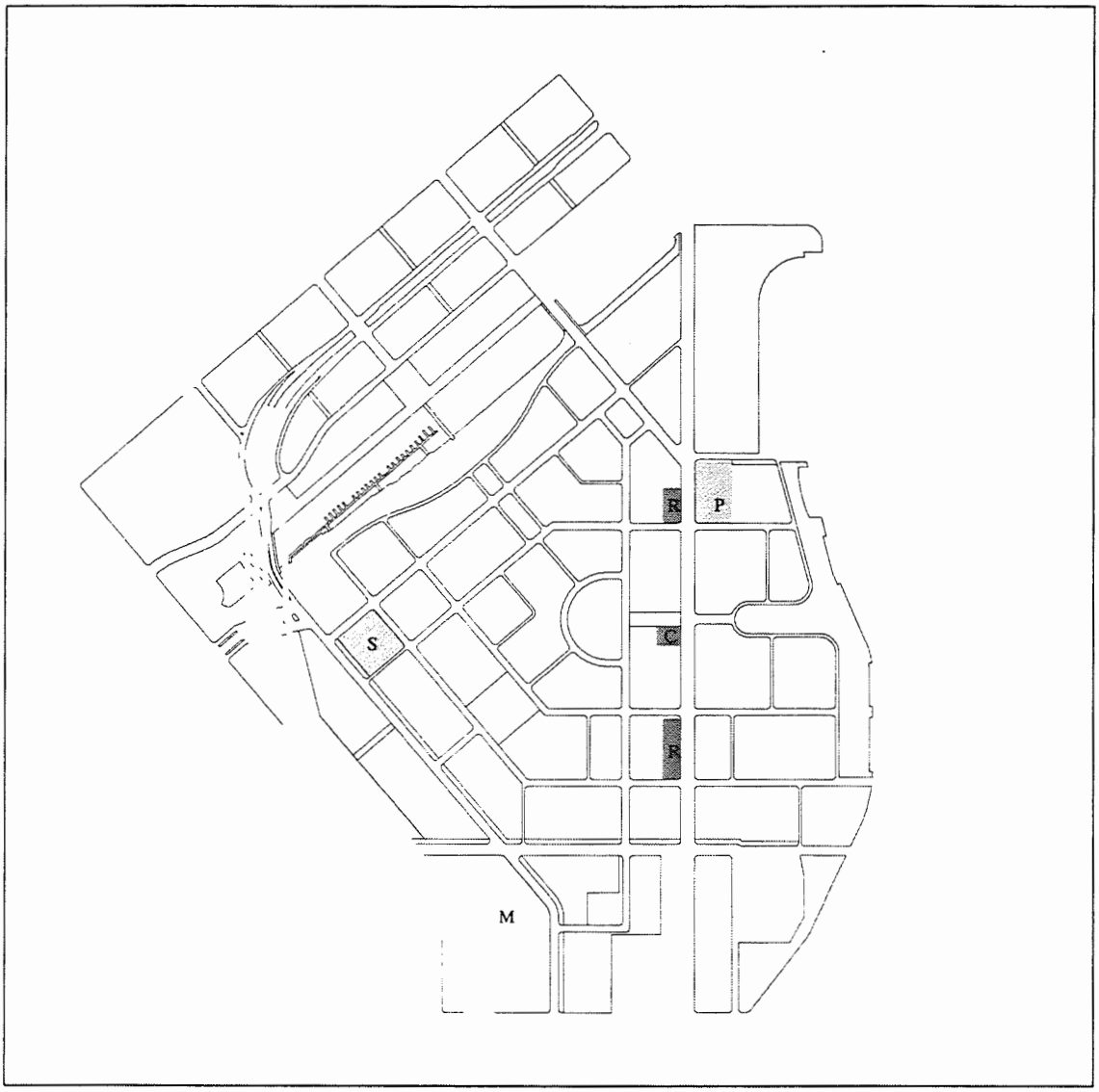


Figure 26: Mission Bay: Townhouses at Mission Bay are limited to 3-4 storeys. Some apartment dwellings will reach 10 storeys. Special emphasis is given to affordable housing and residential areas situated on public parks.

Source: San Francisco Department of City Planning.



S Public School

P Police, Fire and Recreation

M MUNI Metro Facility

Other Public Facilities

C Cultural Center/Theater

R Community Facilities/Retail

Figure 27: Mission Bay: Community and cultural facilities include a centre for visual and performing arts, a public elementary school—accessible to public groups after hours—a police and fire station, a recreation centre and child care.

Source: San Francisco Department of City Planning.

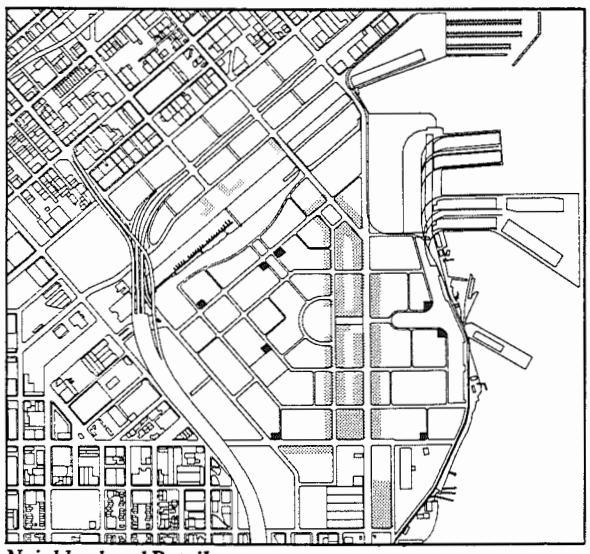


Figure 28: Mission Bay: Small scale retail uses are dispersed at Mission Bay in an effort to create a sense of neighbourhood.

Source: San Francisco Department of City Planning.

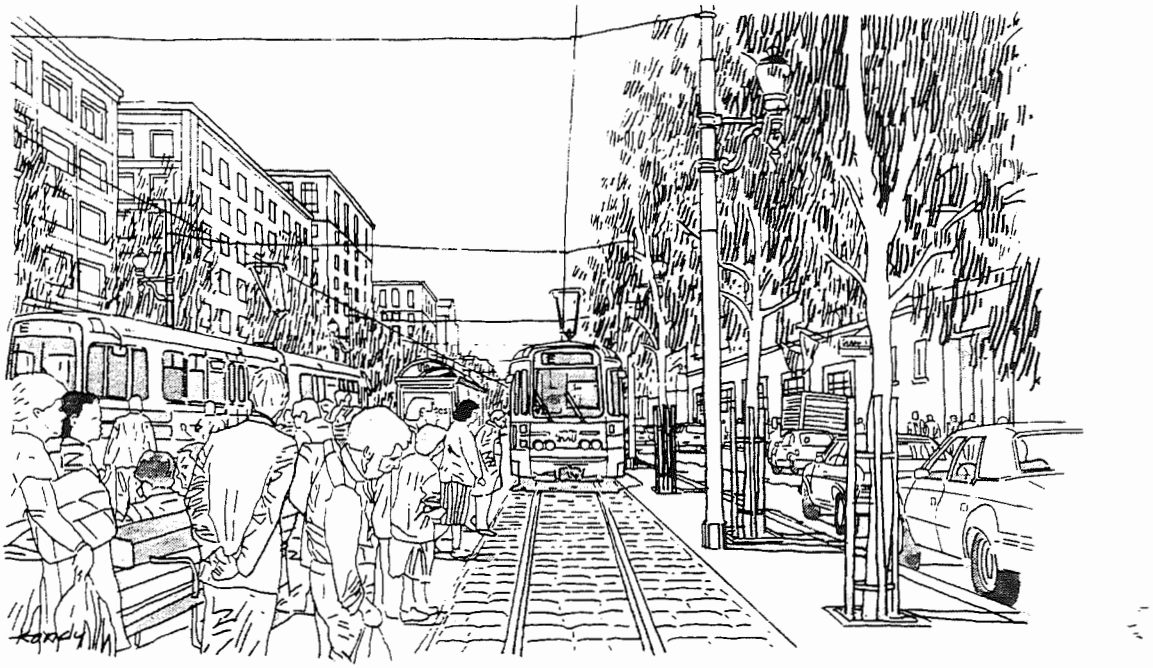


Figure 29: Mission Bay: Several public transit links, including bike and pedestrian pathways, are planned to provide transportation options for Mission Bay residents and visitors.

Source: San Francisco Department of City Planning.

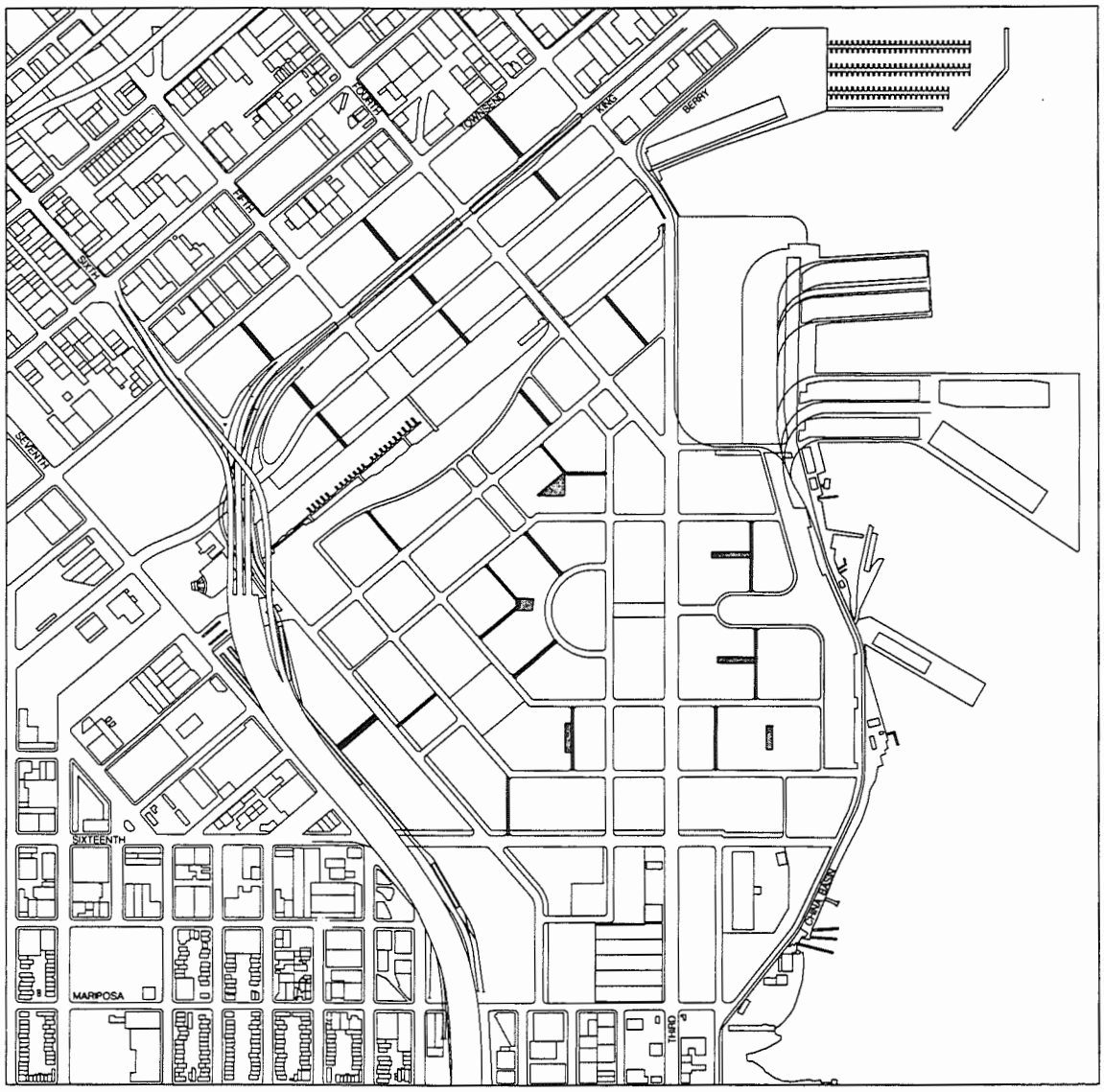


Figure 11: Required Mid-Block Lanes and Mid-Block Parks

Mid-Block Lane

Mid-Block Park

Figure 30: Mission Bay: The contextual street pattern of Mission Bay results in some sizeable blocks in the 56 block development. "Mid-block lanes" are planned for larger blocks to add street frontage, encourage pedestrian circulation, and to allow placement of "mini-parks."

Source: San Francisco Department of City Planning.

Figure 31: Mission Bay: Character sketch of a mid-block passageway at Mission Bay.

Source: San Francisco Department of City Planning.

Figure 32: Mission Bay: The Mission Creek area of Mission Bay is proposed as a neighborhood typical of others in the development and San Francisco.

Source: Catellus Development Corporation.

In summarizing objectives for Mission Bay, former San Francisco planning director Dean Macris, who oversaw the plan, identifies five key areas as significant (Porter, 1992):

1. *Mixed Use:* diversified and compatible land use is significant, with particular emphasis on housing (see Figures 28, 29);
2. *Contextual Design:* reflect and integrate San Francisco development patterns relative to street, neighbourhood, and open space morphologies, typologies and uses (see Figures 30, 31);
3. *Access to Waterfront Uses and Amenities:* waterfront access by residents and visitors is very important for both social and economic vitality (see Figure 32);
4. *Affordable Housing:* over one third of the housing units are "affordable," whereby subsidized below-market rents and prices apply;
5. *Infrastructure Costs:* The developer bears all infrastructure costs. While this is not a direct urban design element, affordable and adequate infrastructure is critically important to successful urban design and reflective of the development's form.

COAL HARBOUR AND MISSION BAY: CONSIDERATIONS ON WHETHER NEIGHBOURHOODS CAN BE DESIGNED

As common reference points, the following analysis is organized under the conditions required for "good neighbourhoods" described previously. Our analysis of the Coal Harbour and Mission Bay developments as neighbourhoods reveals that: (1) both invested considerable energy in process, physical design and implementation; (2) neither fulfils all the criteria for good neighbourhoods and both have inherent shortcomings; and (3) the dynamics of implementation and occupancy over time leave the final determination to future review.

Lacking in both developments is demonstration of a clear understanding of "neighbourhood," in spite of the seemingly exhaustive efforts at process, physical design and implementation. The Mission Bay Plan does not define "neighbourhood," although creating a neighbourhood was an objective important to the public and design team alike. As discussed below, the design program for Mission Bay lurches forward in this respect, sometimes in an inspired manner, other times in questionable directions. Similarly in Coal Harbour, the concept of "neighbourhoods" formed the basis for organizing the development—from massing controls that talk about "overall configuration of the neighbourhood skyline" and the need for the "street base [to] express the small-scale masonry appearance of the Marina Neighbourhood" (CD-1 Guidelines, 1991, p. 6), to guidelines for the public realm that focus on a livable, healthy and environmentally responsive "good neighbour" community. Yet, as indicated

above, there is little discussion and no consensus on what or where the Coal Harbour neighbourhood(s) are.

APPROPRIATE SIZE AND SCALE

Coal Harbour is roughly one-sixth the area, one-fourth the population and half-again the density of Mission Bay. On the basis of population, Coal Harbour would be one neighbourhood and Mission Bay should be more than one. On a perception/familiarity of area basis, both developments should likely be more than one.

In terms of built form, six-to-eight storey buildings are considered to be desirable neighbourhood scale (Alexander, 1987). The 25-30 storey towers of Coal Harbour are an impediment to developing good neighbourhood dynamics. The lower height and bulk of Mission Bay buildings are in keeping with a more neighbourly scale.

CLEAR BOUNDARIES

The Mission Bay area is defined by the Bay to the east, an elevated interstate highway to the west, and the light-industrial and office district of South of Market area to the north, all of which tend to barricade the Mission Bay area. On the one hand, this suggests clear identification of the area. However, clear neighbourhood boundaries are by definition permeable and not isolating, as are barricades. Admirably, planning and design responses include establishing "gateways," "open space armatures," multi-modal transportation and other linkages to adjacent and nearby areas. It remains to be seen if these design elements break down the barriers and create clear and permeable boundaries.

Internally, Mission Bay's building masses, locations, land uses and open space do not offer the potential of identifying multiple neighbourhoods within the larger development, apart from a north-south street that appears to sever the western third of the area. Given its large land area and population, Mission Bay actually discourages boundaries of a human scale, presenting instead those of the "grand scheme" of modernist architecture.

Coal Harbour is also bounded by water which, unlike Mission Bay, is relatively accessible by small private boats. Coal Harbour's other boundaries are the convention centre at Canada Place to the west, the downtown edge and Stanley Park. These boundaries do not act as barriers, but neither are they clear edges to the project in spite of designer intervention. Even though the existing adjacent road patterns have been carefully continued, Coal Harbour still reads as a very separate development. The building forms, massing, and even the nature and spatial quality of the open space, are quite different from the surrounding precincts, with the possible exception of the high rise West End. While clear

boundaries are essential to good neighbourhoods, the integration of these major projects into an existing city rarely seems successful.

Internally, Coal Harbour has been planned to give at least two areas distinct identities: the Marina and the Harbour Green. The third component, Burrard Landing, has been referred to as a precinct, not a neighbourhood, due to its mainly office and public facilities programming.

COMMON LANDS AND RESOURCES

"Common lands and resources" refer to elementary schools' after-hours use, recreation facilities, cultural outlets, streets, lanes, parks, trees, signage, lighting and a broad range of similar publicly owned or appropriated elements. While parks, squares and a school are planned for both Coal Harbour and Mission Bay, neighbourhood features such as community gardens or places to have "yard sales" and the tremendous resource they provide are lacking (see Francis *et al.*, 1984; Warner, Jr., 1987). There is little sense of allowing the neighbours to make their mark in this manner.

Being comfortable in, having a sense of investment in, and hence assuming responsibilities for urban environments, is limited by scale. With excessive scale, places become ownerless, everyone faceless, and the condition of the neighbourhood non-existent. One concern about Mission Bay's promotion as one neighbourhood is that it is too large for inhabitants to feel vested in common lands and resources of the area.

Beyond the matter of scale, Mission Bay does not provide enough facilities to encourage a sense of responsibility and belonging which typify neighbourhood. For example, the failure to provide additional schools, the lack of places to worship, reliance on a major commercial retail street, and the relatively large population and land area argue against creating Mission Bay solely as one neighbourhood.

A dilemma stems from the balance and distinction between neighbourhood space and public space. This dilemma is potentially acute in Mission Bay's status as a single neighbourhood, although the problem exists in both developments. Provision of more carefully located common land and resources could help lay the groundwork for two or more neighbourhoods in Mission Bay and underscore the single major commercial street as what it seems to be—a public space or setting for Mission Bay residents and visitors alike.

Complementary civic and neighbourhood programming "cues" seem to be missing. In Coal Harbour, there is no sense of welcoming a variety of people to the public places. If artists are to be a part of this community, then perhaps some part of Harbour Green, the major public open space in Coal Harbour, should be treated as a temporary installation field for environmental artists from the city

and the neighbourhood to make a continual and changing comment on "us" and our landscape.

Neighbourly interaction and identification can be encouraged in many ways: by introducing the authenticity of a "rough and gritty" working waterfront into the design vocabulary; by not over-designing the public spaces; and by opening up opportunities for the future. For instance, the current design of both developments seems too programmed, finished and predictable. What invites the imagination of the child or adult, and the sharing of experiences with neighbourhoods is for example, activities associated with fishing boats, fishing piers, a bait shop and changing tides. These are activities connected to the very place—in the case of Mission Bay and Coal Harbour—on the edge of the ocean.[7]

SECURITY

Security of residents and property is a priority both in the Mission Bay and Coal Harbour plans, through consideration of building design, police and fire protection, visibility, lighting, appropriate landscape treatment and the concept of "eyes on the street" (Jacobs, 1961). But perhaps it is this latter concept, the sense of security which comes from people claiming space as their own and watching out for it and others in their neighbourhood, which is a priceless benefit.

DIVERSITY

Diversity in both developments is given much attention as it relates to compatible mixed-use development, integral to postmodern urban design. Some freedom from automobile dependence is likely to occur given the proximity of many commercial and recreational outlets. The diversity of housing types evident in Coal Harbour and Mission Bay also contributes to social diversity. However, this is possibly a hollow pursuit, given the relative costs of housing in Vancouver and San Francisco that affect affordability in such new developments. Also lacking are more basic and grassroots uses such as a farmer's market, flea market or community garden.

PLACES OF SOCIALIZATION

As places of socialization, both Mission Bay and Coal Harbour provide cultural facilities including centres for the performing arts, an elementary school, day care centres, an open space network, and public connections that transcend the strictly functional. These facilities and networks are intended to invite a variety of planned and serendipitous social interactions.

One oversight common to both is the disregard for significant places of religion. In Mission Bay there is some provision for religion, as churches are given a "conditional use" status. However, this

important ingredient in socialization for young, old and less privileged is generally ignored.

Another significant deficiency is formal education facilities. Only one school is proposed for a projected population of 16,000 in Mission Bay. The importance of schools relative to the neighbourhood concept has been long accepted (Relph, 1987) and Mission Bay falls short, lacking school programs such as drama and sports events. The numerous day care facilities to be provided impress one as being politically acceptable, similarly to the neighbourhood concept itself. Coal Harbour, in addition to day cares, offers a family drop-in centre and out-of-school care facility, plus one elementary school for a projected population of 4,000. It is important to note that the developers provide the sites for these amenities, but do not pay for their construction.

In both projects, retail outlets provide the prospect of hang-outs as social places. In Coal Harbour, there is some potential for socialization along the public waterfront if the design responds with enough nooks and crannies for hanging out. Mission Bay, on the other hand, seems to be short-changing its waterfront opportunities.

SENSE OF COMMUNITY

Elementary schools and off-hour uses provide a measure, if only minor, of a sense of community. In addition, in Coal Harbour, an 1800 m^2 (19,375 sq. ft.) community centre will offer multi-purpose rooms and a separate gym. In Mission Bay, a recreation centre, police and fire stations should support community identity.

But perhaps the strongest community asset is the amount and location of public open space found in both Coal Harbour and Mission Bay. Unfortunately, however, neither goes far enough in developing grassroots programming of open space to support a sense of community. Where are the places for community gardens, yard or lane sales, boulevard gardening, a farmer's market or outdoor bazaar? These programming ideas are all highly suitable for areas that have a relatively mild climate. Why not have places where neighbourhood people can make their mark?

Where is meaningful attention given to the historical development of the Mission Bay site, or connection with a working waterfront? Neither the adoption of street names reflecting the site's heritage nor the placement of markers at the original Bay shoreline adequately reflects the site's heritage. Important authentic elements relative to community and San Francisco history are non-existent in Mission Bay.

In Coal Harbour, to the development's credit, much has been made of the site's history in the planning and urban design directives. The very publicity of the working waterfront is an essential part of Vancouver's vision of itself. However, the proposed historical references to Coal Harbour, intended

to give a sense of identity to the community, seem superficial. The whole landscape still reads much like other Vancouver landscapes—polite and well-mannered. How do we effectively allow the grittiness of a working world to coexist with new developments? Is it possible to create a framework at this stage which will allow people to express themselves in this landscape? Are the ingredients there for a real place, or are the descriptive words and images in the design/planning documents all there is?

CONVENIENCE AND PRACTICALITY

In both developments, the emphasis on mixed use, physical integration and linkages is largely commendable. Dispersal and mixing of housing, retail, commercial and recreational outlets offer convenience and practicality in both developments.

Transportation in Mission Bay works particularly well. People who live, work and visit there have several options for movement within the development, as well as good connections to outlying areas. But rather than being addressed on the scale of the neighbourhood, they may be more appropriately associated with the concept of the urban village and region.

Movement options in Coal Harbour are neighbourhood focused: pedestrian, bicycle, ferry and transit are all emphasized. Off-site connections are also good. Provision has been made for future on-grade or underground transit links.

RECREATION

Recreational opportunities exist at Mission Bay—at least there is a large land area devoted to them. This is not surprising, given the amount of land owned by the city (144 acres). In Coal Harbour, recreation includes the small boat marina and associated water activities, available for those with disposable incomes. The community centre and associated open spaces offer more organized recreation. Of course, the waterfront walkway is expected to be a place of movement: roller bladers, cyclists, skate boarders and strollers.

Therapeutic activities like jogging and other stress-reducing pursuits serve as reminders of hectic urban life rather than of an effective neighbourhood. Will there be places for neighbourhood children to play pick-up basketball or street-hockey? Will there be places for street dancing?

While the settings of Coal Harbour and Mission Bay are magnificent and the site planning and building forms afford many people with views, this experience of nature is a backdrop to our daily lives. The neighbourhood urban landscape should offer us more than vicarious appreciation for nature. If this is a true neighbourhood, where do children go to get muddy? Are the open spaces more than a sterile 1990s version of the picturesque? What are the place-specific experiences that will be the makings of

childhood memories? The disappointing downside of recreation at Mission Bay, more than Coal Harbour, is the emphasis on scenography where activities planned for the waterfront location could occur in virtually any landlocked setting. Programming, while excessive from a top-down perspective, is not place- or neighbourhood-related.

A good example of wetlands restoration may be provided in Mission Bay, although the amount and their very existence are still the subject of debate. In Coal Harbour, the planning directives talk about using site run-off. This needs to be exploited more; for instance, the environmental waves on the Harbour Green are too superficial a response. The recognition of the shoreline is not bold enough. These are developments of the '90s—they have to lead the way in ecological awareness and authentic responses.

CONCLUSIONS: TOWARDS A CULTURE OF NEIGHBOURHOODS

The hallmarks of Coal Harbour and Mission Bay as put forth by their proponents are many. The most prominent of these are the complex and cumbersome planning processes and the painstakingness of urban design. The urban design exercises include two significant characteristics: (1) the limited use of contextualism, despite the extraordinary opportunities for contextualism to integrate these large and costly developments in space and time; and (2) the heavy reliance on physical design to make good neighbourhoods.

As examples of postmodern urban design, Coal Harbour and Mission Bay promote a "way of life" that is ostensibly achieved through attention to human scale, pedestrian priority, different forms and gradients of density, mixed use, democratic streets, honouring the past and urban context. An interesting historical note is the similarities of these two developments in process and product to those of the City Beautiful movement of a hundred years ago in North American cities. Both Coal Harbour and Mission Bay are arguably acultural, as typified by highly formal designs tempered by artificial, naturalistic settings reflective of the romantic movement. City Beautiful environmental designers of the period believed they could effect "appropriate" human behaviour or a way of life through designed images. Coal Harbour and Mission Bay reflect the City Beautiful as attempts at social engineering through physical design. They differ in the elaborate maze of design processes, especially in the case of Mission Bay, and the spouting of jargon unique to environmental design. Witness the graphic representations used as illustrations in this paper, which are intended to explain the developments and sell the ideas. The images, particularly the perspective renderings presented from fixed vantage points, speak louder than words, but are they accurate, substantive or merely stylistic? Perhaps the graphic illustrations having the most credence are those at the "diagrammatic" or "schematic" level, due to their

TABLE 2
DUALITIES OF DESIGN PROCESSES, A CULTURE OF NEIGHBOURHOOD AND THEIR RELATIONSHIPS TO COAL HARBOUR, MISSION BAY AND NEIGHBOURHOODS

	COAL HARBOUR	MISSION BAY	NEIGHBOURHOODS
TRADITION OF REASON Treatment of social problems; rational management of society	●	●	
SUBSTANTIVE TRADITIONALITY Regard for past wisdom; institutions steeped in past; longstanding traditions and inherited patterns			●
INSTRUMENTAL ACTION Social systems; "strategic" rules of behaviour; reliance on scientific rationality and high technology	●	●	
COMMUNICATIVE ACTION Shared understanding and consensus; importance to ritual, celebration, craft; means of sustenance			●
GESELLSCHAFT Division of labour; speciality roles and languages; detached dependencies; disconnection of the individual; diverse values	●	●	
GEMEINSCHAFT Importance of family institution; community bonds; connection to places, events, customs; shared values			●

lesser likelihood of misleading the public and misrepresenting the developments.

The City Beautiful's downfall was caused not only by a reliance on "top down" design determinism but, from a post-modernist urban design perspective, by a lack of public participation. Coal Harbour and Mission Bay, then, can be viewed as descendants of the City Beautiful, but different—as an "improved" later generation of physical planning and design which includes public participation. However, these developments are much more efforts at formalism and programming than they are at contextualism and realization of neighbourhoods—in spite of, or possibly because of, public input.

Assuming that Coal Harbour and Mission Bay probably will not become neighbourhoods, questions are: "What was lacking in their very elaborate design processes?" and "What is necessary to achieve neighbourhoods beyond a prescriptive approach?"

Certainly, the answers to these questions require extensive consideration. However, in the context of the theory of neighbourhoods discussed above, a desirable culture of neighbourhoods flows from substantive traditionality. In contrast, the tradition of reason, related to the "treatment of social problems" and "the rational management of society," was more influential in Coal Harbour and Mission Bay planning and design. Similarly, the multitudes of design objectives, policies and guidelines shaping the two developments, as well as the significance of public participation, exemplify instrumental action, and therefore are a basis, in quite subtle terms, for "influencing the decisions of other social actors viewed as potential opponents" (Roderick, 1986). This naturally reflects the composition of the consultant teams responsible for the design of Coal Harbour and Mission Bay in their characteristics of *Gesellschaft* relative to detachment, dependency and separation in spite of great efforts to the contrary.

It therefore follows that the approach to realizing design solutions for developments such as Coal Harbour and Mission Bay requires a shift away from heavy emphasis on process, physical design, and elaborate programs of goals, policies, and guidelines that are reflective of a tradition of reason, instrumentalism, and *Gesellschaft*, and a reorientation towards endeavours fundamental to the human condition as reflected in substantive traditionality, communicative action and *Gemeinschaft* (see Table 2).

Our experience with and review of the Coal Harbour and Mission Bay developments indicate the importance of people experiencing the shaping of environments—both physical and social. If this is true, it is incumbent on the urban designer not to rely exclusively on excessive programs, large-scale developments, formalism and attention to detail, thereby precluding or hindering inhabitants from shaping their living environments. More pertinent to the shaping of neighbourhoods for future and unknown inhabitants is to provide a *framework* that is a means by which people can dwell over time,

and in which urban design is broadened as a paradigm through consideration and sensitivity of substantive traditionality, communicative action and *Gemeinschaft.*

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NOTES

1. Marathon Realty Company Ltd. is the owner and developer of Coal Harbour's Marathon site. Marathon is the real estate arm of what was the Canadian Pacific Railway. The Coal Harbour Planning team included staff from Marathon and the City of Vancouver as well as a series of urban design and planning consultants. Civitas Urban Design and Planning took the process to the Official Development Plan stage. The Hulbert Group International Inc. developed the CI-1 Guidelines and further defined the plan. Landscape architects Philips, Wuori, Long and Associates have been involved through all stages. Engineering consultants include Sandwell Engineering, Inter CAD Consulting Engineers and N.D. Lea, Transportation Engineers.

2. The primary design consultant team for Mission Bay included EDAW, Inc., ELS Elbasani & Logan Architects, Danadjieva & Koenig Associates, Kwan Hemni Archiects and SOM.

3. Mission Bay would be San Francisco's largest neighbourhood, although two others—Noe Valley and Bernal Heights—are currently nearly as large at 15,000 inhabitants each. Both of these neighbourhoods evolved over long periods of time with nothing comparable to the design and planning efforts shaping Mission Bay.

4. Neighbourhoods in the previous two mayoral elections have been the subject of political accountability in San Francisco.

5. No less than 19 major organizations and groups were closely involved in an "interactive planning process" (*Mission Bay Plan Proposal for Adoption,* 1990).

6. Since the beginning of the current planning in September 1984, a two-year process involving the developer, the City Planning Department, consultants and community groups led to the 1987 *Mission Bay Plan—A Proposal for Citizen Review.* Throughout this process several hundreds of public meetings were held, and reports entitled "Preliminary Background and Findings," "Objectives and Policies for Mission Bay," "Choices for Mission Bay" and twenty other "special studies" provide a basis for the proposal. Subsequently, in 1990 a specific plan was adopted.

7. Mission Bay's China Basin Channel on the development's northern edge, where a portion of Mission Creek will have a natural shoreline, is a minor exception to this.

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NIMBY AND URBAN DESIGN: BUILDING COALITIONS OF INTEREST

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INTRODUCTION

This article has been written by a planner with interest, and broad-based practice, in community planning and development. The lessons from that experience suggest to the author that urban design (and urban planning) has failed frequently to address the democratized city and associated demands and needs of its residents.

The writer contends that many urbanists have not recognized their role in perpetuating an atmosphere of self-interest in the city. The article identifies the role played by planners, urban designers and local politicians in facilitating the growth of NIMBY (Not In My Backyard). The article examines the influences of NIMBYism upon Canadian cities in general and urban design in particular. It offers one perspective on the need for redirecting the energy inherent in NIMBYism into a more positive urban design force.

The article emphasizes the importance of linking urban design to broad-based urban policy. Such linkage stresses a holistic view of the city and its place in the region, and the place of neighbourhood (where much of NIMBY occurs) within that city-region framework. The article proposes that the factors that influence NIMBY can be turned into positive urban design attributes or "coalitions of interests" which give a sense of place to neighborhoods within the city-region vision.

NIMBY. It is a term that connotes the city of the '90s: wary, protectionist, and dubious. NIMBY epitomizes the fear of change. NIMBY often strikes panic in the hearts of local politicians and those who work to deliver programs that may affect neighborhood life. Urban designers are one group that faces the issues of NIMBY on a regular basis. What does the term imply? Why has NIMBY become synonymous with much of urban planning and design in the '90s? Is it endemic in our way of city life? What can be done to reduce the detrimental influence of NIMBYism on urban design?

The paper is divided into four sections. The first section examines the concept of NIMBY. The second section considers the influences of the historic evolution of the city upon NIMBY and urban design. That section indicates that NIMBY is a natural outgrowth of the manner in which cities and urban design have been the products of self-interest, the epitome of the politics of place and economics of place. Section three reviews "the city of the present," and the forces at work which shape urban design decisions and citizen response in the form of NIMBY. The last section considers measures for building "coalitions of interest" that will break the parochial NIMBY cycle. That section examines the

Photo Credit: Witty, 1994.

Photo 1: Even when carefully designed, some opposition still develops around the "use" of group homes and those accommodated within its walls.

potential for building upon the inherent interests of citizens, so that urban design is better able to address the divisive interests facing cities.

As part of a more holistic view of the city, urban design may offer the practical glue which could bind divergent interests across cities, breaking down the parochial barriers of NIMBYism and replacing it with coalitions of diverse interests that are focused upon neighborhood cohesiveness. This paper will consider that role for urban design.

For the purposes of this paper, urban design is defined as the detailed shaping of the city fabric into visually and physically coherent land-use patterns which (1) reflect the unique social, economic and environmental character and needs of the site and surrounding neighborhood; and (2) link the site and neighborhood to the broader city and regional context.

WHAT IS NIMBYISM?

While much has been written about NIMBY, particularly in the popular press, NIMBY is not well defined in the literature (Dear, 1992). NIMBY is defined for the purposes of this paper to be:

> The reaction of a local community of common interest to the external forces of change which are perceived by the local community of common interest to affect its welfare.

That definition is value neutral. It does not assume that all NIMBY is negative or undertaken for entirely parochial reasons.* It also reflects the notion that "there is one universal factor in all NIMBY conflicts: geographical proximity" (Dear, 1992, p. 291). The definition does not attempt to identify the differences between those aspects of NIMBY which may have broad societal support (e.g., exclusion of untreated hazardous waste) or those aspects which appear to be motivated by narrow self-interest (e.g., exclusion of institutional uses such as group homes). The former often has broader community support and legitimacy (see Armour, 1992). The latter is usually a narrower self-interest (see Dear, 1992). Essentially, NIMBY may be negative (i.e., parochial) or positive value-based. The former is often now called the NIMBY syndrome. Dear described NIMBY as: "the motivation of residents who want to protect their turf" (p. 288). As Dear noted, however, some of the fallout of discussions about NIMBY-related developments can be positive as articulated in better design. On the other hand, most often, NIMBY results in exclusionary acts that are motivated by narrow self-interest. The challenge for urban design and the focus of this paper is the degree to which urban design is able to recognize and enhance the positive values of NIMBY.

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*Note the recent term NIMBI (Now I Must Become Involved) which applies to environmental activists who are concerned about intrusive development.

Photo Credits: Witty, 1994.

Photos 2 & 3: "Monster homes" have become a major neighborhood issue for some areas of Vancouver and the region.

NIMBY, which has a number of similar anachronisms (LULUS Local Unwanted Land Use, *etc.*), is the result of the failure of urban reformists, politicians and planners to deal with real community needs and empowerment issues (see Hulchanski, 1993). And, perhaps more importantly, it is the outgrowth of the city as a place where special interests have always been protected at the expense of others who lie outside the sources of power. NIMBY is also related to the failure of governments to address growing social and ecological crises. As a result, citizens have become fearful for their well-being, including those who live in fear of the night and of the congestion and pollution that surrounds them. Davis (1993) called this the "ecology of fear" (p. 11). Whether exaggerated or not, perception is reality for those who perceive the city as a place of total decay. Green (1992) believed that "NIMBYism arises from a perceived feeling of powerlessness" (p. 29). Armour identified a "science anxiety" in which the public has lost faith in science and technology. While many of these reasons for NIMBY may not be the result of specific concerns for urban design, urban design is dramatically affected by the fallout of such emotions. The skepticism of citizens has taken a general and radical form of parochialism, a parochialism which affects urban design processes. That trend has become dangerous, as narrow self-interests have cloaked themselves in the broader issues of local control and dissatisfaction with current decision-sharing. Unfortunately, some of the most vocal NIMBY neighborhoods are also the most powerful politically. Dear discussed the influence of such groups in the siting of human services. In another example, one that is common across Canada, the British Columbia Ministry of Health has faced difficulty in gaining approvals for its outreach homes in middle-class and upper-middle-class neighborhoods because of concerns about impact upon property values and the implications of mental health issues (Photo 1). In another area, Vancouver West, the site of some of the most expensive housing in Greater Vancouver, issues of appropriate housing form have gained notoriety as wealthy off-shore purchasers have razed houses to build new "monster" homes (Photos 2 and 3). Given the fact that many of these new homes approximate the size and site coverage of many of the original houses of the area at the turn of the century (Photo 4), one wonders whether the term "monster" homes, modifications to zoning bylaws to reduce their height and lot coverage, and "concerns for the character of the area" are really issues of poor design, or attempts to exclude certain types of people. While inclusionary zoning can force neighborhoods to accept unwanted change (e.g., Toronto's group home by-law which allows group homes into residential neighborhoods), processes which avoid confrontation may prove to be more acceptable to all parties over the long term. Such action will require a better understanding of the reasons for NIMBY, and a combination of both regulatory and empowerment/consultative approaches.

Photo credit: Witty, 1994.

Photo 4: Existing turn of the century homes appear to display much of the form and site coverage of many "monster" homes which have garnered NIMBY attention.

Since so much of urban design is related to issues of values and taste, who decides what is appropriate and, more importantly, who is affected, becomes a paramount concern. That implied self-interest, as articulated in NIMBY, is a very real threat to urban policy and design. As Dear noted, "the need to come to grips with these issues is urgent, especially in the light of recent federal legislation that places more emphasis on community obligations than on community rights" (p. 297). While Dear's observation refers to the United States, it is pertinent for Canadian NIMBY issues. Basically, the message is one of imposing inclusiveness upon neighborhoods, or working with neighborhoods to incorporate inclusiveness as part of the character of the area. Urban design could assist greatly in the effort of incorporation rather than imposition.

The following section will explore the reasons for the prominence of NIMBY and its relationship to urban design.

BACKGROUND

It is impossible to consider "the city of the present" without examining "the city of the past." That past, and the forces which have shaped cities have collectively, created today's layering of interests, city of contest and associated influences upon urban design. This section will briefly explore that past, and relate the events of previous times to the issues of NIMBYism in the '90s as they affect urban design. This section will show that NIMBY is a natural outgrowth of the way cities have evolved. Given the history of the city as a place of contest, it will point out that citizens react to change because of their belief that no one else is looking out for their interests.

CITY AS THE ARENA OF CONTEST

Mumford (1961) noted that the city reflected an "implosion" of power as humankind centralized daily life. From that implosion came "war and domination, rather than peace and cooperation" (p. 44). Mumford proceeded to describe the essence of the historic city "as a container of organized violence and a transmitter of war" (p. 46). He continued (pp. 52-53):

> The city, almost from its earliest emergence, despite its appearance of protection and security, brought with it the expectation not only of outward assault but likewise of intensified struggle within: a thousand little wars were fought in the marketplace, in the law courts, in the ball game of the arena. So that . . . the positive urban symbiosis was repeatedly displaced by an equally complex negative symbiosis.

It is this identity of the city as a place of contest that has shaped much of the attitude toward the city, and issues which confront urban designers. Mumford defined the city of contest as a conscious decision that had two alternatives: "The first was the path of voluntary co-operation, mutual

accommodation, wider communication and understanding . . . The other was that of predatory domination, leading to heartless exploitation . . . " (p. 89). Mumford believed that humankind chose the latter. Yet, as Konvitz (1985) noted, cities have survived in the Western world by adapting to the changes which their presence has precipitated and diffused (p. xiii). Jacobs (1984) believed that such changes are inevitable and that nations depend upon their cities for strength and sustenance. She noted that cities provide group benefits and must continually adapt and compete if the state is to remain strong. Now, however, cities are experiencing unparalleled change that threatens the rapid structures which their citizens have come to know and expect. Much of that change is reflected in major physical alterations to city form and character. Therefore, urban design can expect to be at the centre of those debates about change. Too often, much to its peril, urban design has ignored the relationship of accelerated change to citizen concern about the details of everyday life.

That sense of adaptation and competition has driven most cities in their development and evolutionary process. Competition has taken a form of city self-interest, one that has tended to be dominated by functional responses to internal and external change rather than structural responses. It is a fact which cannot be ignored in any discussion about the city of the past, present and future. The urban design issues which are constantly emerging as part of that response, and the role of citizens in that evolution must be fully understood.

Castells (1983) and Friedmann (1987) have pointed out that socially dominant interests resist change through their institutionalization of issues. Castells (1983) postulated that many urban issues are consumption driven. In an analysis of the Glasgow Rent Strike of 1915, Castells identified a typical consumption issue which "showed potential for combining production-based struggles and consumption-oriented issues in a comprehensive social movement" (p. 34). He continued:

> For the first time in history, a major urban struggle could be won by the popular masses and still reinforce the rationality of the system without fundamentally challenging the interests of the dominant class. Urban issues had become a secondary contradiction in the structure of society and in the politics of the state (p. 37).

Urban design, in this case better quality housing and associated amenities, became the vehicle for minimizing "disruptive" structural change. In that example, urban design had become the tool for maintaining the *status quo* while facilitating superficial change. It was the beginning of a relationship which had the potential of trivializing urban design and aligning it with the urban elites. Others suggest that there was considerable accommodation of working class interests through the increased intervention of the state in the design of cities and distribution of goods (Hall, 1988). Part of that intervention came through radical urban design alternatives, such as those put forward by Ebenezer

Howard in his turn of the century Garden Cities Movement. Such bold action was the exception. Urban design had set a pattern which did not include a strong social conscience.

Even so, while driven primarily by self-interest on the part of the ruling elites (i.e., reinforcing stability by providing basic living conditions for the working classes) and the disadvantaged (i.e., accepting an increased quality of life over radical structural change), past city development provides an insight into current urban design policy formation by indicating that coalitions of divergent urban interests are possible. Yet, for the most part, urban planning and urban design action tended to deliver a modicum of benefits to the poor (better housing) and significant benefits to the wealthy (reasonably stable workforce and profit), while basically maintaining the *status quo*. Pohlman (1986) confirmed that belief by noting that "the political machine clearly operated on the principle of divisible benefits" (p. 52). Such action has had a history of being both non-threatening (to elite status) and progressive (providing basic services).

In Canada during the early century, business interests retained a strong affinity for their local community, believing that what was good for their business was also good for the well-being of the community (Sancton, 1986). Within the narrower business imperative of city "boosterism," business elites attempted to re-order urban politics and associated urban design, so that the city would provide a fertile ground for the growth of business (Plunkett and Betts, 1978; Artibise, 1982). The inclusion of popular democratic control of local governments "were resisted in most jurisdictions until well after the Second World War" (Taylor 1986, p. 272). As part of the establishment, urban designers were part of that resistance.

With the recognition that urban form was changing dramatically at the turn of the century and that future change would very likely accelerate, the coalition of business interests moved to initiate substantial restructuring of the decision-making apparatus of local government. As in previous times, the role of citizen was only of minor concern in the attempt to make the city more efficient. Sancton noted that "all views have one thing in common: they assume that the study of urban politics is above all the study of business dominance" (p. 292). It was within that business dominated urban political arena that modern urban design was formulated. While issues of contest and self-interest remained central to many discussions concerning the future of Canadian cities, concern for citizen input and reflection stayed out of the urban policy agenda in general and urban design in particular. But for a few exceptions, urban design remained the preserve of the rich, the politician and the professional. That history colors the role of urban design and its relationship with communities and citizens by separating historically by urban design from citizen input. And more importantly, that history of urban design speaks to the reasons for, and influences of, NIMBYism.

CITY OF THE PRESENT

The Canadian city has undergone periods of very significant change. Much of that cause for change has been externally generated or narrowly based. Local government has shown little interest in establishing self-directed community-based strategies to adapt to and stimulate new responses to new situations and needs. Urban design as the tool for responding has often been limited in its scope because of that lack of interest by local government in seeking new, bold directions. For instance, Plunkett wrote that, "generally speaking, municipal governments were regarded as being concerned primarily with administration and not policy" (p. 17). Mumford confirmed the lack of concern for directing policy change by writing, "From the beginning, then, the city exhibited an ambivalent character it has never wholly lost . . ." (p. 46). As the shapers of cities and implementers of policy, urban designers have often felt the brunt of the neglectful attitude by local government toward proactive policy initiatives.

During the 1940s, '50s and '60s, two major impacts on Canadian urban public policy occurred. Both have influenced the role of citizen in urban design and the manner in which urban design has been perceived by urban residents. The first related to the increased intervention by both the federal and provincial governments in urban affairs. At city hall, urban public policy was either directly or indirectly shaped through housing programs, grants and enabling legislation of the federal and provincial governments. Therefore, more and more decisions affecting communities and neighborhoods—and their implementation through urban design—were further distanced from citizens, who were becoming more educated and able to reflect upon "their life after work" and the conditions in which they found their daily lives. During this period, urban designers remained distanced from their real clientele: the communities of place they meant to create and serve. The second impact related to a focus of city public policy upon the support of suburbanization. That policy has been identified as a narrow, developer-driven program, which was inherently a contest to maximize profit and perpetuate self-interest (Lorimer, 1970). Sancton also concluded that "virtually all conflict in Canadian urban politics can be located on a pro-development - anti-development spectrum," which has limited much of the urban policy debate to "the control and servicing of property" (p. 297). In *The Progressive City* (1987), Clavel confirmed that view by noting that urban government "sustain[ed] the politics of growth" (p. 200). By facilitating "the politics of growth" through their focus upon suburbia, strip malls and isolated towers, many urban designers had become the proponents of change and growth that took on a radical form.

While many have argued that suburbia was filling a desired new lifestyle, and that urban renewal projects were politically driven, urban design faced increasing pressure from affected citizens

who saw urban design professionals as purveyors of developers' interests (see Sewell, 1993). Out of that skepticism grew a new trend: coalitions of individual neighborhoods created to halt intrusive change. That trend reflected the emerging contest of will between reform groups and the proponents of development. Since both groups continued to avoid primary issues of quality of life in favor of narrower development rights, neighborhood cohesiveness, and self-interest, broader public issues got lost in the emerging concern for local community protection from "intrusive" decisions. Self-interest had moved from the business world to the neighborhood in the form of the "not-in-my-backyard" or NIMBY attitude. It was a natural transition, and one which urban designers and (politicians and planners) had helped to spawn. Now, a contest of many wills was endemic in most urban policy discussions and urban design solutions. Urban design was caught in reactions to superimposed decisions.

It is no wonder that NIMBYism arose in response to urban design issues. Quite simply, citizens had been excluded from the urban debate and the urban solutions which arose in response to narrow political interests. In addition, the "new" knowledgeable urban citizen expected more from the urban design process. Today, disdain for government, and professional opinion and advice, is very much part of Western culture (see Kennedy, 1993). In the face of all of these complexities, one might ask: why bother?

The concern for city form as expressed by NIMBY offers an inherent energy and opportunity to turn what is a generally considered to be a negative force into a creative force. Urban designers (and others) should not fear NIMBY, but face it and redirect that energy into creative urban design processes. To do so will require that urban design understand its place in the history of the city. Modern urban design should consider that part of its history is rooted in the delivery of products that reflect the needs of urban power elites. As the architects of an elite vision of the city, urban designers have had a difficult time gaining widespread acceptance in today's cities. The past association of urban design with the politics of place and economics of place has detrimentally affected the validity of urban design in the eyes of many of today's citizens. As an alternative, urban designers need forcefully to articulate a broader-based vision of the city: a vision that incorporates all elements and careers for the future of the city.

The issue of community-based control of urban decision-making raises important questions about the methods and associated ethics of urban design decision-making in the city. It is abundantly clear that the public participation programs which were spawned out of the urban renewal backlash of the '60s have been tainted with the brush of individual self-interest. Yet, as the review of the significance of self-interest as a driving force in urban debate has shown, the contest of local

neighborhoods to protect "their turf" should not be surprising. The role of citizen involvement in urban design deserves considerable and careful thought. One thing is obvious: the present continued dominance of local self-interest in city decision-making in general and urban design in particular, in the form of parochial NIMBY, should not be surprising. But such self interest must be altered. Unless self interest is re-directed to take a wider view of what is best for the city, city politics, associated development and urban design will remain fractured and exposed to on-going conflict.

Continued narrow views by politician, citizen and bureaucrat of appropriate urban policy is creating severe voids in progressive urban design. City politics appears to have reflected much of its potential role as a place to effect progressive adaptation and change through enlightened urban design. Urban design could play a major role in assisting cities to cope with required new changes. For instance, Roseland (1992) pointed to the importance of urban design options as a significant means of achieving sustainable cities. Plunkett called for a much more proactive role as early as 1972, when he identified the need for a "shift in the decision-making role of municipal governments from one that previously emphasized administrative decisions to one that now requires the reconciliation of community conflict and controversy" (p. 19). Today, that requirement remains largely ignored.

THE GOVERNING DYNAMICS

In much of the literature about the major determinants of urban policy, two constant themes emerge. These themes emphasize the role of power in decision-making (i.e., contest), and the role of consumption and production (i.e., self-interest). Therefore, there is a tendency in the literature to concentrate upon economic forces as the primary shaper of urban public policy. That emphasis has given short shrift to the real concerns of communities, which have seen external changes and imploding values threaten their very viability. Urban design needs to recognize that the roots of NIMBY are frequently legitimate and historic, even when vested in self-interest. Therefore, urban design will need to consider that self-interest offers an opportunity to build common coalitions (see Logan and Molotch, 1987) across the range of community interests. Urban design will also need to recognize that NIMBY is not always a parochial reaction to change.

EMERGENCE OF NIMBY

During the last 40 years of urban public policy formation, there has been a movement away from overt business interest in local government. That action has been the result of local business becoming part of a larger international ownership pattern with interests that span several cities (and countries). While that transformation was occurring, citizen activists were becoming an accepted

element within municipal governance. Those proponents were starting to shape local government policies through an increasing self-interest based trend of participation. These reformers are especially known for their activity during the urban renewal period of the late '50s and early '60s, when affected citizen groups fought the imposition of externally determined solutions to urban issues. Out of those movements came modern-day citizen participation, with its sensitivity to the inclusion of citizens in decisions which may affect their self-interests and/or property interests. That citizen reaction emerged in part for the reasons described above, including the reaction to powerlessness to control their own lives. But, as Hulchanski noted:

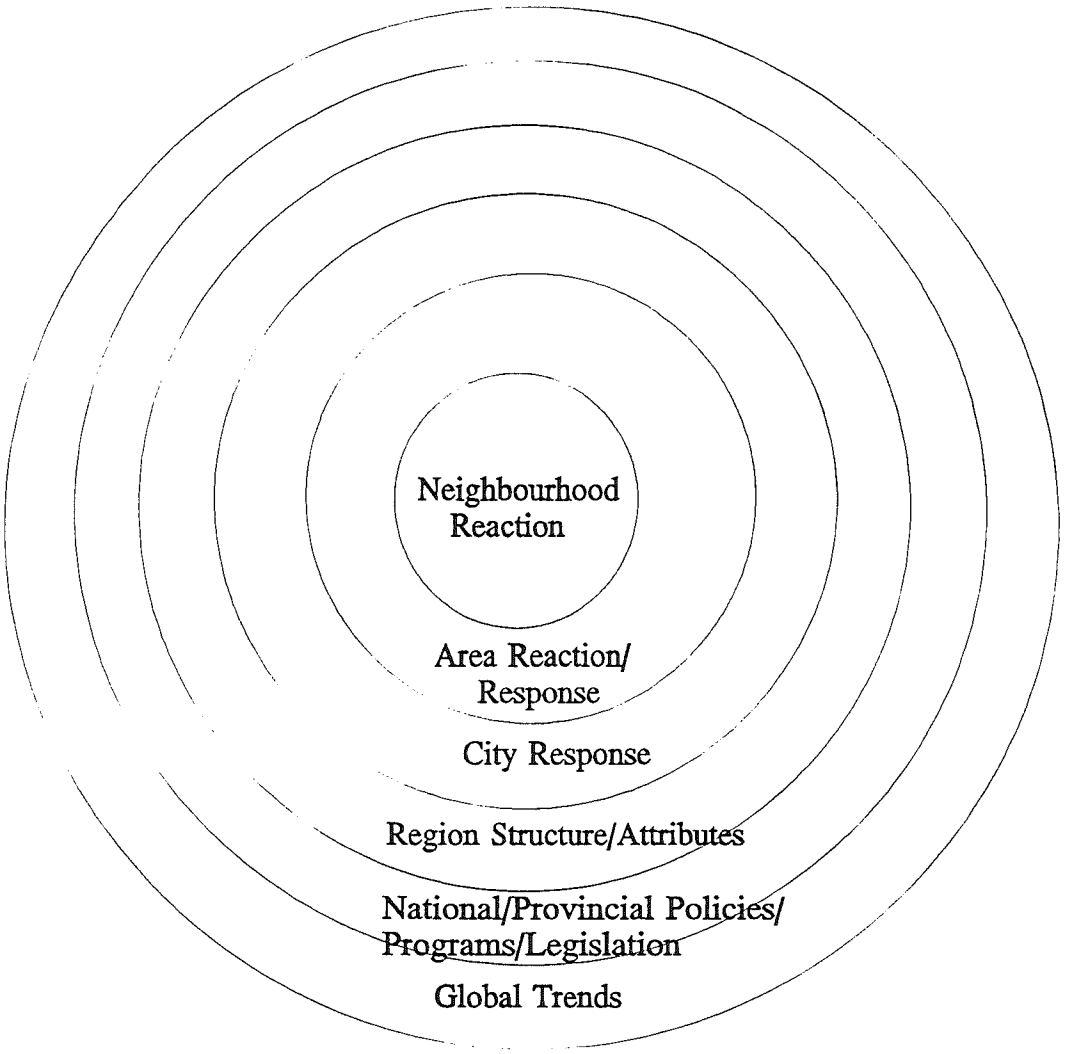
> . . . the urban reform movement had a very limited impact on the planning process. Even a small group of organized neighbors have been "empowered" to prohibit most forms of change. The intention of their empowerment is positive—neighborhood preservation—yet the result is most often negative—the perpetuation of residential discrimination and segregation, supported by zoning designed to keep certain people out (p. 20).

Thus, the laudable concern of resisting negative community disruption has been re-worked to protect other interests that do not always share broader societal values. For instance, citizen involvement in urban decision making has led to the legitimization of a parochial NIMBY syndrome, a very narrow and overly self-interested view of the city, a city of impenetrable "value walls:" "Commitment to the principle of preservation of self-interest was simply extended to the local street or neighborhood" (Chorney, 1991, p. 57). That entrenchment of self-interest remains with us today as a major factor in urban design.

Much of the reason for neighborhoods taking a hard NIMBY attitude can be placed at the feet of traditional zoning. Zoning was created to exclude land-use activity from certain areas. Zoning became the means by which modern elites (including the new middle class) were able to protect their investments and lifestyle from intrusive activities. In addition, zoning became a vehicle for excluding higher density—and usually poorer—residential developments. At one time, the virtues of exclusionary zoning, including enhancement of property values, were preached to citizens by local government and its allies, including urban designers. Upon reflection, it appears that NIMBY is a natural outgrowth of our attempt to protect the sanctuary of place and the economics of place above all else.

NIMBY is also very much a reflection of the new urban politics. Citizens refuse to sit idly by as their neighborhoods and, for most, their principal investment—their home—is affected by what is perceived to be detrimental, externally generated decision-making (Figure 1). People quite simply want a say in how their community is to look and is to be shaped by the new urban trends of higher density and mixed use. Residents look upon such changes with trepidation. Planners and designers fail to

FIGURE 1: THE NEIGHBORHOOD AS THE VORTEX CHANGE



recognize that they and past local governments (in concert with the earlier urban elites) preached the message of exclusionary, single-purpose zoning. Today, when many neighborhoods have bought the exclusionary rhetoric, planners and designers are promoting mixed use and high density. No wonder NIMBY has arisen with all of its force. Neighborhoods feel betrayed, not only by the change in land-use philosophy, but also by the lack of consultation in the application of such new concepts. Such concern makes for "great press," but does little for building cities. For instance, in the Arbutus industrial land in the Point Grey area of Vancouver (Photo 5), residents rose up in concerted anger over a city-proposed residential intensification of those lands which would have promoted residential towers in an area of single-family and low-rise residential development. The *Vancouver Sun* described that protest as "Residents want voice at drawing board." City planners were shocked by the vociferous reaction. Given the lack of significant community involvement in the proposed site plan, the citizen reaction should have come as no surprise. The residents were not prepared just to comment upon externally defined plans for their area. Instead, the residents demanded a real voice in shaping the old industrial lands. In response, many city officials labelled the resident reaction as nothing more than NIMBYism. Such classification of legitimate resident concern for the quality of life of their neighborhood must be carefully re-thought. Urban designers must not misread such concerns. Instead, urban designers must give residents a real voice in design that affects their neighborhood. Such input must not be limited to comments upon design, but must include significant involvement *in* design. Unless residents are more fully involved in urban design, they will likely continue to display NIMBY-type reactions. Further, neighborhood feedback which may have been characterized as NIMBY in the past, offers a significant ally for urban designers who dare to wade into the rough waters of NIMBY and build coalitions around quality of life issues.

Many authors have pointed to individualism as the root cause for social disenfranchisement (see MacIntyre, 1984). For instance, Fowler (1992) identified the city as a place where "everything becomes an object, including places, and the built environment" (p. 163). He continued by stating that:

> This strange ideology of individualism has profound consequences for citizenship, the way all of us relate to cities, and thus for the way we choose to build cities. Individualism . . . rejects involvement with other people (p. 163).

The attempt to create cities without character or diversity was epitomized by the suburb; places that Sennett (1990) called "communities of self-conscious solidarity" (p. 310). As result of the urban design products and processes of this century, the on-going self-interest that has been evident in Canadian cities has only been further reinforced.

Photo credit: Witty, 1994.

Photo 5: The Arbutus lands and similar abandoned industrial lands in other cities offer excellent redevelopment opportunities. Careful attention to neighborhood design concerns will help ensure their conversion.

In addition, given the increased emphasis in urban policy to "re-make" the city, urban designers can expect increased citizen interest in the urban design products (such as mixed use, increased residential density) that will inevitably take shape upon old industrial lands, old shopping malls and abandoned school yards. If allowed to remain in its defensive posture, NIMBY will cause considerable grief for urban designers and local government. Therefore, the energy of NIMBY must be harnessed to assist in increasing the quality of life of urban centres. Urban designers have a major role to play in that dual shaping of resident concern and urban quality of life issues.

As well, it is clear that urban designers have not always displayed very clear or appropriate solutions for many of the urban design issues facing the city. Alexander (1987) noted that "urban design has a sense of dilettantism: as if the problem could be solved on a visual level, as an aesthetic matter" (p. 3). While citizens have become frustrated with urban design that does not respond to need, urban designers have traditionally scorned their involvement in land-use zoning, except to seek changes to permit the development of individual projects. Zoning was generally left to planners. As a result, planners and urban designers often worked in competing worlds, each seeking separate goals. While more recent urban activity points to increased interdisciplinary activity between urban planners and urban designers, much more needs to be done to ensure that exclusionary zoning is carefully rethought.

ALTERNATIVE CONSIDERATIONS

An earlier analysis of community movements and organizations by the author identified several findings that could influence the manner in which urban design is able to address NIMBY. They include:

1. Community-based movements have proven to be effective means of addressing specific urban design issues such as urban green space corridors, but have proven to be generally poor methods for developing broader action movements that are able to address substantive complex urban issues such as sustainable development principles (e.g., increased density, increased public transit).
2. Most citizen movements, particularly those based in poor neighborhoods, rely on organizers and/or urban designers who may, as outsiders, either not fully understand the issues of the community or may become co-opted by the larger system or the parochial views of their clients.
3. Community coalitions appear to have "political" legitimacy and increased potential to influence some public policy (by focusing upon broader community urban design issues).
4. Community movements are generally unable to change society significantly and therefore fail to stimulate substantive urban design reform.

5. City bureaucrats affect community movements by providing a "gatekeeper" function that may have important indirect effects upon community organization success and have an impact upon on-the-ground urban design solutions.
6. Decentralization of urban design processes is critical to successful citizen commitment and meaningful involvement; and
7. Community participation has been commonly "hijacked" by very narrowly focused, single-issue self interest groups which have promoted their self-interested action as community action.

These trends and experiences indicate that community-based involvement in urban design will be a difficult task, and can have both positive and negative impacts upon the creation of meaningful urban design options. It is critical to the long-term well-being of the city that urban design be better framed within a process that stresses the importance of community and city-wide values and needs (i.e., coalitions of common interests), so that parochial NIMBY is replaced by supportive citizen action. To build those bridges, urban design must prove itself worthy of the trust of citizens and communities. It must display greater sensitivity to emerging issues. Urban design must recognize that it is the focal point for the interpretation and delivery of local government policy. Therefore, urban design remains the lightning rod for NIMBY. To overcome that severe limitation, urban design must redirect its energy and recognize its role in the city. For instance:

- Lessons from the healthy community movement such as intersectoral analysis and action and community-based ownership of processes and solutions will provide increased relevancy to urban design.
- Urban design must give greater recognition to the interlinkage* between political, economic, social and ecological decision-making and their collective impacts upon communities.
- The on-going role of self-interest, as a basis for building coalitions of interest and as an overriding component of city decision-making in general and urban design in particular, must be reflected in urban design processes that are inclusive.
- Local government is largely about potentially conflicting allocative politics where interests of place and economics are contested; urban design is about how those allocation decisions are implemented.

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*Failure to do so will generate public reaction, as displayed in the *Globe and Mail* lead editorial of March 27, 1993. In that editorial, a tone of frustration with an urban design system that can't seem to get it right was evident. That editorial noted the conflict between the goals of the Mainstreet program and parking requirements in Toronto.

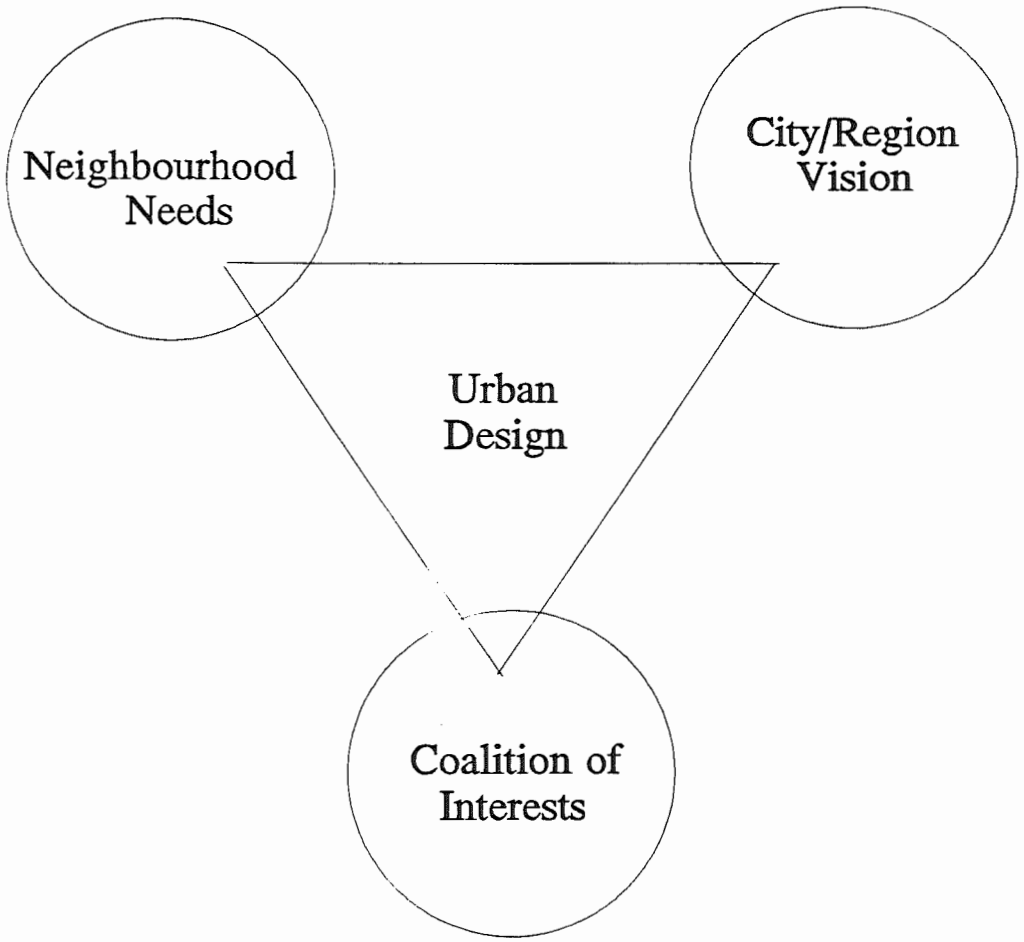
- Effective urban policy change will require a duality of focus at the top (to change substantive intent of programs), and bottom (to change delivery of programs), of many policy areas (e.g., through improved sensitive urban design).
- Decentralization, while offering potential to define more humanistic cities, requires careful consideration to ensure meaningful citizen commitment to and involvement in progressive urban design; and
- Urban design will need to develop new methods that encourage and permit citizen involvement in the identification of design parameters, design analysis, design form and design solutions.

The constant concern for self-interest and the associated contest of wills which has paralleled the urban design process must be addressed in any urban policy proposals and emanating urban design solutions. But how?

The evidence of the success of broader coalitions offers some insight. For instance, Logan and Molotch (1987) have identified coalitions of previously divergent interests coming together to address mutual interests. Urban design can learn much from those new possibilities for coalitions. Urban designers can play a major role in identifying and building those coalitions of interest (Figure 2). To begin to build toward less divisive approaches to urban problems, urban public policy and urban design will need to display greater harmony and fit. For instance, urban policy must step back and begin to look toward the creation of a vision of tomorrow. That vision must identify clear, consistent, valid and broadly supported public policies, framed by interlinked and intersectoral economic, social, ecological and physical realities of the region. Those policies must be capable of implementation through effective urban design. The International City Management Association recognized the importance of such involvement when it confirmed that community involvement "is becoming broadly inclusionary, involving all a community's stakeholders." That Association went on to say, "it inevitably creates a new vision of what the community might be" (Thomas, 1988, Foreword). Anything less will only further erode public confidence in current processes and stimulate increased NIMBY attitudes, as citizens react defensively.

No neighborhood should be required to "pay a price" for the betterment of the entire city. Quite simply, if urban decisions are rooted in an intersectoral approach, then no decision should be made which has a detrimental impact upon any neighborhood and, *inter alia*, the city. Such an approach will address the positive element of self-interest, and minimize the tendency to revert to parochial NIMBY reactions to urban design decisions. For instance, through emerging tools such as full cost accounting, urban impact assessment and mitigation/compensation programs, projects with broad benefit can be analyzed and appropriate benefits and costs apportioned, so that all areas of the city benefit in one form

FIGURE 2: URBAN DESIGN SHAPING CHANGE



or another. For example, a neighborhood or series of neighbourhood needs detrimentally affected by city-wide public transportation corridors should be appropriately compensated, and development impact appropriately mitigated. Duhl (1993) identified several potential conditions for healthy cities, including the creation of a "gameboard" upon which all the diverse players in any city can play, and work out their differing views and power relationships. Resolution of current neighborhood conflict requires innovative tools and processes.

Evidence to date suggests that quality of life factors are often difficult to measure, and are culture-specific. In addition, the NIMBY syndrome is, unfortunately, becoming a condoned right of place. As cities diversify their cultural base, agreement on appropriate quality of life standards will likely be further complicated. Yet, at the end of the policy day, there must be an urban design mechanism which takes into account some form of quality of life impact measurement, that recognizes the issues of neighborhood. Concomitantly, the parochial NIMBY approach to local politics must be stifled. While the objective of undertaking intersectoral policy decisions is laudable, the nature of past experience will create skepticism among many neighborhoods, especially those which have experienced the heavy hand of local government. In order to overcome that concern, local government must make a commitment to significant citizen involvement in public policy through decentralizing decision-making in neighborhood matters, including urban design; by providing for active neighborhood involvement in the vision definition of the city; and through defining a neighborhood role for the delivery of the vision through progressive urban design. That local role could be undertaken by creating neighborhood implementation offices that parallel the Neighborhood Improvement Programs (NIPs) of the '70s and '80s. In NIP, local storefront offices provided real possibilities for local communities to shape their areas physically. Such local planning and urban design operations could assist the neighborhood better to deliver and deal with city-wide initiatives, such as public transit lines, by minimizing their detrimental impact and enhancing their positive attributes. Other urban design projects could also focus upon an intersectoral approach that addresses economic, social and ecological matters which ultimately benefit the larger community. Fundamental to this approach is a recognition that the city is more than a sum of its parts. The more efficient, secure and stable each area or neighborhood, the more efficient, secure and stable the entire city. Urban design that forges such links could play a major role in redirecting NIMBY to a broader positive process that addresses quality of life issues, rather than a narrow, parochial view of the world. Until that happens, NIMBY will continue to have a parochial life of its own. How can urban design be used to move people to a more tolerant view of change?

REDIRECTING CONTEST

The role of city as a competing force in the world economy deserves re-thinking. Unbridled competition will not suffice. City policy must be built on an economic vision that reflects the broader vision described previously. Replacing broad competition for its own sake with carefully articulated concepts of appropriate city-region* strengths suggests less adversarial competition and more complementary economic systems. Therefore, economic contest policies must be replaced with covenant polices, subscribing to broader social and ecological ideals which address city-region concepts of appropriateness. Such policies will bode well for the future of the city by building coalitions of interests, and making it an attractive place to live (self-interest), an attractive place to do business (self-interest), and, potentially, an ecologically sustainable region (self-interest). Urban design could play a major role in achieving those specific self-interest concerns by ensuring that "product" fits the duality of city and local needs; a duality that must ultimately be seen as complementary. Complementarity will only occur after urban design proves that both extremes can be addressed, and that NIMBYism is an inappropriate response to the inclusive city.

Within the city itself, the nature of contest must also be addressed. To reduce competition between neighborhoods, several specific urban policy thrusts will be required. These include ensuring that city-region wide intersectoral strategic plans and neighborhood implementation plans are compatible.

GENERAL POLICY APPROACH

City-region wide policy development must occur in a manner which ensures that an intersectoral planning process, built upon the definition of a vision for local government, forms the basis for more detailed urban policy development and urban design. The recognition that urban design is connected directly to sound broad regional and city policies and goals is critical. For instance, the City of Vancouver's "Design Fair" provided an opportunity for citizens to express their ideas about Vancouver's CityPlan through design charrettes. Citizens are wary of urban design solutions which appear to be unconnected to the broader community. This acknowledgment is crucial to future successful urban policy implementation and minimization of parochial NIMBY.

Policy development must rest upon a principle of broad community input and acceptance of the vision of the economic, social, ecological and physical future for the city-region. Therefore, while the

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*City-region: an area which has a clear and defineable physical development and physical environment around an urban centre (see Jacobs, 1984, pp. 45-58).

integrated nature of the policy development process implies an acknowledgment to overriding principles of city-region endorsed goals, it also builds on the reality of requiring local community endorsement of those principles. This model recognizes that city-region wide visions are articulated locally, and can best be effected locally with local endorsement and participation in urban design. Such endorsement will likely only occur through understanding and involvement in the process of goal setting (and implied policy articulation) at the vision stage, and the process of local implementation at the design stage.

The precise manner in which the vision is identified and defined deserves considerable, but separate, discussion. Cities which fail to take this reinvigorated approach to comprehensive planning and policy formation, and fail to recognize the linkage of urban design and NIMBY to that process, will be too lost in a mire of neighborhood battles to undertake even the most minimal of changes. Self-interest will prevail in all of its potentially ugly forms. Urban design will remain an agent of, or exposed to, narrow parochial NIMBY interests.

But what of this vision and associated policy implementation?

LOCAL IMPLICATIONS

Given the premise that what is appropriate policy for the city-region is appropriate policy for the neighborhood units that make up the city-region and *vice versa*, and assuming that all vision goals will have benign influences upon any part of the city-region, then no one goal should disrupt any part of the city-region area or its units (i.e., its neighborhoods). Instead, all vision goals must build toward a healthy sustainable future for the city-region and its component parts. That broad goal will address the quality of life self-interest that appears to becoming an overriding concern among all residents. In so doing, that quality of life focus should reduce the negative element of NIMBY that is based upon the fear of unknown change.

In order to move from the broad generic vision goals and policy statements to specific urban design, it will be necessary to develop sector plans and policies which flow from the city-region wide adopted vision policy statements. While that process will be challenging, it will not be impossible. In any such transfer from the general to the specific, however, it will be necessary to recognize that NIMBY and overriding self-interest which have plagued local government will pose a real threat to policy actualization. Three recommendations are made to address that reality. The first calls for policy compatibility between broad city-region policies and local neighborhood policies. This implies that local urban design must fit with the overall policies of the city-region. Consensus approaches could assist in that matter (see Sherman and Livey, 1992). Second, a mediating role will be required, where specific development recommendations contained in urban design plans to address the city-region endorsed

vision and accompanying policies come in potential conflict with neighborhood concerns. The focus of that mediation process should be upon satisfactory urban design product, so that overall city-region wide policies and sector plan policies, that have had previous broad and local community endorsement, are implemented (i.e., designed) with local neighborhood input. The neighborhood planning offices previously described could assist in identifying solutions for those concerns. Thirdly, in order to ensure compliance with the intent of those adopted policies, an interventionist approach is needed to redirect urban design away from imposition of design products toward more sensitive solutions. Reliance upon current decision processes to accommodate neighborhood input will not be enough. A city-region Policy Compliance Arbitration Panel should be established through the authority of provincial governments, but responsible to the city-region government. That Panel would hear representations by intervenors who believe that a specific policy application would cause irrevocable harm to a community or neighborhood in terms of a specific proposed project. Such a body would examine the specific application of policy and determine, on the evidence of the issue in question, if the project would disadvantage a particular community or neighborhood while unduly benefiting the remaining city-region areas (e.g., transit corridor or major institutional building). The overriding basis for such a panel's decision would be that issue, and the acceptance that any and all development should be premised upon quality of life or healthy sustainable community considerations for the benefit of the broader community and the local community. Unsubstantiated parochial NIMBY attitudes would be rejected. Where a project would impinge upon a community, but work to the significant betterment of the city-region, the Panel should be empowered to recommend mitigation, compensation, and/or locally endorsed urban design solutions.*

The quality of life of a local community should not be compromised by externally generated impacts. Creative urban design that incorporates significant local involvement, including participation in the design process, could provide the means of addressing those appropriate city-wide goals while maintaining community quality of life attributes.

CONCLUSION

The requirements for a new urban design framework speak to the historical issues of contest and self-interest in cities. Those two basic driving forces for past city action have, above all else,

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*The author has been appointed to three Federal Environment Assessment Panels with mandates to hear and make recommendations on matters of national interest. Such independent bodies have proven to be effective means of accommodating wide interests, and ensuring that benefits and costs are apportioned appropriately.

created cities that are fraught with narrow, parochial views. As a result, NIMBYism with all of its negative qualities is a natural outgrowth of citizens who fear change and see professionals, including urban designers, as part of the problem rather than as part of the solution.

Cities of the future must look inward and outward for creative urban policy and urban design solutions, which ensure that cities are shaped by quality of life principles, viable economic roles, sustainable healthy community concepts, and a broadly accepted and enforceable city-region wide vision of place which is sensitive to neighborhood. The key is to re-invigorate local government with the means of adapting to the external and internal forces that currently pose serious problems for the future of cities, and the nation states which depend upon them for sustenance. One area which must be addressed relates to the tools currently available to cities to undertake change. Urban design offers significant potential to move away from its general capitulation to elite self-interest toward inclusive and community-based processes. That new thrust will help Canadian cities to become economically viable, sustainable healthy communities where a clearly defined vision of the future is supported by both the city-region and neighborhood alike.

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HOMETOWN:
URBAN DESIGN ISSUES IN THE CANADIAN PRAIRIE TOWN

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INTRODUCTION

The future of many Canadian Prairie small towns is in question. Trends in agriculture and in population distribution seem to point to a continued decline of the smaller towns. In recent Saskatchewan studies, it was estimated that more than 70 percent of the province's 598 towns, villages and hamlets are not economically viable, with only 30 to 60 ultimately being capable of being supported (Stabler, 1993). Although it will remain to be seen whether this forecast is accurate, those towns that do remain will struggle to retain both their economic health and their distinctive culture and way of life, as pressures to change will continue to come from outside as well as from inside the community.

People in small towns like the values and character that these places offer, but they also want economic advantages and modern conveniences. Some of the industrial, technological and commercial forms that have become part of our townscapes incorporate necessary change and innovation, and are a part of their future, and it is important to integrate, with care and respect, these new elements with the old.

The loss of the Canadian Prairie small town represents the loss of an important piece of Canada's cultural heritage, and more significantly, the loss of a way of life. The purpose of this paper is to review why it is important to maintain and enhance the identity of these places, and to explore how urban design approaches could address this aim.

Urban design deals with external urban space defined primarily by private buildings, that is, the public realm. The external space so defined parallels internal building space organization, with public, semi-public and private areas reflecting the essential social nature of urban space. Urban design, by focusing on public space, has the potential scope to address the wholeness of a town or a city, bridging the often disjointed jurisdictions of architecture, engineering, planning and landscape architecture.

Of course, having a better perspective from which to address urban space does not guarantee a better result. A new way of thinking, or state of mind, is also required. It requires the development of an understanding of the meanings our environments lend to our lives, and how that environment can

inhibit or enhance the quality of our journeys through life.

Doing design is, as Rapoport (1982, p. 2) suggests, the use of appropriate ordering principles. The key to doing urban design is to focus on the public nature of all urban developments, in contrast to the private and often self-serving vision of planning and architecture promoted by various corporate interests. The public space, traditionally the streets, squares, parks, and quarters or neighbourhoods, should be central to the spatial organization of a town or city, providing a stage for the necessary everyday interaction that helps make up a community. Design and planning decisions have social and cultural consequences—these consequences influence and shape communities and have the potential to make towns and cities special places to live.

THE CANADIAN PRAIRIE TOWN

Urban design as a field of physical planning is concerned with urban space, having the potential to address an urban spatial organization of any size. However, urban design has largely ignored the small town, although the small town is one of the few remaining enclaves of Canadian Prairie life that still persists as much of the rest of the country becomes overwhelmed by a generic popular culture. They are still numerous—Statistics Canada reported over 850 incorporated towns in the Prairie region in 1971 (Stabler, 1975, p. 151), and in Saskatchewan alone, 598 places with populations of fifty or more were listed in the 1981 census (Stabler, Olfert and Fulton, 1992, p. 17); and their relative spatial simplicity and manageable size lend themselves easily to research and the testing of design principles and methods.

There are two somewhat conflicting scenarios taking place in the rural Prairies. One is the population redistribution caused by agricultural and transportation technology changes which have favored larger centres (Stabler, Olfert and Fulton, 1992). The other is an apparent preference many people have for small town or country living, contributing to a counter-urbanizing process (Bollman and Biggs, 1992).

Over the past several decades, in Saskatchewan alone, over 4,000 schools and numerous hospitals have closed, and over 150 train stations no longer function (Stabler, 1993). In 1977, there were approximately 30,000 km of rail lines in the three Prairie provinces. Today, there are just over 22,300 km. From 1982 to 1992, the number of country elevators in the Prairies had fallen from 2,934 to 1,498 (Paavo, 1993, p. 13). In towns which depend on agricultural service for their existence, these closures are often devastating. Brierley and Todd (1990) show that in Agro-Manitoba, one out of every five farms was lost in the 1960s. This had serious implications for the smaller communities, whose primary role was to service rural farm families and market the grain and livestock. It was thought that

most of the small towns would fail; however, studies showed that viability correlated to size. Centres with a population over 1,000 were likely to experience growth, while towns with a population of less than 100 exhibited a pattern of mixed change. Similarly, it was shown that decline has been more typical of certain regions such as Southern Saskatchewan or the area corresponding to the Palliser's Triancel (Davies, 1990).

Although it is often thought that small towns are destined for extinction as they lose their traditional economic base, such predictions are based on general statistics and short-term trends, and overlook both regional considerations and the ability of towns to alter the nature of their service roles and/or attract new economic activities in order to survive.

Opposing the perceived decline of the small town is the preference that the majority of Canadians have for rural life. A 1989 study showed that only 41 percent of residents of urban core areas wanted to stay, while 59 percent preferred to move to less urbanized areas. It also showed that rural farm residents were the most satisfied with their current residency status, with 89 percent preferring to live on a farm. More than 85 percent of Canadians living in areas more than 100 miles outside a major urban centre wanted to remain in rural Canada (Bollman and Biggs, 1992, p. 14).

The same contradictory developments are taking place in the United States. Despite general trends of growing urbanization and the disappearance of the family farm, people are attracted to small towns and particularly to the idea of small towns. Surveys conducted in 1992 showed that rural Americans are perceived as being healthier, more honest and better able to enjoy their lives, with the vast majority of rural Americans rating themselves as being family-oriented, committed to their community, and rating their community high for personal values, costs of living and quality of life (Seebach, 1992).

The advertising business, a barometer of popular values, has been exploiting the small town image to sell products, creating mythical towns and investing in them the qualities that people seem to imagine that small town living offers. Large firms in the United States, such as Levi Strauss, General Mills and Kentucky Fried Chicken, are using a small town image to give their advertising an idyllic appeal to customers, a reflection of surveys that reveal that two thirds of people would prefer to live in a small town (Fitzgerald, 1992).

Despite this preference for the small town and the way of life that it is believed to offer, many smaller towns and villages will continue to lose their populations, with only the larger ones remaining viable (Dale, 1988). While the loss of these towns is to be mourned, it appears inevitable. Equally tragic, but not inevitable, is the loss of the character and historic perspective of the towns that do remain. Although people continue to be attracted to small towns for the way of life and quality of life

they are believed to offer, design and planning decisions have not contributed to the maintenance of this way of life, and in many cases are contributing to its decline.

As early as the middle of this century, the decline of Western Canadian small town image was being recognized. The cultural heritage of the small town, embodied in the historic business districts, and its economic vitality, traditionally localized on Main Street, has been deteriorating for several decades and continues to be threatened by the strip malls that have sprung up along the highway entries. Coupled with this has been the visual deterioration of the historic commercial and residential areas, as original buildings have been demolished or renovated beyond recognition, or have been mutilated and obscured by signage and additional layers of "modernizing" features.

As these enclaves become threatened, we are in danger of losing the opportunities to know ourselves through our own culture. Although most people would readily agree that the special character and historic values of old European towns and villages should be preserved and protected from rampant development, this same concern is not as evident for the towns and villages of the Canadian Prairies which are being threatened by perceived obsolescence and mindless change.

Canadian Prairie towns are distinct, expressing a unique culture and way of life, and are the product of particular geographical and historic processes. Established and developed in response to specific influences, they underwent growth spurts and periods of decline, and like most of the modern world up until the last few decades, followed a more or less predictable historical path of improvement of standard of living. However, more recent accelerated change has wiped out layers of this history, and we are in danger of losing the perspective of where we came from.

Efforts to breathe life back into the Historic Business Districts in the form of various revitalization programs institutionalized the concern for the decline of the small town. Streetscape projects became popular in the design professions and were sanctioned by government funding programs, and downtown revitalization became a business of its own. Unfortunately, further and somewhat ironic contributing factors in the deterioration of the small town image have been the beautification programs which have replaced the small town vernacular with a new but spurious aesthetic which is just as damaging as the visual deterioration it was supposed to address. The uniform street vocabulary of concrete paving stones, street trees in tree grates, and "period" light fixtures do not encourage authentic local identity, nor do they allow variation from community to community.

TOWNSCAPE AND PLACE

The form of a town, that is, the townscape, is not merely an aesthetic background to its life. It is an important source of both individual and community identity to which people have deep

emotional and psychological ties. Townscapes evolve over time, and are an accumulation of ideas and events in which can be read much of a community's character and purpose.

Places (as opposed to mere spaces) can be important sources, as well as receptacles, of individual and communal identity, and are often profound centres of human existence to which people have deep emotional and psychological ties (Relph, 1976). By providing familiar shelter and by accommodating responsible change, places provide a vehicle for community preservation and evolution. In order to have meaning, a place needs to belong, and needs to be the continuing responsibility of a group of people.

The character of places consists of both physical artifacts as well as the intangible cultural associations—"a certain patina given by human use over time" (Trancik, 1986, p. 113). A space, then, only becomes a place "when it is given a contextual meaning derived from cultural and regional content" (p. 112), and when it supports and is supported by a community. The development of individual and social identify, as Norberg-Schultz (1980) argued, is a slow process which cannot take place in a rapidly changing environment, or in one that is replacing the recognizable and meaningful with the meaningless and illegible.

The Prairie town was originally sited for economic reasons. The economy of the Prairies was exclusively based on agriculture, with people settled on farms which were dispersed through the region. With the advent of the railway and the commercial grain trade, towns were established at regularly spaced, selected points along rail lines to serve as service and grain handling centres. In addition to the network of railway towns, other settlements were established, for instance, at key points along rivers or lakes and at trail intersections. Although not all towns were built on the railway, they were the majority, and tend to dominate the image of the Prairie town. This model will be the typology referred to in most of this paper.

At one time, it was immediately evident what role a Prairie town played in its region. The major features, structures and thoroughfares all related to its functional purpose. On the flat Prairies, the grain elevators were the first structures to be seen from a distance, signalling clearly the town's function as an agricultural service centre and emphasizing its location on the rail lines. From the railway station and grain elevators, one could easily locate services such as hotels, banks and stores. The street patterns were legible, and the size and organization of the buildings were harmonized. In towns which were not laid out on a rail line, streets were often oriented to some natural feature such as a river or lake (Figure 1).

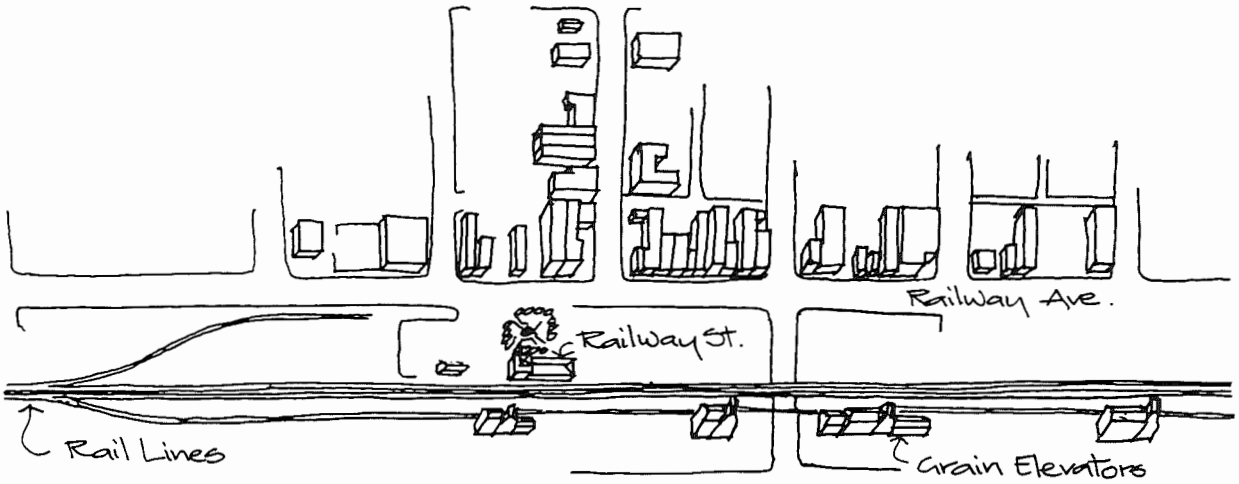


Figure 1: "Typical" Prairie Town Form.

The typical form of the Prairie railway town is shown in Didsbury, Alberta, *circa* 1940. The grain elevators and railway station were the focus of the town. Railway Avenue was laid out parallel to the rail lines, and a grid system of streets grew out from there. Stores, hotels, banks and services were concentrated around this area, with residential use beyond.

Source: Nicolai, 1991.

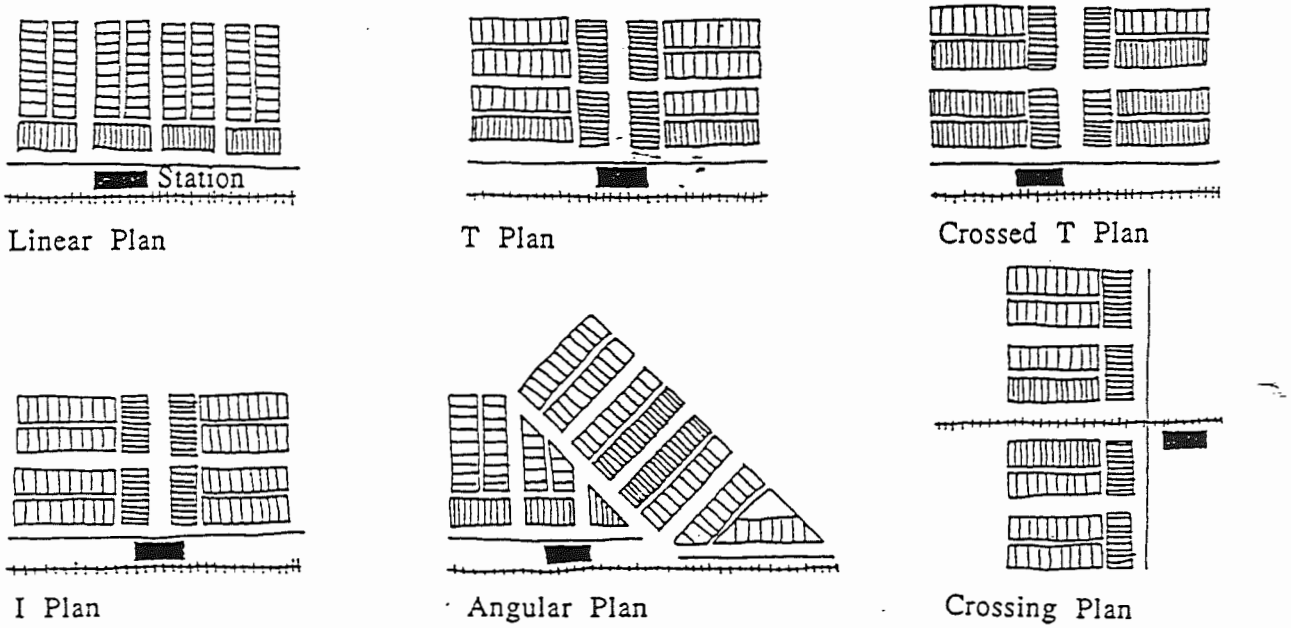


Figure 2: Types of Railway Town Layout (after Holtz, 1987).

This original structure has been eroded by insensitive development that threatens the original legibility and image of the towns. Canadian Prairie towns, at one time distinctive places, have been affected by the homogenizing effects of rapid change and much modern development, and are in danger of becoming mere spaces.

PRAIRIE TOWN FORM AND PROCESS

In the 1980s, it became clear that the economy of the Prairies was going to depend on the growing of grain, especially wheat. The livelihood of the communities depended on getting the grain from the fields to the cheaper water transportation terminals at the Great Lakes. A well developed transportation network was required, both to ratify territorial rights and to promote the economic base of the region (Legget, 1973).

Contrary to traditional locational theory whereby gradual and random incremental growth transformed a crossroads hamlet into a town or city, Western railway town development occurred according to railway company directives (Reps, 1979, p. 10). Company engineers determined the route of the railway, taking into consideration matters such as grade, terrain and agricultural potential. Along the prospective route, land was reserved, the right-of-way purchased and then from the reserved blocks, townsite location would be considered. Sidings were located at six to ten mile intervals, a convenient distance for hauling grain with a horse and wagon. Not all sidings would become the beginning of a townsite. The typical procedure involved the selection of a promising site by the CPR, which was then surveyed into streets, lots, blocks and open spaces. Station locations were formalized by the Railway Commission in Ottawa, and were based on the perceived growth potential of the siding area.

The main source for a general policy on townsite development which may have been adopted by the Company is Sanford Fleming's *Report on Surveys on the Canadian Pacific Railway*, produced in 1877 (Legget, 1973). Sir Sanford Fleming, at one time the chief engineer and surveyor, gave directives regarding stations, town plots, roads and crossings. He proposed a model plan for town layout, with the station at the centre and the streets radiating out from it. Although it was never realized, and although the CPR did not appear to have a clear policy on townsite layout, subsequent town plans located the station at the centre, with the commercial district huddled around it and the settlement developing outward from there. Plans which could be easily expanded were the norm. The square formed the base for general townsite layouts; other plan arrangements were viewed as difficult to use due to their increased complexity of survey (Holtz, 1987, p. 66).

Photo credit: Sandalack, 1988.

Figure 3: Railway Lands as Lost Space: Olds, Alberta.

This land in Olds, Alberta has been "for sale" for many years by Marathon Realty, the real estate arm of the CPR. It is used occasionally for casual parking and for truck lot sales, and in the winter for snow dumping. This long strip of land is at the physical centre of the town, yet has no integrative or productive function. It is left-over, abandoned space, and typical of the "lost space" discussed by Trancik as making no useful contribution, yet offering tremendous opportunities for re-development.

The major elements used to generate railway town form were the presence of a siding, the railway station, and the main street. The main street was characterized by its larger dimensions (80 or 100 feet) with narrow commercial lots of 26 feet as compared to residential lots of 50 feet. The intersection of the streets with the railway allows a means of categorizing the town structure (Figure 2).

While the goal of the railway companies was to serve the transportation needs of a town's region, speculation on the growth potential of the town also played a big role in townsite planning, with the sale of the town lots perceived as a quick source of profit. For example, free sites were offered to hotels and churches, and the commercial districts were quickly built up around the railway stations.

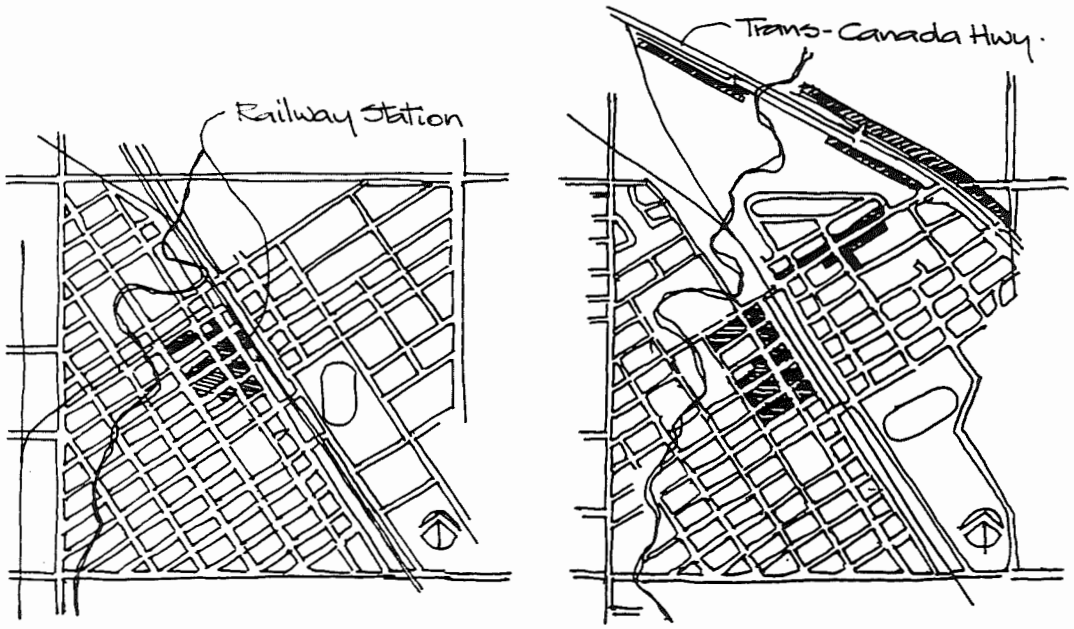
Although Prairie railway towns were developed around standard patterns of relationships between the rail line, the railway station and the main streets, there was considerable individuality expressed through the specific responses to local conditions, and enough variety in local business to give each town a recognizable character.

Towns were composed of a mix of both vernacular building and imposed authoritarian forms and patterns (Hough, 1990, pp. 56-57). Building styles were expressive of the available building materials (either those that were available locally or those that could be shipped by rail), the technology of the time and the local craftsmanship. This created identifiable towns with unique character.

MODERNIZATION AND URBAN DESIGN ISSUES

Since the end of the second World War, development and economic growth have been seen as inarguable and inalienable rights. Indeed, much of North American domestic and foreign policy has been based on the view that the world should be developed to its full economic capability, with progress measured in technological "advance." However, as Neil Postman reminds us, technology is just technology. It gives us incredible benefits and has allowed the quality of our lives to be improved in countless ways, providing us with "convenience, comfort, speed, hygiene, and abundance" (1993, p. 54). But in providing new alternatives for our ways of building and our ways of living, it has eliminated many older alternatives by making them seem irrelevant. The technological advance has left behind it an obsolescence in materials, techniques and even lifestyles, which have become conditions to be avoided.

The unquestioning adoption of modern techniques and values has resulted in the gradual replacement of the vernacular with symbols of technology and modernism, and has contributed to the decline of the Prairie town.



1916

The CPR station formed the physical core around which the commercial district huddled, and from it the settlement spread outward. The social and commerical life was concentrated at the town centre.

1990

The building of the Trans-Canada Highway and the emphasis on automobile travel influenced the form of the town. Commercial development along the highway now competes with the historic town centre. The railway station now stands empty, no longer the focus of the town, and the downtown is deteriorating, with numerous vacant buildings.

Figure 4: These two sketches illustrate the shift of the commercial focus (shaded areas) from Main Street to the highway strip, using Virden, Manitoba as an example.

Source: Sandalack, 1991.

In the Prairie railway town, the social and cultural life was traditionally focused in its physical centres which typically consisted of the railway station, the post office and the business district. The mainstreet and the adjacent commercial streets constituted the heart of the town, and were more than just streets and services and spaces—they were places, and were a measure of a town's success and prosperity. Life in the towns revolved around personalism, that is, the provision of services by familiar and identifiable people in the post offices, railway stations, banks and co-ops. These services became the "emotional heart of the small communities, overlaying the transactions with friendship and camaraderie" (McKie, 1992, p. 433).

In recent decades, several major changes have had dramatic effects on the towns. Although several complex issues are involved, two central themes—the decline of the railway, and the loss of the visual identity of the towns—will be explored as having the most profound impacts on both town form and its life.

THE DECLINE OF RAILWAY TRANSPORTATION AND THE CONCURRENT DEVELOPMENT OF ROAD TRANSPORT

The first major change is the obsolescence of the railway stations and the grain elevators in some of the towns. Changing patterns of agriculture and grain handling, the rise in importance of the highway and the automobile, and the resulting attempt by the government to rationalize rail services have been contributing factors.

This structural change has had a profound effect on the small town, traditionally focused on capturing the railway traffic and serving, as well as being served by, the railway. The decline of the railway facilitated the development of the highway commercial strip that took advantage of the new traffic patterns. While perfectly "rational," this new development had profound economic, social and cultural consequences that were slow to be recognized.

In towns where rail passenger service is no longer available, the railway stations have been demolished, or in rare instances are still standing, but are usually vacant and often derelict. The land adjacent to the railway stations is often used for parking lots, or is left vacant, creating what Trancik (1986) calls "lost space." The CPR owns most of the land adjacent to the railways, which in most towns means that a large strip of land through the centre of the town is in the control of one very powerful absentee landowner. These vacant sites that are left in the middle of the town are destructive to the town's character, and erode its soul and spirit (see Figure 3).

Concurrent with the decline of the railway has been the increase in importance of highway travel and transport, and the development of the highway commercial strip. Real estate opportunities

Clearspring Mall, a large commercial development at the highway entry to Steinbach, Manitoba.

Downtown Steinbach, same time, same day—deserted.

Photo credits: Sandalack, 1993.

Figure 5: Photographs of the Steinbach highway shopping mall and of the Steinbach downtown were taken on a Saturday afternoon in August 1993. Whereas business seems to be thriving at the Clearspring Mall, downtown Steinbach is virtually deserted. Although the town has embarked on streetscape improvements, such as boulevard construction and sidewalk repairs, it will still be difficult for downtown businesses to complete with the lure of the Mall.

have often become a driving force in town development, where the most important quality of an environment is its "highest and best use." This type of thinking and value system have contributed to the shift of the commercial activity from the historic downtown core to the highway strips, in order to take advantage of lower land costs, direct access to highway traffic flow and to enable more parking to be provided. Gas stations, convenience stores and chain fast food restaurants all compete to be the first one to grab the dollar from the local residents or the traveler entering the town (see Figure 4).

Local businesses have had to contend with a reduced market potential as the number of farms, and the number of farm workers, has declined over the past several decades and as town populations have dropped. Coupled with this have been the changes in shopping patterns, as regional shopping centres and superstores have been able to attract the more mobile rural customers to the city for regular shopping. And, closer to home, when highway commercial strips are allowed to develop, the decline of the historic business district is accelerated.

Short-sighted development decisions by municipalities are a contributing factor, often bringing long-term pain with the short-term gains. For example, in 1980, the town of Steinbach in Southern Manitoba, which had been very successful in maintaining a downtown business district that was economically healthy, and where there were continued and thoughtful efforts to maintain a strong and prosperous downtown business district, opened a major shopping mall two kilometres from the downtown. Clearspring Mall is located across from the Mennonite Heritage Village, a significant tourist attraction. Now there is little reason for tourists or shoppers from the region to enter into the town of Steinbach, and townspeople are also drawn to the mall, which provides cheaper amenities and more convenient shopping, shifting business away from the downtown (see Figure 5).

The Town is presently involved in reconstruction and revitalization projects on Main Street, consisting of upgrading of services, construction of centre boulevards and extensive streetscaping. Whether these efforts will be enough to attract the customers required to compete effectively with the mall remains to be seen.

The implications of this restructuring are far-reaching, going beyond the drop in business in downtown stores, as Marcia Nozick points out. Where there was once a greater likelihood that a dollar would be spent several times before it left the community, that is, when the buildings, the workers and the produce and materials sold were from local sources, now the money is siphoned off almost immediately to head offices of the chain stores, eliminating the possibility of that important recycling of the local dollar (Nozick, 1990, p. 16).

Several other related points, described by John J. Stewart, Director of the Heritage Canada Foundation Main Street Program in its early years, should be noted. Downtowns have suffered losses

Figure 6: Original Town Layout and Newer Residential and Commercial Development in Olds, Alberta.

The original street layout in the upper part of the photograph (the historic street pattern parallel to the rail lines, and the subsequent street development derived from the Dominion Land Survey grid) contrast with the new developments. New residential areas are discontinuous with both original patterns; their inevitable *culs-de-sac*, closes and crescents, and the enclaves they create, are obvious in the lower part of the photograph.

Source: Olds College, 1986.

of residents, employers and employees, as buildings, especially their upper floors, have become run-down and vacant. This has drained the vitality from the street and deprived the shopkeepers of a captive market. As more businesses depart for space in the new malls, and as buildings are demolished to make way for downtown parking, the fabric of the street is weakened even further, leaving behind the remaining small independent businesses to attempt to stay afloat in a deteriorating situation and against the co-ordinated retailing efforts of the competing malls (Stewart, 1983, p. 4).

While a majority of people prefer small-town living, presumably for its distinctive environment and culture, the new pattern of development threatens to homogenize and transplant city suburbia to the country, destroying the very features that make it desirable. These desirable features include a compact downtown with a variety of businesses and public places, where people can shop, pick up mail, bank, pay bills and socialize while doing so. It is this community-facilitating socializing, together with the uncrowded and convenient environment, that people associate with the small town.

However, in strip malls, there is no contact with the street as a social environment. Rather, the street becomes a separator, as parking must be visible to attract customers (Hough, 1990, p. 92). Due to the dispersed nature of these services, the daily activities of shopping, picking up the mail and banking are reduced to a disjointed series of stops, with the parking lot becoming the most likely opportunity for informal social encounters, a situation more like that of suburbia than the small town.

THE LOSS OF VISUAL IDENTITY

The distinct visual identify of the small town is being threatened as the vernacular is being replaced with symbols of modernism and technology, and as new developments are failing to integrate into the existing urban fabric.

Although the original railway grid plan can be criticized for its own autocratic system and for its unresponsiveness to local variations of topography, it defined the form of the Prairie town, and is a historical expression of the development of the West, as well as a convenient and effective method of subdividing and selling land. New development has threatened this form by two notable processes. In the first, the design of additional residential areas, with their ubiquitous *culs de sac*, has been done according to idealistic models of urban development, rather than to ensure the continuation of the town fabric which had grown up around the original town centres (see Figure 6).

Concurrently, within the downtown core, new large commercial and government buildings have been constructed. Their massive blocks, greatly out of scale with the existing townscape, often break up the streetscape and threaten to overwhelm the neighbouring buildings.

Photo credit: Don Becker, late '40s.

Photo credit: Sandalack, 1993

Figure 7: Original Buildings and Modernized Façades—Town of Olds.

An example of store-front "modernization" is shown in two photographs of the same street section in Olds, Alberta. The first photograph was taken in late '40s (50th Avenue looking South). By 1990, stone veneer had been glued to the first building's original brick façade, and the second building had an entirely new "modern" steel curtain attached on its front.

The surviving businesses on main street, fearing obsolescence and desiring to keep up with modernism and technological advance, have reacted to the competition of the highway strip mall and the overbearing appearance of the new buildings near them by attempting to fit in with what they see as the image of progress and prosperity. This has often been done by covering up the original brick, stone or timber buildings with steel or vinyl siding, and by adding signage way out of scale and out of character with the building, the street and the message (see Figure 7).

The loss of the historical building façades has received the most attention to date, as local people, conservationists and historians have attempted to uncover their rich built past by restoring and protecting the buildings. However, not much has been done to address the loss of the original spatial organization and its effect on the public realm.

Modern development, with the generic subdivisions, anonymous public buildings, cheaply built strip malls and the brash and overbearing superstores, has been justly criticized. Tugnatt and Robertson, although specifically describing the situation in Great Britain where local ways of building, shopping and living are being threatened by American influences, might accurately be describing Canadian Prairie towns when they criticize the "mediocre or downright poor quality of so much contemporary urban building" (Tugnatt and Robertson, 1987, p. 19).

REVITALIZATION PROGRAMS

Many programs have been devised and implemented in an attempt to address the decline in business of the old established downtown business districts. Although many have been concerned only with cosmetic improvements, some have included a recognition that the enhancement of the town's character, usually in the form of its history, would be good for business by bringing in tourists.

The programs have included theme development and the importation of the image and history of another place, numerous streetscaping and beautification programs, mainstreet programs (federal and provincial), various forms of townscape studies, downtown business peoples' associations and other efforts to influence the process through changes in zoning and bylaws. They have had various effects, and varying degrees of success and failure.

Despite decades of intelligent and convincing arguments for the maintenance of culture and history embodied in the townscape, and despite several methodologies having been suggested for this work, it does not appear that professionals or educators are able to agree on what is appropriate or successful. The following section describes some of the more common approaches.

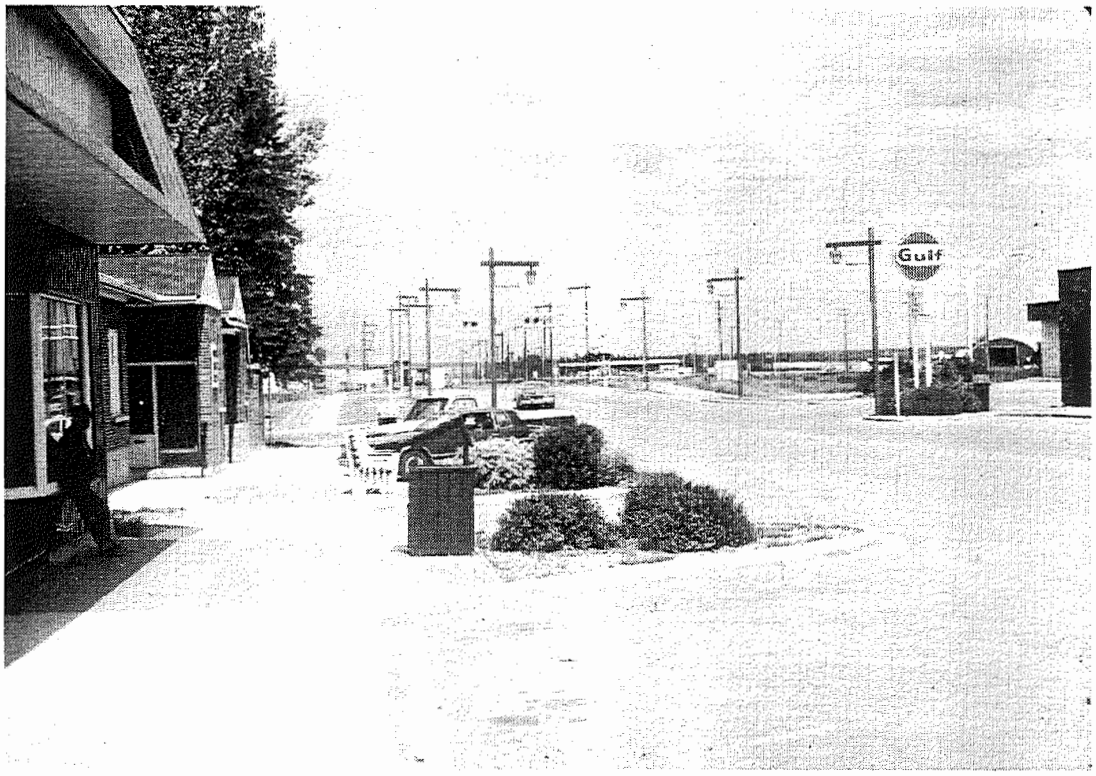


Photo credit: Sandalack, 1985.

Figure 8: Streetscape "improvements" in the 1970s and 1980s in the town of Vulcan, Alberta included traffic islands with shrub plantings, benches, litter bins and stylized light fixtures. This approach was typical of beautification programs, which, although well intentioned, did little to enhance local identity, and often just added another superficial layer of decoration and clutter which required additional maintenance and upkeep.

BEAUTIFICATION

Many forms of revitalization have taken the form of streetscaping or the beautification of some aspects of the town.

Most frequently, this approach has involved the imposition of a set of arbitrary design standards, typically consisting of the replacement of existing sidewalks with precast concrete pavers in various colors, shapes and patterns, the construction of traffic islands, the planting of street trees in tree grates and tree guards, and the installation of "period" light fixtures. It has become fairly easy to spot a town which has been "beautified," as these introduced townscape elements now dominate the street, overshadowing the subtleties of the individual communities (see Figure 8).

However, towns can only support a certain amount of business, and an unpopular revelation is that beautification will not bring economic response if market forces are not there. Town councils have to understand this, and avoid false optimism, boosterism and the perception that the newly beautified mainstreet or highway strip is evidence of real growth, while keeping in mind the difficulty of questioning development proposals as long as short-term economics continues to drive the process.

These mass produced townscape elements have become a generic treatment of small towns (and of many city streets), and have contributed to the decline of urban identity. This style of urban design has little room for, or interest in, any inherent regional diversity, and does little to influence the conditions it is intended to address. The forms and materials are alien to the town's way of building, and can contribute to a disinterest or resignation when the community does not see any lasting changes or improvements to the quality of its urban environment.

THE CARNIVAL APPROACH

This approach centres around the peculiar notion that an imaginary past should be used to provide the forms and vocabulary for the revitalization of the threatened urban space. This approach is a contrived strategy to enhance commerce and facilitate entertainment that has no connection to the culture or historical values of the community.

One of the most dramatic was the "Bavarianization" of Kimberley, British Columbia, where the history and character of another place, from another continent and culture, were imported to try to create a place of interest. The town has been promoting itself as a Bavarian town, denying itself a regional identify and falsifying its past.

Another more modest example of this approach is in the town of Battleford, Saskatchewan. This town had Victorian/Edwardian beginnings, and has been "updated" to a Wild West theme, with

Gregory Dietz, wearing plastic ears, gives the Vulcan greeting.

THE FINAL FRONTIER / *A little town in the heart of Canada's wheat belt is boldly seeking to become the world's first Star Trek theme town in a bid to avoid dematerializing*

Trekking to Vulcan . . . Alberta, that is

BY MIRO CERNETIG
Alberta Bureau

VULCAN is a dusty planet dreamed up by Hollywood sci-fi writers. It also happens to be a prairie town where people are going a little spacey.

In a bid to keep their town from falling off the intergalactic map, the residents of Vulcan — known as Vulcans — have started fessing up to being aliens from another planet.

Oh, they may look like ordinary farmers and small-town merchants. But Vulcans now tell strangers they are from the planet Vulcan, home of Mr. Spock, the green-blooded, pointy-eared and totally fictitious alien character from the popular television and movie series *Star Trek*.

To back up this highly illogical claim, real-life Vulcans can be persuaded to take a pair of pink plastic pointed ears, made in Hong Kong, and slip them over their own.

"Oh yes. We all have our ears," says Linda Whiteside, the 48-year-old school trustee who is also a member of the town's Star Trek committee. "We wear them at our meetings. . . . Live long and prosper."

Vulcan, a mid-sized town in the heart of Canada's wheat belt, has slowly been losing its population over the past few decades. With farming prospects seeming bleaker than ever, the 1,422 remaining Vulcans have been exploring new frontiers to keep the town from withering away.

Vulcan's Star Trek committee has come to the rescue at warp speed. Its multi-year mission is to boldly take the town where no town has gone before: Vulcan wants to become the world's first Star Trek theme town.

"At first I thought they were a little off course," confessed Terry Laycraft, the common-sense mechanic at the Petro-Canada station. "Let's put it this way: I don't wear my ears. But if it brings in tourists, it's not nuts."

Already there are signs the populace of this southern Alberta town has caught the Trekkie spirit.

Most stores have Mr. Spock painted on their windows. Sets of Vulcan ears are on sale for $2.99. Life-sized cutouts of Mr. Spock are scattered throughout town. Even Peter Pickersgill, editor of the local paper, has drawn a pair of pointed ears on his front page.

This, however, may be only the beginning. Vulcan is planning to reach for the stars.

Gregory Dietz, one of the architects of Vulcan's *Star Trek* project, plans to try to persuade Leonard Nimoy, the actor who took Mr. Spock to the screen, to "come home" to Vulcan next summer to celebrate *Star Trek's* 25th anniversary and Mr. Nimoy's 60th birthday.

Mr. Dietz is negotiating with Paramount Pictures Inc., which controls the rights to Star Trek. Over a lunch of Chinese food in a Vulcan diner, Mr. Dietz said significant progress has been made on a licencing arrangement that will enable the town to get hold of props and sets from *Star Trek*.

He envisions Vulcan becoming a magnet for fans. The shrine might be a theatre where Trekkies could watch endless repeats of the original episodes of the 1960s TV series. Or perhaps a giant replica of the starship USS Enterprise would loom over the pilgrims driving into town.

"You know, it's just strange enough to work," said Mr. Dietz, his plastic ears hidden in a pocket of his jeans. "But it's new to them (Paramount Pictures) and us. How do you licence a town for a

Please see VULCAN — A4

Figure 9: Vulcan, Alberta - *Globe and Mail* headline and photo.

Source: *Globe and Mail,* 23 August, 1990. Reprinted with permission.

false-fronted cedar sided buildings complete with hitching posts.

Also included in this category is the town of Vulcan, Alberta which, after the "beautification" of its Main Street did little to stimulate its economy, attempted to promote itself on the strength of its name by inventing a connection to the planet Vulcan, home of the pointy-eared Mr. Spock on the American television show "Star Trek." Tourists were attracted by the opportunity to photograph themselves alongside plywood models of the Star Trek crew or to buy a set of plastic Vulcan ears (see Figure 9), but as a 1994 article revealed, the success may have been short lived. This year's Star Trek Convention attracted only sixty people, compared with 400 families last year (*Halifax Chronicle Herald,* August 9, 1994).

The attempt to base these types of main street developments (and themed shopping mall developments) on a remote, ill-defined and inaccurate historical model arises from the need to keep a besieged town economy alive. However, there is enough real history and historical material to provide a more meaningful base for economic enhancement strategies, along with an authentic and long-term sense of pride and identity.

COMPREHENSIVE REVITALIZATION PROGRAMS

The most successful programs have involved more comprehensive approaches to downtown revitalization that have involved economic as well as aesthetic efforts.

The Heritage Canada Foundation was set up in 1973, and soon after launched its Main Street Program. In the initial Main Street Canada projects, seven communities with important heritage resources were selected. During the period 1981 to 1985, Heritage Canada Foundation co-ordinators worked with the business communities of these towns to become more effective in competing with the strip malls, not by "promoting the prettification of Main Street," but by "encouraging communities to restore the life that was already there, by working with the people who were already there" (Holdsworth, 1985, p. ix). As of 1990, over seventy communities throughout Canada had become involved in the second phase of the program. The goal of the program, "to combine preservation techniques with economic and social revitalization of a community's commercial centre through a gradual process of incremental change" (Stewart, 1983, p. 5), involved organization and management, marketing the downtown and individual businesses, as well as urban design and economic and commercial development strategies. The program is described in considerable detail in Holdsworth (1985) and elsewhere.

The benefits of downtown revitalization programs that combine image enhancement through period restoration with marketing strategies are shown in Alberta by the Main Street Canada pilot

project in Fort MacLeod. The aim of that project was to restore the image of the commercial buildings in the downtown historic area to a 1920s level, while improving their usability for business. Started in 1982, the project has been successful in improving the town's image, and has been evaluated for its economic effects. In 1984, Fort MacLeod's receipts *per capita* were 21 percent above the average for Alberta towns of its size (Alberta Historic Resources Foundation, 1987).

Clearly, this type of revitalization has been good for business. These programs have been the most successful in addressing change by raising townspeople's awareness and "democratizing heritage consciousness at the grass roots level" (Graham, 1990), and in involving local citizens in the process and obtaining competent and interested expertise. However, a danger is that once the program is well on its way and the local project co-ordinator's position is terminated, the town may not be able to maintain the momentum and focus on the main street, and may fall back into the established pattern of new strip mall construction and main street deterioration.

As successful as the Main Street Programs can be, their resources are limited, and their scope does not embrace the whole of the town or its new development.

THE NEED FOR A RENEWED APPROACH

Although some of the programs have had successes in what they attempted to do, most were limited in their scope, and did not address new urban development, or the effect of the new development on the cultural and social life of the towns. Despite the efforts that have been described above, the problems outlined earlier still persist:

- historic main street has been declining in favour of generic highway strip developments;
- recent patterns of development have resulted in vast areas of unbuilt space that serve no integrative or productive function;
- downtowns are frequently devoid of permanent street life.

The central theme of these issues is the continued undervaluing of an existing local culture and the loss of identify, individuality and tradition.

There are deficiencies in our conceptual framework that have caused our design and planning decisions to result in the deterioration of our local environments. Modern technologies of planning and design have seldom contributed to the improvement of the lives of the people in the small town communities. The social consequences of planning and design decisions must be of greater concern (at least as important as the economic and technological criteria).

It is important to understand what it is that distinguishes small towns, and why they require a particular approach. Hodge and Qadeer (1983) discussed social structure with a view to

understanding what distinguishes the residents of towns and villages from those of cities. They found that on gross social indices, towns and villages bore a close resemblance to cities. Small town uniqueness is a factor most significantly of their small size, which limits the scope and number of activities that may be contained within towns, but maximizes the impact that the limited number of actors has within them. As a result, towns develop a certain type of uniqueness through the nature of the interpersonal dealings and social relations with and among those actors. As well, due to the small size, not all societal institutions will be represented to an equal degree. The dominant institutions will therefore help to shape the identity and character—for instance, towns which have a college are significantly different from those which are dominated by large government offices or agricultural research centres. The individual mix of institutions (as well as the particular town's ethnic or cultural composition) contributes to the town's identity and character.

Towns need to understand what they are—what processes and forces and events shaped them and continue to be important, and to make a conscious decision to celebrate their own identity. Gimmicks such as downtown "Bavarianization" or superficial beautification programs may provide short-term economic gain and a brief period in the tourism spotlight, but do little to foster the pride of place that comes from authenticity.

Hough (1990, p. 178) states that "the real issue of preservation is the maintenance of continuity." The "continuity of time, with successive layers intact," described Trancik (1986, p. 115), is lacking in many small towns. Kevin Lynch pointed out (in Trancik, 1986, p. 115) the need to frame ourselves with the past as well as the future, so that through the continuity with the recent past as well as the near future, each locality will have "an aura of inevitability." The key is the continuity of local tradition and care.

In a review of the available literature on how to reinforce identity and to create places with meaning, a powerful idea recurs. By doing as little as possible, and reinforcing important attributes and characteristics, a place can be stripped down to its real essence (Hough, 1990; Paterson, 1994). In order to accomplish this, one must come to understand the historical processes responsible for the development of the community's form.

Of special importance to our argument is the Third Typology (Vidler, 1978). The fundamental attribute of this typology is that it has the town and its history as the object of its concern. It proposes that whereas first nature, and then machine, had provided legitimizing models for architectural design in the past, so now the city or the town itself offers such a source. Design solutions are sanctioned according to whether they correspond to and reinforce the character and typological conditions of the street, the square (or park) and the quarter (Maitland, 1984).

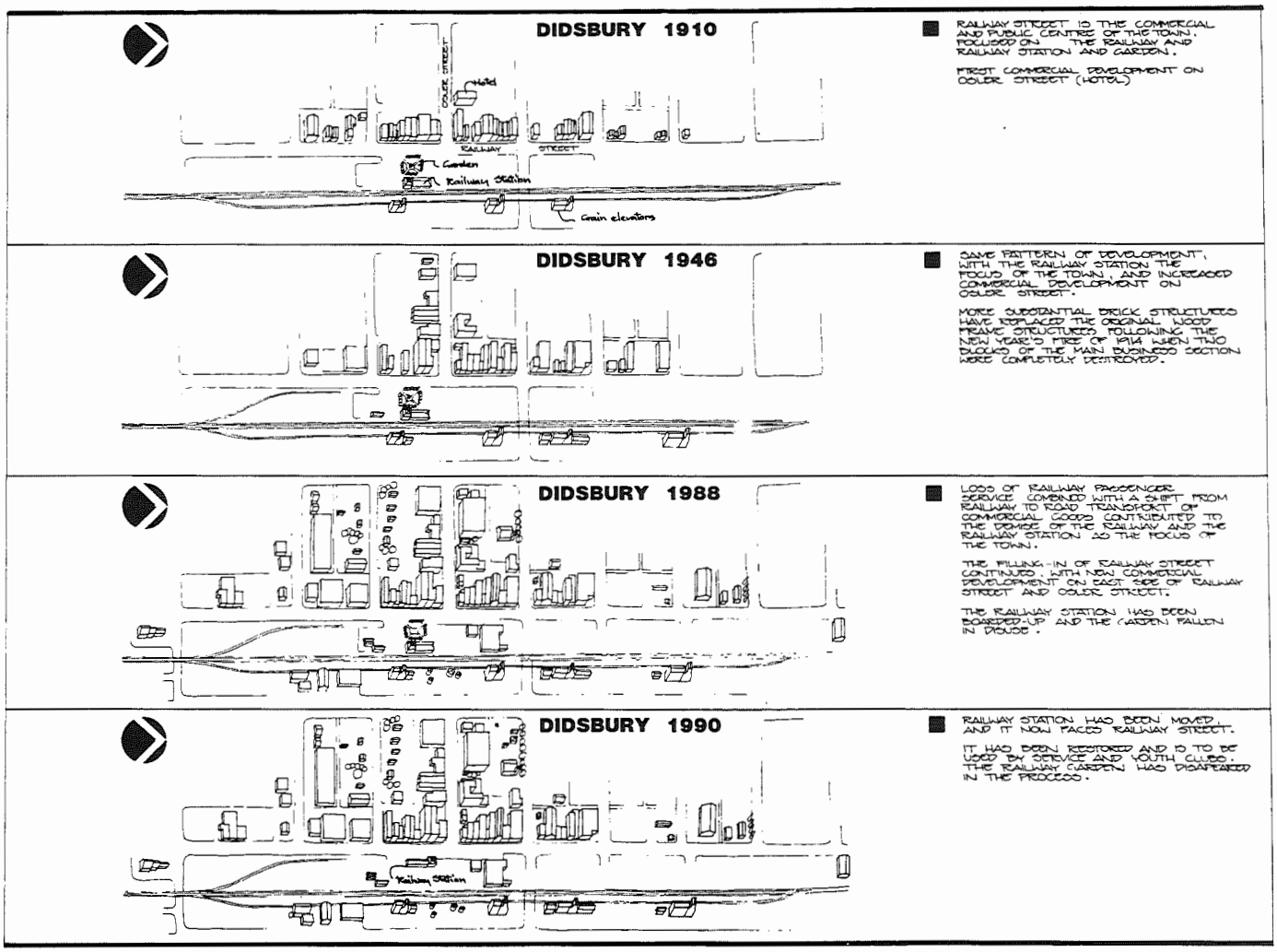


Figure 10: Town of Didsbury Historical Evolution Maps.

Source: Nicolai, 1991.

When historic urban forms are recreated, they are not without social and political meaning, even though they may be removed from their original context. The inherited meanings of these forms may be used to provide a legitimizing vocabulary for newly created public spaces. Thus the new urban space offers clues and settings that are familiar to its users, facilitating its own evolution and transformation. In the accumulated history of the town, its public spaces and institutional forms, a typology can be determined that goes beyond a simple dichotomy of form and function, to a continuing tradition of community life.

A tool that can be used to reveal the city or town is the historical evolution analysis. The historical evolution of the urban form can be investigated using railway or insurance company records or other historic records, photographs or maps. By illustrating significant time slices in the development of a town, together with an understanding of the social, political and economic determinants, historical events are revealed in their effect on the urban structure, gaining significance by comparison to an earlier or later time slice. Also revealed are the social and political meanings of the public space at a certain time, and how those meanings have been transformed or forgotten over time.

This understanding can be used to re-compose endangered public space, or to create new urban spaces that help reinforce and complement the existing urban structure. The historical evolution analysis can also reveal forgotten natural or geographical features that were concealed over time, helping re-harmonize an urban structure with its natural setting.

EXAMPLES

The following examples illustrate how historical evolution analysis can be employed in addressing issues of lost image and historical references.

The first example is part of the "Town of Didsbury Period Restoration and Downtown Revitalization Study" (Nicolai, 1991) which was commissioned by the local Tourism Action Committee.

The study's intentions were to co-ordinate local initiatives in rehabilitating and improving the downtown core, and to direct it towards an image enhancement that would make the town a more attractive place and a better place to live. At the request of the consultant, a "Downtown Revitalization Committee" was formed in order to oversee the development of the study and to address local concerns.

While the study involved a visual and townscape analysis of the entire town together with recommendations for specific development proposals, illustrated are the parts most relevant to the paper: the historical analysis of the downtown commercial core, and the evolution of a particular

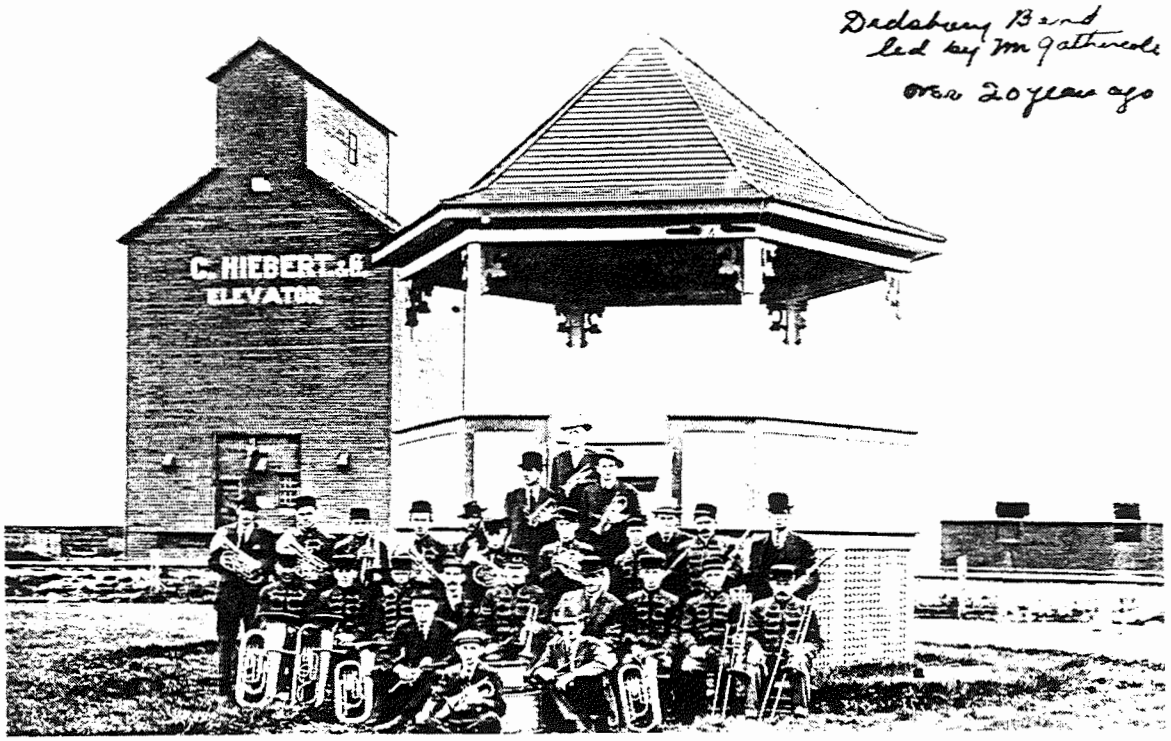


Photo credit: Disbury Historical Society, c.1912.

Figure 11: Bandstand, Town of Didsbury, Alberta *circa* early 1900s.

Local historical accounts reported the importance of the bandstand to the Town of Didsbury's cultural and social life. A brass band provided entertainment at many social functions and gave open air concerts during the summer months under the shelter of the bandstand in the middle of the railway garden.

development proposal.

Historical photographs, municipal maps and insurance assessments were used to illustrate the historical evolution (see Figure 10). The 1910 map indicates the earliest town development; the 1946 map shows post-World War II development; the 1988 map shows the more recent development; and the 1990 map shows the conditions at the time of the study.

The 1910 map shows a strong commercial development along Railway Street, facing the railway station, with the station and the railway garden the focus of the town. The railway garden was the physical centre of the town, providing a gathering area as well as a reference point. The bandstand in the middle of the garden was used by the Didsbury Brass Band for concerts in the summertime (see Figure 11). The first commercial development is occurring on 4th Avenue, today's 10th avenue.

The 1946 map shows the "filling in" of Railway Street, especially closest to the railway station and loading-unloading areas, as well as a continuation of commercial development on 19th Avenue. Commercial development is still focused on the railway.

The 1988 map shows a continuation of the same trend of development continuing to fill in Railway Street and 19th avenue. Loss of railway passenger service, combined with a shift away from railway transport of commercial goods, contributed to the demise of the railway and the railway station as the focus of the town. By this time, the railway station was boarded up, and the garden fell into disuse.

The 1990 map reveals important changes in the district's organization. The railway station has been moved, now facing 20th Street, and it has been restored for use by service and youth clubs. The railway garden has disappeared in the process.

Although the function of the railway and the railway station have changed considerably, the site's location at the centre of the downtown reflects its former significance. By reintroducing a public function to this space, the original fabric is repaired, and the way that the streets and buildings were meant to function is restored.

The study proposed the rebuilding of the railway garden in an area devoted in more recent times to parking, in order to complement the station by providing a park area with seating for rest and socializing. The re-constructed band stand (the original is now located in Heritage Park, Calgary) in the centre of the garden would restore historical perspective. The members of the downtown Revitalization Committee working with the consultant were enthusiastic about the possibility of reviving the summer weekend brass band concert, perhaps in combination with business promotions (see Figure 12).

In 1993, the bandstand was reconstructed and was inaugurated at the Town's Canada Day festivities, and is again a feature of the downtown (see Figure 13).

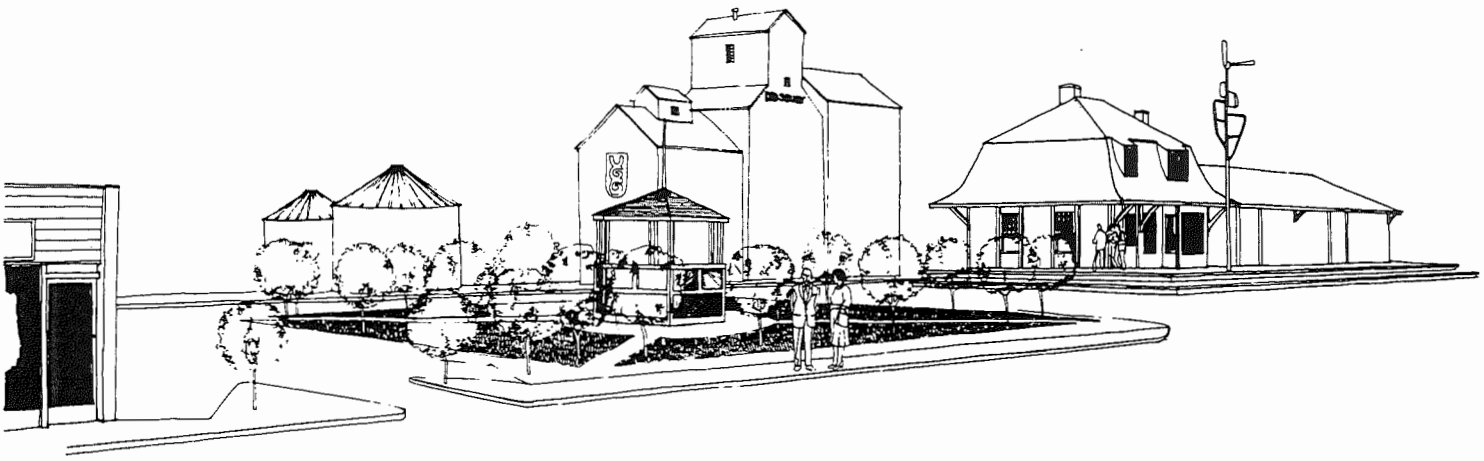


Figure 12: Proposal for the re-development of the bandstand and railway garden in Didsbury.

Source: Nicolai, 1991.

Photo credit: Sandalack, 1993.

Figure 13: In 1993, the bandstand was reconstructed and was inaugurated at the Town's Canada Day festivities, and is again a feature of the downtown.

Another example where a proposal was developed to retrieve an historic element and re-weave it into the town fabric concerns the town of Steinbach in Southern Manitoba. In 1984, the town was the focus of a townscape study for a University of Manitoba landscape architecture design studio. The study involved several project-level components within a town-wide framework. A review of the historical evolution of the town revealed the origins of the town around a small creek.* During the decades of town modernization, the creek, along which the original community had settled, had been channelized, and by the 1980s it existed only as a series of ditches and culverts (see Figure 14). Stony Creek, which had once been a valuable natural and historical resource, was now unsightly and had become irrelevant to the town (Sandalack, 1984).

The town responded favourably to a proposal to restore the creek and to capitalize on the opportunities for recreation, historical interpretation and amenity development. Although many years passed since the original proposal, the town has recently been working to bring back this part of its history and restore its continuity.

The tool of historical evolution was used here to provide the rationalization for development, in this case with a natural feature being restored to recapture the sense of place and to help reharmonize urban development with its environmental context.

CONCLUSIONS

Urban design in small towns must be concerned with much more than facelifts or economic development strategies. It must involve education and changes of philosophy and values, as well as the recognition of the need for continuity in traditions of building and doing.

In order to develop truly humane and contextual places, urban designers must listen and look carefully, attempting to understand the history of the place and its traditions, as well as the environmental, social, political and economic realities of the community. It should include a strategy for management that employs small, slow, incremental changes, and that includes social changes and education so that people can again understand their history and their place in it.

Design carries with it "a burden of values and inner vision about what is good for the environment and for people" (Hough, 1990, p. 67). Good design and planning should result in places which are not only spatially and functionally coherent, but which also have historical resonance that facilitates a community-building spirit. It does not necessarily need to include the addition of new elements or materials; more often it can be achieved by removing the inappropriate elements, and by

*Editor's Note: The German name of the town *means* "Stone-brook" (*Stein-Bach*).

These sketches were part of a proposal for the restoration of Stony Creek in Steinbach, Manitoba. The creek model was based on historic photographs and local hydrological data.

While well-intentioned, the uncovering of Stony Creek as a recaptured element of the Town's history has been handled rather unimaginatively, with the creek now running in a straight-sided grassed ditch.

Figure 14: Stony Creek, Steinbach, Manitoba.

Source: Sketch: Sandalack, 1984; Photo credit: Sandalack, 1993.

recognizing and enhancing the underlying identity of each place. This is particularly true in the Prairie towns, whose small size and brief history make them especially vulnerable to insensitive intervention.

Sinclair Gualdie wrote that "to live in an environment which has to be endured or ignored rather than enjoyed is to be diminished as a human being" (1969, p. 182). In the recent past, efficiency and standardization have been the pre-eminent values on which we have based many of our planning and design decisions. It is clear that these values have seldom produced an environment in which we can find delight.

To make the Prairie town a place to be enjoyed rather than ignored, we need to value our culture, our identify, our individuality and our traditions.

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PEDESTRIAN SKYWALKS AND URBAN DESIGN: HOW CALGARY'S PLUS 15 COMPARES WITH AMERICAN DOWNTOWN SYSTEMS*

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When most American planners and city officials hear the term "skywalk," they immediately think of the extensive second level pedestrian systems found in downtown Cincinnati, Minneapolis or St. Paul, not to mention numerous other smaller or less publicized U.S. systems. Many are less aware that skywalks are also an increasingly popular planning tool in Canada, where several large Canadian cities, most notably Winnipeg, Edmonton, Calgary and Ottawa, currently possess extensive downtown systems. Furthermore, they would undoubtedly be surprised to learn that the largest downtown skywalk system in North America is not in the U.S.A., but in Calgary, Alberta; in 1994, Calgary's 52 skybridges made it the continent's largest system. Size is not the only factor, however, that differentiates Calgary's skywalks from its American counterparts. The purpose of this article is to discuss the major differences between skywalks in Canadian and American cities, using Calgary's renowned Plus 15 System to represent the Canadian experience. Urban design will be the focal point of this comparison.

The conclusions in this article are based on observations, interviews and survey research conducted during 1985 and 1986 in Calgary, Cincinnati, Des Moines, Duluth, Minneapolis and St. Paul. Current information was incorporated into this updated article, particularly for Calgary. All six downtowns currently possess extensive skywalk networks, ranging from Duluth's 17 skybridges to Calgary's 52 bridge system. In 1962, Minneapolis was the first of these cities to start building skywalks, while Des Moines, in 1980, was the last city to initiate its system; Calgary's first skywalk was constructed in 1970.

A skywalk system can be defined as a network of elevated interconnecting pedestrian walkways. The network consists of skybridges over the streets, the second level corridors within the buildings, and various activity hubs. For the most part skywalks are enclosed and climate-controlled, and contain a body of retail and service establishments which may or may not have direct access to the street level (see Figure 1).

The definition of urban design that underscores this article is holistic in nature, as it incorporates much more than aesthetic considerations. Urban design should be concerned with the creation and

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Photo credit: Kent Robertson, 1986

Figure 1: Calgary: The most visible parts of any skywalk system are the sky bridges which connect the buildings, such as this one attached to Toronto Dominion Square.

management of the built environment, focusing particularly on the relationships between the spatial and socio-economic elements of the urban fabric. This includes, according to Tibbald (1988, p. 11), "the grouping of buildings for different uses, the movement systems and services associated with them, and the spaces and urban landscape between them, within the context of continuous change in the social, political, administrative, economic, and physical structure of towns and cities." Urban design should be considered an integral part of all urban planning, not a sub-specialty of it. Applying this definition to skywalks, this article will evaluate skywalk design in terms of its integration with the downtown's architectural fabric, system of transportation, and social and economic characteristics.

COMPARING SYSTEM OBJECTIVES

The basic objectives underscoring the development of most American skywalk systems are twofold. First, they were constructed to facilitate pedestrian mobility and safety. Skywalks permit more trips to be made in less time and more comfort, especially in bad weather, and since pedestrians are separated from vehicular traffic, improved pedestrian safety is accommodated. Second, skywalks are being used as a downtown redevelopment tool because of their ability to encourage density, to create a new layer of commercial activity on the second level, and to attract people downtown. In fact, the *Wall Street Journal* reported that "the use of skyways as an economic tool in a downturned downtown area has overridden the climate-control issue" (Lublin, 1984, p. 1).

While pedestrian mobility and downtown development were certainly important objectives in Calgary as well, these factors constituted only part of that city's environmentally oriented skywalk concept. The intent was to create a total pedestrian environment on the second level as opposed to simply providing utilitarian linkages. One of the most striking manifestations of this concept is the abundance of open space—both interior and exterior—located throughout the system. Many of the buildings have second level outdoor public plazas which comprise part of the skywalk system (see Figures 2, 3 and 4); most are directly accessible to the street via stairways as well. The majority of these plazas are attractively landscaped and heavily utilized, especially by office workers at lunch hour. Some open spaces, however, are barren in their appearance and are largely void of people. Several of the larger buildings also contain sizable interior open spaces, which more or less resemble indoor shopping mall complexes common to most American and Canadian downtowns. Finally, Calgary's system also relates well to several street level public plazas, most notably the Esso Building which is directly connected to the outdoor/indoor skywalk above through two well designed and very visible stairways.

Photo Credit: Kent Robertson, 1986.

Figure 2: Calgary: An attractively designed plaza outside the Petro Canada skywalk.

Photo Credit: Kent Robertson, 1986.

Figure 3: Calgary. A bleak underlandscaped space at Canada Place.

Photo credit: Kent Robertson, 1986.

Figure 4: Calgary: A sparsely landscaped space linked to Rocky Mountain Plaza.

The objective of climate control, which is paramount to American systems—even in cities enjoying relatively mild climates such as Cincinnati, Dallas and Charlotte—is less important in Calgary, despite its more severe weather. Protection from the elements was not central to the original vision held by the system's planners. This is most evident not only from the outdoor open spaces linked to the system, but also from the numerous inner block corridors that are not enclosed. In fact, a few of the original skybridges are not even covered, although no open air bridges have been constructed since the early years of the system. Cincinnati is the only American system examined which is not completely enclosed; parts of its skywalk, while covered, are open to the elements on the sides.

The integration of skywalks with open space is virtually non-existent in the five systems studied in the United States. Several cities have interior spaces serving as shopping malls which constitute activity hubs; Town Square in St. Paul and the IDS Crystal Court in Minneapolis provide the best examples. However, only Cincinnati can claim to possess outdoor public spaces that relate to the skywalk. An open air skybridge runs the length of the renowned Fountain Square, providing both direct access and an overlook. Furthermore, one of the core blocks of Cincinnati's system contains an outdoor second level plaza built over the alleyways between the buildings. These were the only two examples, however, discovered in any of the five American cities, whereas open spaces serve as an integral part of the Calgary network.

COMPARING SYSTEM DEVELOPMENT

The manner in which Calgary's skywalk system developed has resulted in a radically different configuration from what can be observed in American cities. Its skywalks evolved incrementally, with locations of skybridges and interior walkways generally not being predetermined. While the evolution of each of the American systems can be described as incremental to a degree, they all conform to an overall long-range plan. In Calgary, skywalks were built usually when new buildings were erected downtown, regardless of location in relation to the system as a whole. Private sector initiatives, encouraged by generous floor space bonuses, were heavily relied upon for constructing skywalks. Since the downtown was in the midst of a construction boom during the 1970s and early 1980s, skywalks were materializing everywhere new development took place. However, there was little co-ordination between the new buildings; hence the development of an integrated network of skybridges was sporadic at best.

This does not mean that Calgary's skywalks lack public sector planning and co-ordination. The development of the system is guided by the downtown land-use district plan, which designates desired skywalk connections, establishes a Plus 15 Fund which allows for ongoing improvements to and

expansion of the system, and specifies design guidelines and maintenance responsibilities for the public easements which traverse private buildings. A development agreement is established between the city and private developer which dictates the public easement through the building and the maintenance responsibilities. Once executed, the development agreement is registered as a caveat on title which ensures the continuity and ongoing maintenance of the skywalk system regardless of ownership changes. The bridges become public property, even though they continue to be maintained by the private owners of the connecting buildings.

Despite efforts at public co-ordination, Calgary today possesses a system that is not contiguous (see Figure 5). Most American systems modestly began with the implementation of a few bridges near the core of the downtown and gradually expanded outward over the years. For the most part, skywalks were only constructed when they could be linked to the remainder of the system, thereby maintaining a continuous, non-interrupted grade separated network (for example, see map of Des Moines system in Figure 6). In Calgary, however, the so-called network in reality consists of four subsystems (Lyons *et al.*, 1988) that are not connected, thus forcing pedestrians to leave the skywalk for the sidewalks below should they wish to utilize different parts of the system. Eventually, the city plans for these segments to be linked together to form one integrated system; but the current non-contiguous configuration confronts the skywalk user with a system that often times is confusing and inconvenient.

COMPARING TRANSPORT CONSIDERATIONS

One of the most impressive aspects of Calgary's skywalks is the way in which they interrelate with the overall downtown movement system. In the five American cities, the extent to which skywalks are co-ordinated with any other form of transport is limited to linkages with parking ramps, both public and private, generally situated at the peripheries of the systems. Parking ramps in Calgary serve a similar function, allowing commuters to park in one of several peripheral locations and then to utilize the elevated walkways to reach their final destination.

However, Calgary's skywalks, unlike their American counterparts, are integrated with transit as well. The city's public transit consists of buses and a newly constructed light rail transit (LRT) system, both of which serve downtown via a transit corridor implemented on centrally located Seventh Avenue. LRT station locations have been co-ordinated with the skywalk system to permit easy transferability between the transit and pedestrian modes, as can be seen in Figure 7. None of the American cities have rail transit, and their bus systems are not well integrated with the skywalks.

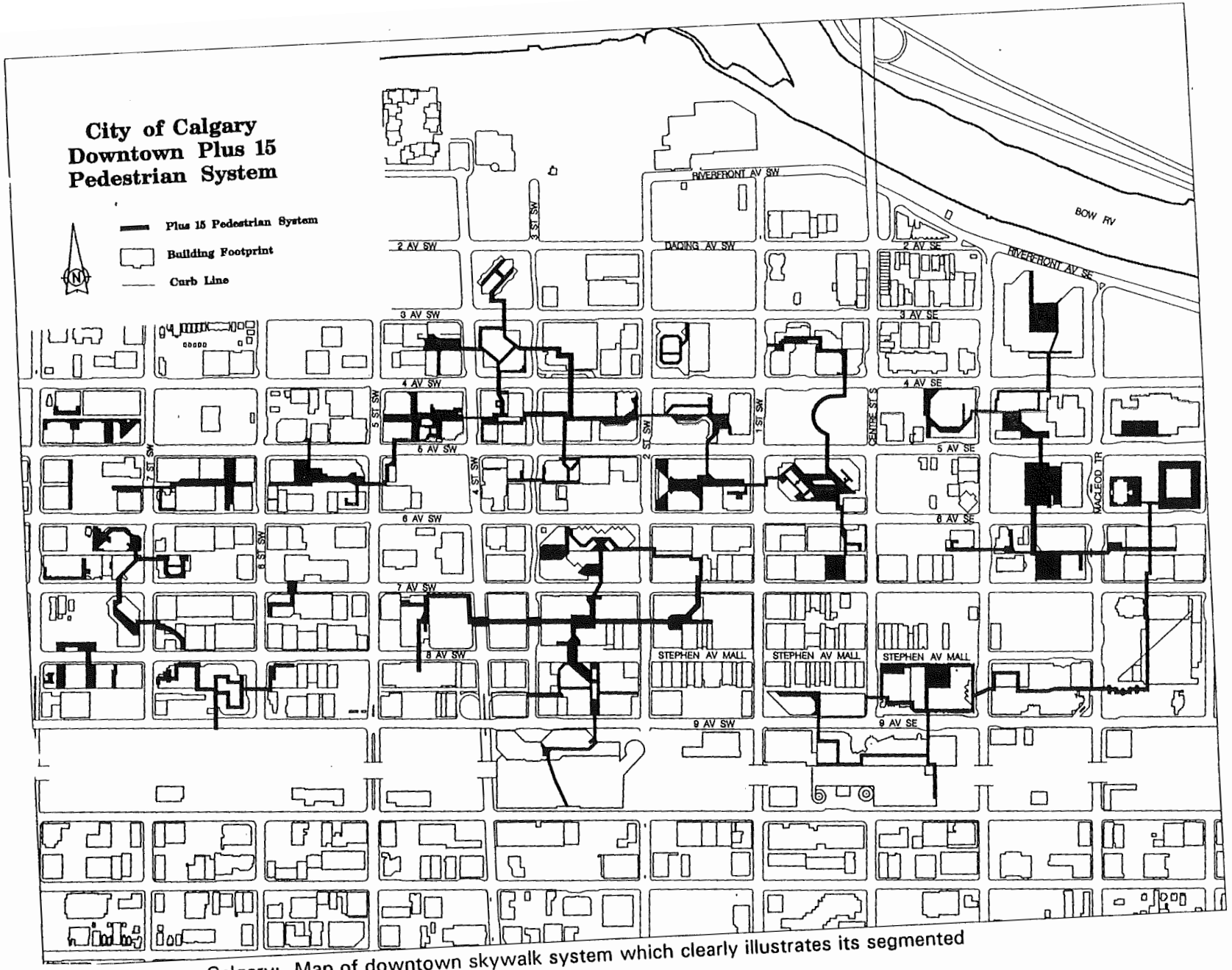

Figure 5: Calgary: Map of downtown skywalk system which clearly illustrates its segmented characteristic.

Source: Calgary Planning and Building Department, 1992.

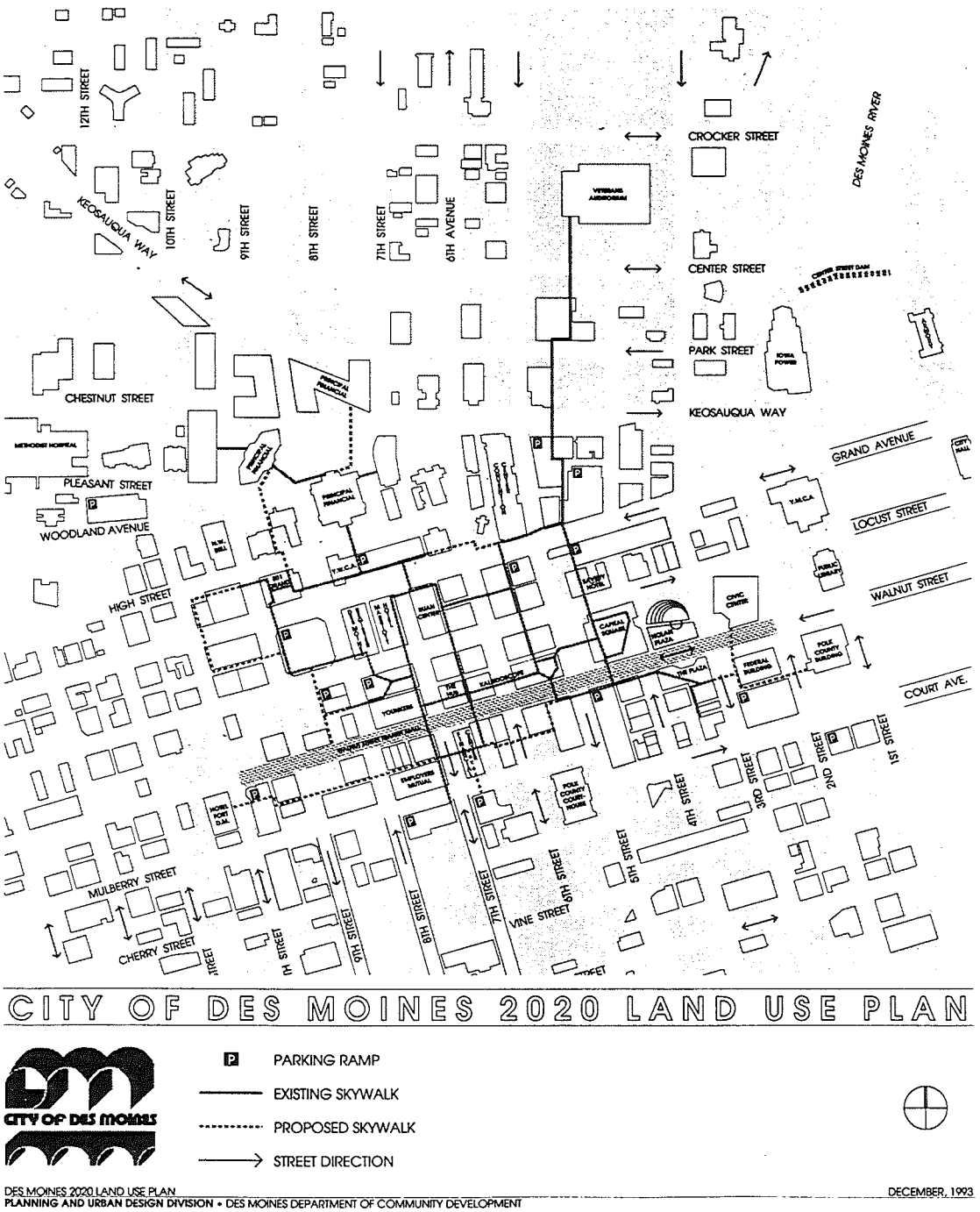

Figure 6: Des Moines: Map of downtown skywalk system which demonstrates its contiguous nature.

Source: Des Moines Planning Department.

Photo credit: Kent Robertson, 1986.

Figure 7: Calgary: This skywalk to Toronto Dominion Square links directly to the light rail transit station on Seventh Avenue.

Photo credit: Kent Robertson, 1986.

Figure 8: Calgary: Stairways such as this help to improve accessibility to the street level.

COMPARING ACCESS AND ORIENTATION

One of the keys to a successful and heavily utilized grade separated pedestrian system is the ease with which people can gain access to the network and orient themselves once on the network. Access from the street level is often problematic in the American systems, because entry points are usually found in the center of private buildings. Not only are the skywalk entrances not detectable from the outside, but people may get the feeling that they are treading on private space when they have to walk far into the interior of an office building or hotel to locate the skywalk. The same scenario was apparent in many places throughout the Calgary system. To make matters worse, there were few directional signs outside in 1986 to give the would-be user any clue that the skywalks might be entered from within the building; to varying degrees, this was provided for in the American systems.

One remedy to this problem is to provide direct access to the skywalk from the street level, without requiring pedestrians to enter buildings. The only American city to do this is Cincinnati, which has numerous escalators and stairways leading directly to the skywalk, thereby enhancing the system's visibility and use by a wide cross-section of people. Calgary does possess numerous instances wherein stairways link the skywalk to the grade level, most often in connection with second level open spaces (see Figure 8). Unfortunately, many of these stairways are somewhat inconspicuous, thus detracting from their effectiveness in terms of increased accessibility. "A well-designed Plus 15 stairway is open, visible, and oriented to the sidewalk," according to Lyon *et al.* (1988, p. 274). To improve skywalk access, the city is making a concerted effort to construct new stairways and to improve those already in existence.

The location of entrances, together with the fact that the majority of structures linked by the systems are office buildings, upscale stores, luxury hotels and expensive condominiums, prompts some critics to charge that skywalks are elitist. The tendency in both Calgary and the U.S. cities is for skywalks to separate people according to economic class, in part by sending signals to people with low and moderate incomes and perhaps to some minorities that they are less than welcome. Simple observation on each of the six systems—Cincinnati being perhaps the lone exception—reveals a striking difference between the typical skywalk user and the street level pedestrian. This suggests the beginnings of a dual level downtown society in which people are physically separated by class.

Related to the question of access is the ease and ability with which pedestrians negotiate the skywalk once they have entered the system. Through maps and signage, each of the American systems attempts to facilitate clear user orientation, although their degree of effectiveness varies significantly. Probably the most successful at this are Des Moines and St. Paul, each of which provides clearly marked overhead signs that are visible from a considerable distance and indicate directions to

Figure 9: Calgary: One of several examples of double-decker skywalks found on the Calgary system.

buildings, facilities and the street below; a St. Paul newspaper headline—"Skywalker: How Do I Get Out of Here?"—suggests the helpfulness of the latter. Signs on the Duluth and Minneapolis systems are less useful due to problems of clarity, consistency and conspicuousness.

In the mid-1980s, orientation on Calgary skywalks was a major problem because of the virtual absence of directional signs and maps, and because of the inconsistency of what few signs existed. The fact that the system is not contiguous added to this dilemma, as pedestrians have had a difficult time negotiating the movement from one segment of the system to another. In recent years, however, Calgary has developed and implemented a fully integrated and consistent signage system, including flag signs, overhead directional and building signs, signs indicating street names and pedestal maps.

COMPARING AESTHETICS

There are two basic schools of thought regarding the overall bridge design pattern within a system of skywalks. The first is the St. Paul model, within which all the bridges basically look the same. The intention is for bridges to be neutral utilitarian links that do not attempt to draw attention but rather complement and serve the buildings they connect, thus allowing the buildings to stand on their own architecturally. The design philosophy in Cincinnati, Des Moines and Duluth appears to follow this model, as their bridges tend to be uniform and neutral in their design. The opposite school of thought is the Minneapolis model, where the system is comprised of a multitude of bridge designs, ranging from simple and purely functional to bridges which attempt to make bold architectural statements (Robertson, 1988).

Skybridges in Calgary clearly tend to follow the Minneapolis model. The design of each bridge is determined by the owners, developers and architects of the individual buildings connected, although the designs for all skybridges constructed since 1984 must conform to design guidelines established by the city. Due to the fact that many of the skywalks were erected prior to these guidelines, the system now contains a wide array of skybridges exhibiting different shapes, sizes, materials and colours. Most notable are several double decker bridges (see Figure 9) and a bridge covered with yellow glass; however, these examples of unusual bridge design would not be permitted today. This diversity in design certainly makes the skywalks of Calgary and Minneapolis more interesting to view than their counterparts in the other cities. However, it also creates more controversy as opinions vary widely on the aesthetic qualities of individual bridges and the extent to which they enhance or detract from the design of downtown buildings.

In addition, there are three other major design-related issues associated with skywalk systems (see Robertson, 1987). The first concerns the problem of older buildings being awkwardly penetrated

by modern-looking skybridges. This has been a particularly sensitive issue in the five American cities, especially when the buildings in question are of historical value. This has yet to constitute a problem in Calgary, however, primarily because virtually all skywalk connections are attached to newly erected buildings.

A second problem arises when skywalks block or cut across sightlines of vistas or important civic landmarks (Maitland, 1992). Impressive views of monumental government buildings are rudely interrupted in Minneapolis and Des Moines, as are attractive vistas in several American cities. Again, this does not appear to represent as serious a problem in Calgary, arguably because of the city's lack of impressive natural vistas and symbolic or historical landmarks to be found downtown. Nevertheless, the tendency for the double decker skybridges to overwhelm the streetscape and totally obstruct sightlines down Calgary's avenues does constitute a possible problem. A different perspective on this issue is offered by Calgary architect Harold Hanen (1985), who states that skywalks "arrest the boring infinity for the driver at grade level and at the upper [skywalk] level creates memorable visual experiences."

The third problem related to skywalk aesthetics revolves around the negative effect exerted on street level activity and design. The typical scenario found in Calgary and the five American cities is that skywalks tend to remove downtown pedestrians from the streets and sidewalks. Subsequently, shops and services, together with other street level activities, follow suit. This process eventually reaches the stage where the street level is clearly secondary in importance, ultimately resulting in new building construction and streetscape design that ignore the sidewalk pedestrian.

In downtown Calgary, the majority of the streets are lined by modern office towers with cold, blank and uninteresting facades, reducing the sidewalk to little more than a utilitarian pathway, while the skywalks above offer shopping, activities and public open spaces. Most of the grade level shopping is confined to a pedestrian mall implemented on Eighth Avenue; the integration between Calgary's pedestrian mall and skywalks is poor, which is common for cities employing both pedestrian separation strategies (Robertson, 1993). The inability to integrate the interests of small property owners and street level shopkeepers has had, according to one architectural critic, "a detrimental effect on street-level shops and on Calgary's street life generally" (Bernstein and Cawker, 1982, p. 91). Downtown streetscapes which are void of people and activities, regardless of pedestrian volume in the skywalk above, present an image of a downtown that lacks vitality. A different perspective on the impact of skywalks on street-level activity is offered by Lyon *et al.* (1988). They argue that skywalks encourage people to use downtown facilities who otherwise would not, thereby dispersing more people throughout the downtown. Furthermore, the streets would be even more lifeless without the skywalks

to attract people to be downtown. Skywalks permit easy travel between buildings, especially important on cold or rainy days, whereas without skywalks, people would choose not to venture far from their buildings. Therefore, even though pedestrian volumes on skywalks usually exceed the number of people walking on the sidewalk, it is argued that these above grade systems benefit the entire downtown, including the street level.

CALGARY'S SKYWALKS: PLANNED INCREMENTALISM

An enigma emerges when trying to understand the dynamics of Calgary's skywalk system, especially in comparison to the five systems in the United States. On one hand, there are indications which suggest that the level of planning and design associated with the system is far more refined than in America. Even critics of the system point out that Calgary's skywalks have been "hailed as the most comprehensive system in North America" (Berstein and Cawker, 1982, p. 89). The co-ordination with other forms of transport, the provision of second-level open spaces, and the objective of skywalks being a component of a total downtown pedestrian environment, are all indicative of this apparent commitment to skywalk planning. On the other hand, the fact that the system is not contiguous, together with the problems relating to access and orientation, suggest that incrementalism may best describe the process through which the system has developed.

One possible explanation for this enigma is related to whether Calgary's skywalks are to be considered public or private. In the five American cities, the answer to this question is more straightforward. The Minneapolis system is planned, financed, maintained and controlled by the private building owners, while the other four systems are by and large public. In Calgary, the line between public and private is not as clear. Developers of buildings to be linked to the system sign an agreement with the city requiring the developer to provide bridge supports and stairways, to ensure 24-hour public easement and to operate and maintain the skybridges, corridors and stairways. Moreover, the bridges and easements through the buildings become public property. In return, developers are given a floor density bonus.

Yet, the city is able to exert little control over the location and design of skywalks, except between public buildings. Nor is it able to enforce in an uniform manner the 24-hour provision, even though it is clearly specified in the building titles, thus resulting in inconsistent hours and skywalk users who are unsure as to when and where the system is open. This suggests that the system may be public in name yet privately controlled in reality. As Bernstein and Cawker (1982, p. 95) conclude, the Calgary skywalks "have too often fostered an unwarranted degree of control of collective space by private interests."

One must conclude, therefore, that Calgary's skywalks are a contradiction in terms: planned incrementalism. Statements made by individuals closely associated with the system serve to support this contention. Donald Sinclair, skywalk co-ordinator for the City of Calgary in the mid-1980s, maintained that "the plan is a concept. Locations of bridges and walkways are not predetermined, but are worked out on a site by site basis" (1985, p. 3). Harold Hanen, a private architect and one of the original designers of the system, writes that "a plan was devised to accommodate . . . a system which could incrementally be extended over time as needs necessitated and means permitted" (1985, p. 2). Yet, while the lofty objective of interrelating skywalks with the overall downtown environment is exemplary, the incremental and segmented manner in which the system has evolved, together with the absence of effective controls, has served to negate this approach.

Nonetheless, American planners, designers and city officials are encouraged to venture north to examine this distinctive system. Despite the fact that they may find the segmented characteristic of Calgary's skywalks disconcerting, there are several features which cities contemplating expanding or initiating a system would do well to emulate.

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PRAIRIE ISSUES IN URBAN DESIGN

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INTRODUCTION

Urban design has been defined as a discipline which is "located at the interface between architecture, landscape architecture and city (urban) planning, drawing on the design tradition of architecture and landscape architecture, and the environmental management and social science tradition of contemporary planning."[1] By this definition, urban design incorporates issues in the maintenance and enhancement of the social well-being of communities as well as concerns for environmental husbandry and sustainability, encompassed within the imperatives of the physical design of the urban environment.

At first sight perhaps this expanded role of urban design might be perceived as empire-building, but in reality it constitutes a re-directing of design towards the wider issues and concerns confronting urban society, while retaining its focus on the built environment. In other words, contemporary urban design incorporates products and processes within a holistic view of human habitat.

Climate (particularly the winter environment) is a critical component of Prairie cities. A conventional urban vocabulary of, for example, wide avenues and large plazas, is quite inappropriate for cities that during several months of the year have to endure bitter cold, frost, ice, snow and chilling wind. Neither is such a vocabulary necessarily suitable for a city that during the summer can be extremely hot. Climate is thus a major factor that should influence urban design in the Canadian Prairie region. This would appear to be obvious, but unfortunately often goes unrecognized in practice. The conclusion drawn is that an urban design vocabulary of some enclosure, protection from north winds and openness to the abundant sun in winter with protection from it in summer—but without complete enclosure and a heavy reliance on technology—would seem to be more appropriate.

A factor that has affected urban design development in the Prairies, in both a more subtle yet profound manner than could be suggested by the rigours of climate, is the particular terrain. The land in this part of the North American continent is mostly flat, only occasionally divided by rivers and ravines. Flat ground easily enabled the first surveyors to divide the land into rectangular lots which, when combined into blocks, formed a typical grid-iron street pattern. This grid was either placed at right angles to a river[2] or railway, or related from the outset to the compass points.[3] In either case, the grid firmly determined the subsequent growth of the city, and has generally only been discontinued in

Figure 1: Winnipeg River walkway in winter.

Source: The Forks Renewal Corporation.

Figure 2: Calgary skyline.

Source: Canadian Interiors.

recent years in outer suburban development. The pattern of urban growth has therefore been largely unrestricted, which, although perhaps understandable and typical, is for the most part lacking coherence and imageability.

A further formative influence on Prairie communities has been their history, both social and economic. Founded by immigrant settlers with a rural background and outlook as well as by town dwellers escaping from crowded conditions, these communities tended to be culturally diverse; there was also a sense of pioneering, traces of which are still present. The location of these communities was usually along transportation routes, at first beside rivers and then alongside the railway. When express highways arrived, these tended to bisect the city into segments. Unfortunately, the effect of the automobile and cheap fuel with its encouragement of sprawl has completely worked against notions of community, conservation and sustainability of the natural environment.

There is much current discussion and debate within the Prairie region, as with cities elsewhere, concerning the degradation and destruction of parts of the built and natural environments. Concomitantly, although perhaps due more to economic circumstances than to altruistic planning objectives, there are also considerations of energy conservation and the desire to create sustainable urban surroundings which are less harmful to the global environment. Clearly, with their sharply-defined climatic extremes, Prairie communities have a great deal at stake in following an energy-efficient and healthy course of development that must be managed to balance the needs of society with the rights of the individual. However, there has been rather less light thrown on the effect these considerations would have on future urban design, although they are potentially very significant. And indeed, these issues are currently the subject of a developing field linked to a notion of "green" urban design.

The socio-psychological dimension of urban design involves concepts aimed at creating meaningful places, extending further into notions of community building. Perhaps too much of what currently passes for good urban design is concerned with show-case development where physical considerations are paramount, but which have little real meaning and sometimes scant relevance for the communities concerned. Traditionally, Prairie society has had a strongly developed sense of community, but over time this has become eroded; fortunately some urban design policies are now being addressed to encourage a sense of place.

On the basis of existing practice in some Prairie cities, what follows is a description and assessment of some aspects of urban design that for the Prairie region might justifiably be expected. For example, and in broad terms, notions of compact forms of development would assist the achievement of a strong visual imagery and economical infrastructure, as well as energy and natural

environment conservation; while for its part, passive solar design could determine the orientation of buildings, streets and footpaths, with the provision of evergreens, berms and walls for wind protection. Reference is made to current urban design practice in the Canadian Prairie cities of Edmonton, Calgary, Saskatoon, Regina and Winnipeg, including policies which conserve and nurture the built and natural environments and that develop natural process solutions.

RECOGNITION OF PRAIRIE-SPECIFIC ASPECTS OF URBAN DESIGN

The following sections are based on aspects found in various urban design policies and plans in the five major Canadian cities cited above, and also on speculations of some possible future consequences.

■ URBAN FORM, NATURE AND NATURAL PROCESSES

Because of the scarcity of settlements, the Prairie landscape is dominated by natural features; as a result, most inhabitants of Prairie cities and towns are strongly aware of the broad expanses of the Prairie and its natural cycles. No Prairie city is so large that one is unaware of these powerful factors.

The very scale of the Prairie landscape carries a powerful image, not least in the silhouette of buildings against the vast Prairie sky. The drama of this Prairie landscape and its seeming limitlessness is heightened by the fact that, for the most part, it is relatively flat and devoid of large tracts of tree cover. The effect on the traveller approaching a Prairie city across a silent, sparsely inhabited and boundless plain, under the enormous dome of sky, and a shimmering downtown skyline, is one of the most powerful visual images in North America. Natural landscape and urban form combine dramatically as virtually nowhere else on this continent. The potential for highlighting and reinforcing this powerful imagery is considerable and, consciously or unconsciously, does seem to form part of the urban design language of some Prairie cities. Nonetheless, and unfortunately, the dramatic contrast between the natural and human-made is more apparent within smaller settlements, whereas the edges of the larger cities, with the exception of Regina at its southern edge, tend to exhibit the usual sporadic form of development common to almost all other North American cities. For example, that Regina is unique among Prairie cities in that it is located on a plain, not in a river valley, assists in giving the downtown skyline and the dome of the provincial legislature a strong signature to the city. Unfortunately, however, in most cases as the traveller approaches the city's edge, the promise of dramatic contrast between dense city form and open Prairie landscape is lost within a more common form of sporadic

development, found in almost all other North American cities. One exception again is Regina, at its southern edge, where urban development sharply gives way to open Prairie farmland.

In addition, the importance of compact urban form as a critical component of planning for sustainable development is now generally understood (if not fully embraced in terms of policy), and if followed through could further heighten the dramatic city-Prairie visual dialogue.

Although urban design has, until recently, been primarily concerned with physical development within a city or town, and despite the closeness of the Prairie landscape, native biological and physical characteristics should be respected when land-use decisions are made within the city, especially if they reinforce local Prairie identity. Examples would be afforestation projects as well as the conservation and management of urban woodland,[4] or the retention and incorporation of native vegetation.[5]

Some models for urban design in Prairie cities that incorporate nature and natural processes have already been suggested,[6] and to some extent such ideas are already being implemented. Examples include Calgary's policy that uses more indigenous species in parks, and a wetlands proposal to adopt natural processes in the treatment of water. Winnipeg[7] in a "Statement of Principle" has adopted an ecological approach to planning and design that aims to "fully integrate sustainable development within the planning, budgeting and development process." This city is striving to become a "model city" in a number of ways, such as by raising awareness of issues of sustainability, by attracting environmentally-conscious industries and businesses, and by sustainable development practices within the public and private sectors. In recent years, residential subdivisions in all Prairie cities have impounded storm water in lakes that also act as recreational foci for new communities.

Other Prairie cities are in the process of adopting similar ecologically-based design and management approaches, as for example Regina's incorporation of the protection of the biophysical environment in its Development Plan. Over time, therefore, one might expect to see tangible evidence of a fundamental shift towards "green" planning processes and practices and an urban design that focuses on ecological considerations.

■ IMAGEABILITY OF THE BUILT ENVIRONMENT

Imageability is connected with many aspects of the Prairie city—with the buildings and their settings as well as with historical and cultural associations. In terms of buildings, Prairie cities are renowned for their range of, and support for, cultural activities, no doubt partly fostered by their isolation and long winters that impose restrictions on some outdoor activities; a diverse ethnic and cultural inheritance has also contributed to this reputation. Many cultural artifacts in the form of concert halls, art galleries, museums and theatres grace these cities, and contribute to their unique

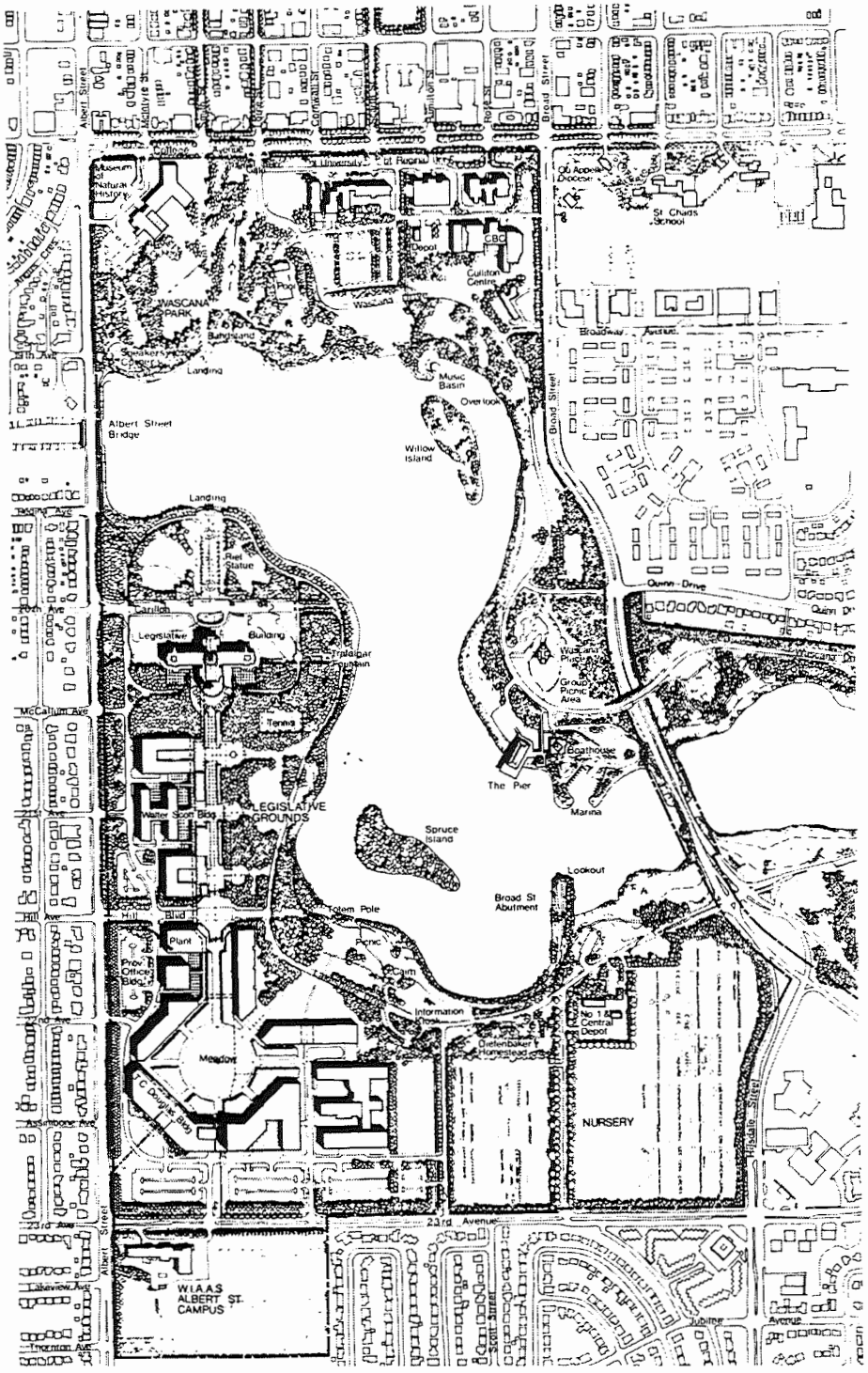

Figure 3: Master Plan Wascana Centre, Regina.

Source: Roger du Toit, Architects.

imageability by providing symbols of a vital and unique cultural lifestyle. In an era that is witness to an alarming erosion of the public realm, such buildings and their settings consequently can play an increasingly significant role.

Prairie cities that are also provincial capitals are graced with legislative buildings that not only impressively reflect provincial pride, but are worthy of national significance. These buildings are also in settings that act as foci for recreation and major communal activities, that reinforce strong sense of place. Regina is particularly fortunate in having a magnificent architectural symbol set in the superb parkland setting of Wascana Lake.

The unique multicultural diversity of Prairie cities finds expression in a number of ways. For example, Saskatoon's 20th Street has streetscape elements designed to reflect and highlight the area's ethnic groups, reinforced with appropriate banners and murals. The illumination of city buildings, together with brightly lit store windows and seasonal decorations, helps counteract the long winter darkness. Saskatoon and Winnipeg, among many other cities, use sparkle lights on trees together with colourful banners. During the daylight hours, the bright, clear Prairie sunlight allows the use of strong, warm and vibrant colours, such as gold, not only for buildings but for secondary elements such as bus shelters and other items of street furniture. Festivals play a vital role in enhancing the imageability of Prairie cities, and the staging of them engenders much community effort and pride. Quite often, as in the case of Edmonton's Centennial Library plaza and Sir Winston Churchill Square, civic buildings are used as the backdrop to concerts, pageants and other celebrations.

Most Prairie cities use snow and ice sculpture, as well as wind-driven kinetic sculpture, to exploit winter conditions in a positive manner, particularly when associated with an annual festival.

A city's vitality and diverse activities are among the goals of any urban design program. In a Prairie city, lakes, rivers and river banks may be developed for summer recreation[8] as well as for winter activities such as skating, hockey, sledding, snowshoeing and skiing.[9]

■ COMFORT AND CONVENIENCE IN THE EXTERIOR ENVIRONMENT

Although several of the larger Prairie cities have developed climate-controlled interior pedestrian networks throughout their downtown in attempts to provide comfort and convenience to pedestrians, the result has often been to the detriment of street-level activities and stores. Nevertheless, all Prairie cities have adopted plans and guidelines for streetscaping that aim to make the exterior pedestrian experience pleasant, convenient and comfortable, both in winter and summer.

An overall objective of these particular policies is less to avoid the Prairie extremes of temperature than to ameliorate the accompanying discomforts; most are small-scale interventions, as

Figure 4: Winnipeg: The Forks boat pool.

Source: The Forks Renewal Corporation.

Photo credit: John J. Penner, early 1990s.

Figure 5: Downtown Saskatoon: Kiwanis Park Lower Trail looking south, north of Bessborough Hotel.

distinct from highly technical solutions and large areas of total enclosure. For example, an improvement in the micro-climate of streets and open spaces for the benefit of pedestrians and cyclists encourages year-round use for a broad range of human activities, with the total enclosure being confined to small areas such as atria and winter gardens.[10]

In many cities, the fierce Prairie heat of summer is modified in public gathering places by pools and fountains and by landscaping to absorb the sun's rays, to moderate heat from paved surfaces and to reduce or redirect wind flow. Additionally, shade trees are used across plazas, over sidewalks and along cycle paths, augmented for the pedestrian by awnings, canopies and arcades or recessed ground floors. At the same time, in the spring and fall, pedestrians welcome sun traps and heat-reflective light coloured surfaces. Calgary, for example, has policies that protect major public amenity spaces from being overshadowed in the commercial core.

In addition, a lessening of the undesirable effects of wind on streets and other pedestrian open spaces is a necessary response to the urban Prairie environment, and most cities now require street-level, low-speed wind-tunnel tests for significant development proposals. In downtown Calgary, for example, buildings are required to have a podium to deflect laminar flow away from grade. The use of step-backs, arcades or canopies at the foot of tall buildings to reduce gusts and downdraft, is also employed for this purpose. It is suggested here that Prairie cities should also consider the insertion of pedestrian passageways, through the centre of long city blocks, that would provide wind protection. Fortunately, many of the conveniences provided to afford protection from the sun's rays in summer—shade, trees, canopies and arcades now augmented by berms, fences and walls—correspondingly offer protection from the wind in areas desired for walking, standing or sitting. At a micro scale, all Prairie cities aim to provide conveniently located shelters against snowfall and effective drainage for slush.

■ MOVEMENT, ACCESSIBILITY AND INTERIOR ENVIRONMENTS

Not surprisingly, the ability to move around and access all parts of the city with a minimum of inconvenience and discomfort, especially in winter, has been a high priority of all Prairie cities. Unfortunately, the advent and universal use of the private automobile has meant that Prairie cities developed in much the same low-density manner as other North American cities. In Canada generally, at least, public transport has not been eroded to the same extent as in the U.S., but nevertheless it still plays only a minor role in the overall transportation picture. The climatic extremes of Prairie cities would suggest that transit should today perhaps play a more significant role than in cities with more

temperate climates, where ancillary modes of transportation, such as bicycles and walking are, theoretically, more easily available alternatives.

This highlighted by the fact that a significant proportion of the population of all cities does not have ready access to a car—the young, the old, some disabled groups and the poor—and consequently the availability of a plentiful, affordable and efficient transit system assumes a more critical role for Prairie cities. This factor extends to the inclusion and design of the supporting transportation infrastructure, such as the number and location of heated bus shelters and kiosks; successful urban design in this area is contingent on the care with which such details of the urban environment are treated. In addition, other traffic management techniques such as the use of downtown shuttle buses, traffic calming measures throughout the various areas of the city, and the establishment of a maximum walking distance to a any transit stop, are all measures that could have effect on the design of the urban environment with an increase in aspects of liveability.

Innovative transit is more likely to occur in the larger Prairie cities with greater population and more financial scope. Consequently, Calgary and Edmonton have been able to construct light rail systems to augment conventional bus routes and, especially downtown, have successfully integrated these with the urban fabric. Winnipeg continues to rely exclusively on buses, but although these are very efficient, the City has not so far been able to establish any exclusive rapid transitways. Regina and Saskatoon, because of their smaller size, also continue to rely on bus service.

The difficulty of making public transit approach the convenience of the private car lies, of course, in the shape and spread of the typical North American city, the Prairie city being no exception. The majority of improvements to transit accessibility are, and probably will continue to be, through small, incremental initiatives.

A development of comfort and convenience that has been adopted by a number of Prairie city downtowns unfortunately results in an erosion of public space. In the downtowns of the larger Prairie cities, there is an increasing tendency to enclose many activities in the form of climate controlled retail malls; these are also usually linked to other buildings and functions such as offices, hotels, convention and entertainment centres, and sometimes to downtown high-rise housing. Calgary, Edmonton and Winnipeg, for example, have developed extensive systems of overground and underground connections in their downtown cores. Unfortunately, the price paid for the undoubted advantages of comfort and accessibility for pedestrians is the restricted public nature of these malls.

The separation of downtown pedestrian environments between climatically inhospitable streets and comfortable malls involves more than the division of circulation systems. Many critics have observed that this rapidly leads to a removal of most pedestrian activity from the traditional, public

realm of the street to the private domain of the mall and its natural extensions. These internal systems may too easily take on the role of "surrogate streets,"[11] and when fully developed, may eventually become what has been termed an "analogous city."[12]

Clearly, Prairie cities have more reason than most others to provide a degree of comfort and convenience to pedestrians in their downtowns; internal systems are popular and understandably so. It is also true that when the weather is less severe, people will often opt to walk outside, provided there is some inherent interest offered by the street environment. Yet unfortunately, such is the attraction of the internal system and the finance involved to reinforce it, that inevitably there is a considerable draining of the original activities from the adjacent streets. Portage Avenue at Portage Place in Winnipeg is such an example.

Can the two systems co-exist, since clearly enclosure is popular, here to stay and may possibly be extended further? Can the street respond and offer, except perhaps on days of exceptionally pleasant weather, an alternative to the convenience of the mall? Can urban design play a role in re-invigorating the traditional street?

There may in fact be a "third way,"[13] that would attempt to bridge the gulf between the two systems. Calgary and Edmonton have paid considerable attention to the design possibilities in attempting the successful conjunction of elevated pedestrian networks with street level systems of movement. A study in Calgary concluded that for the two systems to work in relative harmony, the critical component is the careful positioning and design of the access points to the two systems. The study concluded that the preferred access points should be located at both ends of pedestrian bridges crossing streets, combined with attractive public open space at those points, and wherever possible, complemented with weather-protected transit stops. In further reinforcing street-level attractiveness, Prairie cities have invoked a panoply of micro-climatic modifications to the street, such as the "greening" of widened sidewalks with a continuous canopy protection, attractive urban furniture, opportunity for screened and protected sidewalk cafes, public art and heated bus-stop shelters. In the future, it is possible that sidewalks may even be heated by waste heat recycled from adjacent buildings.

Such an approach would entail adequate funding for the improvement of the public realm. In contrast, there is a tendency for public funding, directly or indirectly, to be given to these purposes to the private sector, with a result that undermines the public realm. Frequently, short-sighted commercial interests see little to be gained from promoting an alternative system, and ultimately only an informed public presence can prevent an inexorable extension of the private realm at the expense of the public. Prairie cities, because of their climatic extremes, have more to lose than most in this situation.

Photo credit: Geof Bargh, early 1990s.

Figure 6: Calgary: The semi-enclosed public space at Devonian Gardens.

Photo credit: Geof Bargh, early 1990s.

Figure 7: Calgary: Devonian Gardens overlooking Eighth Avenue pedestrian mall.

■ EQUITY, HEALTH AND SAFETY

Specific issues of health, safety and linkages with urban design seem not to have been addressed in any detail in the Prairie city, despite the fact that there are a number of factors both present and future which might be expected to have particular relevance.

Perhaps the most immediately obvious are the hazards associated with the Prairie winter climate. For example, Regina has a zoning by-law that provides bonuses for weather protection measures, and one could perhaps expect to see extensions of this to include the design and detailing of roofs and canopies that avoid falling snow and ice, as well as an extensive use of textured non-slip walking surfaces such as brick or clay tile. As referred to earlier, it is even possible to consider the use of surplus heat from surrounding buildings to heat sidewalks in extremely exposed areas, especially should these be gradients or on the north side of tall buildings.

The Canadian Healthy Communities movement also identifies a number of issues which may well be expected to affect urban design decisions. One of the characteristics of several Prairie cities is the continued migration of First Nations people from rural areas and reserves to the city, as well as the reception of immigrants from other countries. Housing for this new wave of immigrants, with a higher-than-average proportion of young people, and much lower-than-average incomes, continues to pose a variety of challenges, particularly in inner-city areas. Affordable housing is an obvious critical issue, but community settings with convenient services and employment opportunities are also necessary. For example, in the future, one might expect to see changes to current zoning regulations allowing enclaves of medium-density, mixed land uses where home, support services and small-scale workplaces are closely interrelated and interwoven throughout the inner city. Appropriately designed play and recreational centres and areas for city children and youth should also be easily available. Such initiatives, facilitated by urban design retrofits of the older urban tissue, could be increasingly provided by the communities themselves through co-operatives and other mutually supportive endeavours.

■ HISTORICAL CONSERVATION

In recognition of the history of a Prairie city, as well as in support of the principle of sustainability, all Prairie cities have policies and programs for the preservation, rehabilitation, re-use and enhancement of their older districts, buildings and landmarks. This is particularly the case when, for example, local topography accounts for the city's founding,[14] or an aspect of early socio-economic history is reflected in buildings that still stand.[15] One of the difficulties, however, is that for a number of years now, several Prairie cities have exhibited very slow economic growth, which poses two interrelated threats to the conservation of historic areas. Slow economic activity usually results, first,

Figure 8: Winnipeg: The Forks skating rink.

Source: The Forks Renewal Corporation.

in little interest being shown in the adaptive re-use of buildings in these historic districts, leaving many of them abandoned and in semi-derelict condition. Secondly, the climatic extremes of Prairie cities exact a heavy toll on such buildings, even though many of them are substantial structures. A case in point is the high vacancy rate in the Exchange District in Winnipeg, which contains one of the largest and best collections of buildings of significant historic value in North America.

■ ENERGY CONSERVATION

Over the years Regina, among other Prairie cities, has produced reports on energy saving methods in the design of all sectors and activities of the city. Prairie cities, as might be expected, have been prominent in "winter cities" movements, and Calgary has sponsored a comprehensive study of features that should be incorporated into the urban design of cities with severe winter climates.[16]

Should the issues raised by energy conservation be realized and thoroughly pursued, the impact on Prairie cities could be considerable, both in terms of land use and physical form. For example, a drive through these settlements would then reveal a noticeably more dense, compact form of development. In addition, there would be a less clear separation of various land uses, and a greater preponderance of multi-use buildings and districts, particularly in locations outside the city core. Although this manifestation would be principally attributed to energy conservation, it would also be a reflection of the fact that a "dense, compact urban fabric is an essential ingredient of sustainability."[17]

The consequences of applying energy conservation principles to the design of new residential areas, for example, would be readily apparent. Apart from a noticeable increase in a denser development of mixed uses at the periphery of subdivisions that are linked to frequent transit stops, the interior of residential areas would also have distinctive urban design characteristics. The road system would have narrower rights-of-way, with innovative forms of *culs-de-sac* and local crescents facilitating reduced travel distances that promote fuel energy conservation. The street system would also be patterned to reflect a high preponderance of north-south orientated narrower and deeper lots, to provide in winter for maximum solar exposure and wind protection in winter. Site landscaping with trees would also assume a recognizable pattern, with a predominance of conifers on the north and west sides of dwellings to block cold winter winds and provide summer shade. On the south side of lots, a preponderance of deciduous trees would admit winter sun but provide screening in summer.[18] Two-storey structures would be much in evidence, with a good mix of single-family, duplex and townhouse forms. Perhaps the most noticeable external feature would be small, and relatively few, windows facing north and west, with a general reduction in large windows on other dwelling façades. The overall effect of narrower streets and a more compact urban form would be reminiscent of traditional

towns or urban villages. Winding through this area would be pedestrian paths and bikeways that lead directly to local shops, schools, churches, offices and possibly to small industrial/workshop establishments. A recent proposal for a mixed-use residential district along these lines is now in progress in Calgary.

In this future scenario, over time, in existing residential areas, there would be noticeable design features that reflected changing demographics, as well as a response to energy conservation. If households continue to become smaller, with fewer young people, densification could take a number of significant forms. For example, wide lots would become increasingly sub-divided with the addition of some duplexes and townhouses, whereas renovations to existing dwellings would increase energy efficiency. In lots with rear lanes, opportunities could be taken to create mews-type developments with, for example, accessory dwellings over garages.

CONCLUSION

This essay has referred to some values upon which policies may be based and implemented. Although legislative and financial authority ultimately rests with the provinces rather than with their cities, the final urban design decisions that address specific detailed issues are the direct concern of the city, which still maintains specific powers of taxation and zoning.

Many cities and towns rely on development and planning guidelines that are based on a mission statement. Unfortunately, once made, this statement is often developed no further and a vision in urban design terms for the city or town remains non-existent. When this occurs, urban design guidelines, although necessary, remain in isolation without an overall specific sense of direction. One objective of this present essay has been to offer such a direction based on the Prairie circumstance and Prairie values. It would be a significant achievement if, as a result of drawing attention to a number of Prairie-city issues in urban design, these would not only be recognized but incorporated into community objectives and policies; their subsequent realization would assist in defining the Prairie city's image through its urban structure and physical form.

NOTES

1. A definition provided by the Social Science Research Council, London, U.K. (1972).

2. Two grids at an angle to each other were set out in Winnipeg's early years, and relate to main directions taken by the Red River. A third grid on a north-south axis is at right angles to the Assiniboine River.

3. Saskatoon is on a regular north-south grid, except for the downtown core, at a slight angle that relates to a bend in the Saskatchewan River. Regina, Calgary and Edmonton, with minor variations, usually in the outer suburbs, are based on a north-south grid.

4. For example, Winnipeg's urban forest maintenance program.

5. Conservation is a major objective of Saskatoon's Spadina South Plan, Meewasin Valley Authority, which was established "to preserve and enhance the natural and heritage resources of the Meewasin River Valley;" this includes, for example, a tract of native Prairie.

6. For example, Michael Hough, *City Form and Natural Process* (New York: Routledge, 1991).

7. City of Winnipeg, *Plan Winnipeg Toward 2010*, July 1992, p. 41.

8 For example, Regina's Wascana Centre.

9. For example, Winnipeg's *Festival du Voyageur.*

10. For example, Devonian Gardens, Calgary.

11. William H. Whyte, *City: Rediscovering the Center* (New York: Doubleday, 1988).

12. Trevor Boddy, "Underground and Overhead: Building the Analogous City," in M. Sorkin, ed., *Variations on a Theme Park: The New American City and the End of Public Space* (New York: Hill & Wang, 1992), pp. 123-53.

13. Jan Gehl, *Life Between Buildings: Using Public Space* (New York: Van Norstrand Reinhold, 1987).

14. For example, Winnipeg's Forks Development at the junction of the Red and Assiniboine Rivers.

15. For example, Winnipeg's Exchange District made up of warehouses built at the time of the city's rapid expansion at the turn of the century.

16. *Calgary: An Approach to Design in Winter: A Report for The World Winter City Committee of the City of Calgary,* by the Elemental Design Group, Faculty of Environmental Design, the University of Calgary.

17. P. Gurstein and J. Curry, "Implementing Concepts of Sustainable Community Planning," *Plan Canada* (March 1993).

18. Energy Efficient Community Development (Interim Report), "The Opportunities for Conserving Energy," City of Regina Planning Department, September 1985.

19. A. Duany and E. Plater-Zyberk, *Towns and Town-Making Principles* (New York: Rizzoli, 1991), p. 23.

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URBAN DESIGN: THE NORTHERN DIMENSION

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INTRODUCTION

DEFINING URBAN DESIGN

"Urban Design" (often conveyed through many diverse forms and expressions) has resurfaced as a tool and practice at a timely point in the evolution of city planning and urban development. Its purpose is to serve as a means of alleviating dissatisfaction with contemporary approaches to city building and urban planning. Conventional patterns of city planning reinforce a "consumption" rather than a "conserving" ethic; and a "reactive" rather than a "pro-active" approach.

In a social context, conventional practice (oriented towards private development) often fails adequately to represent the public realm; from an economic standpoint, neoclassical models of planning based on market forces and land values displace people and separate work from home; and from a physical vantage, current practices corrupt the natural landscape, threaten the existence of ecological habitats, and consume vast amounts of invaluable natural and agricultural resources. Such approaches are nearing obsolescence, thus necessitating innovative strategies and actions.

Whereas planning tends to be oriented towards management and policy, urban design translates policy into three-dimensional built form and urban space. Historically, town planning embodied "urban design." Unhealthy urban conditions that resulted from uncontrolled forms of development, industrial growth, and low-quality housing and sewage treatment gradually gave rise to the emergence of the "physical planner" or "master planner." Concerned individuals and groups, with visions of how to improve the built environment, responded to inner-city problems by concentrating on the physical form of cities, addressing the deterioration of living conditions and the increasingly appalling appearance of cities and urban regions, and emphasizing better housing standards and development codes.

In the nineteenth and early twentieth centuries, Ebenezer Howard, Robert Owen, Charles Fourier and Le Corbusier, among others, represented the "planners" of the day who made decisions, and had complete control over them on the basis of their social ideals and technical expertise. Resentment of these older, environmentally-deterministic models, failure to address citizens' needs and concerns, and dissatisfaction with this type of planning, necessitated new approaches which placed emphasis on public participation and political support. Thus, old-style "planning" based solely on autocratic models became inapplicable and inappropriate in contemporary society, as they were incapable of upholding the democratic institutions upon which modern planning is presumably based. While this outdated view of planning is capable of threatening democracy, and the public interest that design is meant to

address, the role of the "physical planner" is not obsolete. The urban designer must operate within a democratic society, but this does not have to hinder performance or progress. Physically-based approaches to problem-solving are highly capable of responding to the environmental, social and economic challenges with which our cities are confronted. In fact, this is the primary role of urban design—improving the three-dimensional built environment. Specifically, the Northern dimension of urban design, an aspect which has largely been ignored—especially in high latitude regions, or areas where unpleasant winter conditions prevail—will constitute the major focus of this exposition.

URBAN DESIGN IN A WINTER CONTEXT

Unquestionably, architects, landscape architects, and planners have recently attempted to redefine city-building in order to address contemporary physical, socio-economic and environmental concerns. Leon Krier's masterplan for "Dorchester" (commissioned by the Prince of Wales); and Andres Duany's "Seaside," among other urban projects, are two highly praised examples demonstrative of this trend. Despite such progress, these examples cannot possibly represent models to be emulated within all geographic regions. Surely, all cities of the globe cannot realistically embody enough uniform characteristics so as to justify duplication.

Sensitive application is the key to successful design. How to apply significant city building principles to places entrenched within diverse contextual and climatic settings is the fundamental question. Thus, cities in countries such as Canada, Iceland, Finland, Norway, Sweden, *etc.*, need to adopt approaches that reflect their specific climatic conditions. To ignore winter's presence is irresponsible. In applying what is commonly referred to as "neo-traditional" community design, sensitivity will be required, since every region has its own seasonal demands:

> Building a Neo-Traditional community in Trömso, Norway based upon a neighbourhood in Florida (where neo-traditional community design originated) would eventually create a situation akin to the one that NTCD (Neo-Traditional Community Design) was developed to rectify. The successful NTCD-based cold climate community would take into account factors such as: protection from the elements; snow and management; optimisation of solar energy; and protecting continuity of access (Hanen and Liburd, 1993, p. 23).

In adopting and importing urban forms from the South—public squares, open spaces, treed allées and boulevards—we are surely using an architectonic grammar unsuitable for cities which, for a large part of the year, must contend with conditions of severe wind and chill, rain, frost, ice, snow and bitterly cold temperatures. The geometric and compositional properties of late-Renaissance Europe and the Beaux-Arts tradition seem most inappropriate for cold, snowridden towns and cities. Therefore,

policy analysts, urban planners, developers and designers would be wise to re-evaluate their positions when working in such settings.

We should probably keep a sufficient distance from the nostalgia of the past—from literal interpretations of urban forms and architectonic solutions—as we confront future problems. But we should retain a sense of the spirit within which problem-solving was approached in the vernacular tradition. It is within a framework that will blend a mastery over nature and co-existence with nature that meaningful answers will be found.

The climate in which we live has a tendency to determine our outlooks and life ways. It sharply influences particular environments—and their effects—for every type of civilization. Even from the slightest variations in climate one can witness different kinds of social systems and cultural attributes, and these are frequently reflected in architectural styles and building traditions. Especially when necessity prevailed, people have learned how to protect themselves against nature and weather systems, using their ingenuity to turn liabilities into assets. Archetypes commonplace in vernacular building reveal triumphant solutions both for survival and pleasant living—varying from one mountain valley to another, from desert to coastal plain, from the equatorial regions to landscapes bathed by the midnight sun. Designs and ideas dictated by climatic and topographical concerns are genuine and authentic, as they must be if they are to respond meaningfully to human needs, local materials and natural forces. They have sought to be the way they must without resorting to clichés, fashion or dominant trends in stylistic thought.

Most of the world's major towns, especially at Northern latitudes, have been founded on sites—or shores—which are south-facing. It is precisely these southern exposed sides which experienced rapid growth. Many Alpine villages in Switzerland or Austria are seen to have their "chalet" dwellings similarly aligned, sitting on hillsides, facing south like flowers looking toward the sunshine in cluster formation. This "Alpine" aesthetic is perceived as a unique conception due to the perfect harmony with the natural environment. An extremely sophisticated level of "identification" with natural landscape has been achieved by the built environment.

People and planners living in Northern, winter cities have, for a long time, ignored and denied the lengthy and, at times, unbearable winters. Most of the energy of professionals has been focused on the "warmer" seasons, such as summer, spring and autumn. Most designers have not embodied a tradition of thinking on a seasonal basis. "Thinking winter" was largely out of the question during the 1950-80 period of rapid growth in North America. However, a broader "winter-consciousness" was propelled by the inception of the Livable Winter Cities Association (of which this author was founding president), which originated in Canada in the mid-1980s, whereby constant efforts at promoting

conferences, symposia and media coverage of "winter problems" were initiated, and started to make themselves felt in urban policy documents and design concepts.

One must adapt to climate and other physical factors which can act either as determining or modifying elements in building and town development. Among all the influences of topographical variations and environmental factors impinging on historically static or living, dynamic urban settlements, the most important one is climate—that element which generally has been most neglected, especially in extreme Northern situations, with some exceptions notably found in the Nordic countries. The form and structure of Northern cities has not normally been shaped by climatological dictates, but rather has employed technology to render habitable designs and shapes which are fundamentally unsuited to their respective sites and geographical locations.

What is essential is that each Northern country take advantage of general cold climate solutions with regard to its own conditions. Providing meaningful developments which are not only functional but also emotionally satisfying is the task which confronts designers, administrators and planners working under conditions where "cold" is a prevailing force. The benefits of designing with nature are not only practical, but also aesthetic and sensory. We must learn not only to accept seasonal change, but also to appreciate its fundamental beauty. It would appear most appropriate that we consider managing and designing landscapes, buildings and the open spaces between them in a way which emphasizes rather than minimizes the variation of seasons.

URBAN DESIGN: THE NORTHERN DIMENSION

CURRENT DILEMMAS

Harsh and foreboding climate, such as that embodied by Northern winters, has worked its way into the national psyche of cold nations. Canada, for example, has been imaged by others—and imagines itself—as a product of climate, to a large degree. Winter has, to a considerable extent, shaped its history, helped to develop its customs and traditions, and has repeatedly been a central theme in both French and Anglo-Canadian poetry, literature, art and other forms of cultural expression:

> For most of us winter has become a rather persistent annoyance that we grudgingly accept but somehow think of as an undeserved plague visited upon us in retribution for an unintended sin (Cavell and Reid, 1988, p. 12).

This often tends to be the case in other Northern societies such as the American Midwest, Sweden (particularly its Northern regions), Finland, Norway, Japan's Hokkaido region, and much of the former Soviet Union. The Northern bleakness, with its cover of ice and snow and its blustery, bone-chilling winds, is deeply embedded in the hearts and souls of those who inhabit the North. On the

whole, these cultures work hard at attempting to resist and deny this hostile season. However, at times, they also delight in the snow-reflected light, the visual beauty and the outdoor sports, carnivals and festivities made possible by the snow-covered landscape, ice-fishing and numerous other ways of enjoying winter. However, such activities usually take place close to nature and are normally not well integrated with an "urban" lifestyle (see Figure 1).

Modern attempts to generate "climate-responsive" Northern urban form are part of a relatively recent phenomenon and field of scientific investigation. These attempts—and the international Winter Cities movement—have established the need for explicit, systematic inquiry which analyzes national and local strategic action directed at improving the comfort and life-styles of Northern dwellers. Although there has been a lengthy history of winter living, particularly in rural areas (Quebec is an excellent example), the literature on this subject has been sparse, lacking emphasis on how to deal with problems, stressing human comfort indoors, out-of-doors, and in that elusive in-between zone of "inside-outside." However, since the emergence of targeted "winter cities" approaches, and recent case-study literature,[1] experience accumulated in the past decade has produced some patterns and trends which can now be detected with relative precision.

Legislative norms, administrative frameworks, economic dictates and political priorities—together with stylistic trends and fashions—have been among the most influential forces shaping our built milieu. These factors, often of international and American character, have been sensitive neither to climatic considerations nor to *genius loci* attributes. Rather, they have tended to produce buildings and entire neighbourhoods which epitomize "placelessness" as they are so similar in their use of materials, exploitation of site and isolation from prevailing cultural values. What has resulted is more often a *steady-state, thermally-neutral* environment (constant temperature and humidity regardless of natural conditions), where "indoors" and "outdoors" are no longer connected or related. Designs and realizations are similar whether in Montreal or Oslo, Toronto or Phoenix. The same available, technologically-driven solutions are applied, in one case to heat, and in the other to cool, buildings and collective spaces. In fact, the most urgent dilemma of our time is *how to create places which possess genuine meaning* or *genius loci*, in which inhabitants can be proud to reside, and which appear to belong to and spring from their respective geographical and cultural contexts.

The well-known Quebec "nordicist" Louis-Edmond Hamelin (a human geographer by training) suggested that Canadians lack a true "collective conscience of nordicity" and that they are "walking to the North backwards with their eyes fixed on their vacations' palm trees." He has often made reference to three waves of nordicity in the Canadian mentality (*Globe and Mail*, 1988, p. D8):

Figure 1: Winterlude/Bal de Neige, Hull, Quebec.

Source: *Cities Designed for Winter*, J. Mänty and N. Pressman, editors, Budding Book Ltd., Helsinki, 1988, p. 53 (photo credits: Annie Lüttgenand Ville de Hull, Quebec).

1. The classic, careless colonial model.
2. A more cautious ecological approach (towards disposing of wastes and protecting animal life, for example).
3. An approach which aims at obtaining the very best in the development of Northern Canada.

It is this last approach and mental attitude which must evolve—in all genuinely Northern countries—if we are to retain our most precious legacies, develop lifeways which possess harmonious relationships between people and their environment, and if we are to maintain our unique cultural and physical identities. In the face of increasing architectural homogeneity, both in Arctic as well as in temperate climates, a special effort will have to be made if a regionally-based, Northern urban form is to emerge, which strives to create a "sense of place."

If we wish to optimize exposure to the beneficial aspects of the winter season, this will demand a creative and innovative approach, since there are few excellent case studies upon which to draw that express a positive attitude toward winter. Present experience, in most cities throughout the Winter City world, has attempted to create "summer city" conditions throughout the year, instead of highlighting those characteristics which are unique to Northern communities.

INTERVENTIONS IN NORTHERN URBAN DESIGN STRATEGIES

Urban development policies can be anticipated in terms which, on the whole, will tend to remain abstract while identifying long-term goals, aspirations and community images. However, it is essential that such policies be capable of translation into *physical form* if they are to have any meaningful effect. While these forms must be able to meet performance standards (answering the question of what effects are desired), they should also be capable of metamorphosis such that the fundamental design gestures, once implemented, can evolve incrementally into a responsive urban organism receptive to external impulses which cannot be foreseen at the outset. Most of our respected design gestures have withstood the test of time, and it merely remains necessary to adapt the best examples from the past (and present) with the intent of achieving *consistency, continuity, functionality* and *beauty* through purposeful urban forms.

In an attempt to catalogue planning and design interventions likely to become more widespread—based on current trends in Northern development—a list might resemble the following (Pressman, 1993):

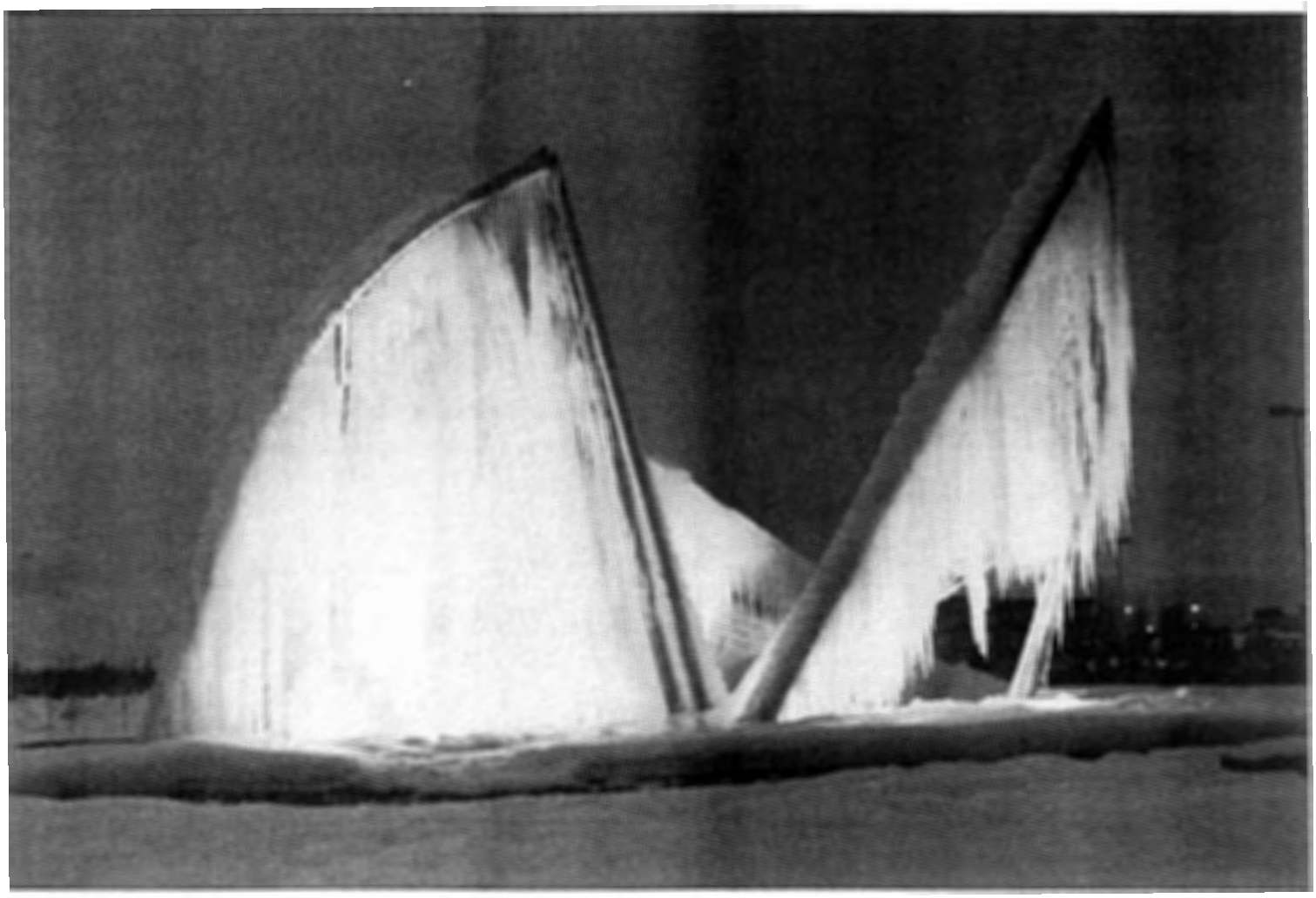


Figure 2: All-weather fountain at Z.J. Loussac Library, Anchorage, Alaska. This photograph shows the fountain on a winter evening.

Source: Anchorage Museum of History and Art.

I. VISUAL ENVIRONMENT

- *Ice as Art*

  Ice will be used in more visually stimulating forms such as illuminated fountains, floodlighting of frozen waterfalls, umbrella sprays left from fountains during freezing periods, ice sculpture, and "snow and ice" decorative features. These can counteract winter's stark qualities—especially at high latitudes—and serve as centrepieces for civic spaces. Norwegian sculptor Carl Nesjar's all-weather fountain in Anchorage at the Z.J. Loussac library is a superb example (see Figure 2).

- *Use of Bold Colours*

  Judicious selection of colours for buildings and public art can provide contrasts under different seasonal variations. The brighter hues—red, orange, yellow—are most easily recognized in daylight and present the highest contrast with snow cover. Skilful planting of coniferous vegetation can introduce colour into landscape, and colour "master" plans can be instituted for polar zones (such as those developed for Longyearbyen on Svalbard by interior-architect Grete Smedal of Norway). Within a colour spectrum and in conditions of changing light, variations become possible, making for greater liveliness during day, night and the shifting seasons. Certain colours provide symbolic warmth, literally "heating" space and giving it a warmer, vibrant glow. Others can absorb or reflect light—important factors in winter.

- *Illumination for the "Dark" Periods*

  New forms of lighting incorporating intensity, glare, height, shape and clarity factors will emerge. Sodium vapour lighting, for example, tends to be more attractive than mercury vapour lamps during winter. While public safety concerns grow in importance, aesthetic quality cannot be ignored.

- *Urban Furniture*

  Telephone booths, kiosks, benches, litter bins, bus shelters, planters, newspaper boxes, *etc.*, will become more functional (e.g., less emphasis on vandal-proof factors and more on thermal comfort in choice of materials) as well as more visually attractive, thus enlivening both the streetscape and urban space.

- *Civic Embellishment*

  Sculpture, fountains, murals, clocktowers, laser images, banners and flags, signage and other forms of graphic display will emphasize public animation and fantasy in civic space throughout the urban fabric. Visual stimulation through more intense sensory participation will add greater vitality to urban life.

II. HUMAN COMFORT

- *Micro-climatic Studies More Frequent*

  Wind tunnel testing and snow simulations (accumulation and drifting) performed in open channel water flumes will assist in the creation of more tolerable comfort levels for pedestrian-zone activity. Use of the heliodon can predict sun/shade patterns under varying conditions. (Flour particles and fans can indicate air flows at reduced costs).

- *Improved Ergonomic Design*

  The elderly, physically challenged, young children, *etc.*, will benefit from greater climate-responsive designs of, for instance, handrails, ramps, stairways, pavement curb details. Products such as crampons (brodd) to prevent slipping on icy surfaces will see larger consumer markets.

- *Landscaping Concepts will Reduce Discomfort*

  Selection and location of vegetation, shelterbelts, trees, walls, fences and orientation of buildings will, in combination, produce better localized climates.

- *Ecochart Use will Increase*

  Analytical techniques resulting in mapping systems will plot sunshine and climate parameters (e.g., heating degree days, wind, precipitation, *etc.*) whose application will assist in more effective site selection and detail development.

III. PROTECTIVE URBAN DEVICES/STRATEGIES

- *Above-Grade Protection*

  Skywalk/skyway systems (+15s) and covered pedestrian bridges will be built in carefully selected parts of the city.

- *Below-Grade Protection*

  Underground pedestrian concourses, tunnels connected to subway stations and other "understreet" climate-controlled systems will selectively be implemented.

- *At-Grade Protection*

  Colonnades, canopies, arcades, gallerias and glazed-over spaces, including mid-block pedestrian routes, will facilitate movement throughout a city's central business district. These may be linked to both above-grade and below-grade protective systems.

- *Pavement Heating*

  Will continue to be used where this is cost-efficient, and can make use of recycled heat from refuse combustion or district heating plants to melt ice and snow from sidewalks.

- *Retractable Roofs*

  Devices which automatically open and close by using pre-programmed electronic sensors sensitive to changing weather conditions will be used not only for sport stadiums but also for central area "main street" shopping and entertainment functions. As they are extremely costly, widespread use is not anticipated.

- *Pedestrian/Vehicular-free Zones*

  Will become more widespread due to increasing concern for environmental quality (air pollution, noise, *etc.*). During winter—when water, ice and slush are prevalent—with the use of pavement heating, comfortably warm, non-slip surfaces for pedestrians make more sense than conventional streets.

IV. RECREATION AND LEISURE

- *Parks, Open Space Systems and Waterfronts*

  These will be developed more imaginatively using ice, snow, wind and sun as positive features for year-round use. Active participation will be encouraged for all urban inhabitants—from the very young to the very old. Winter as well as summer use is imperative.

- *Winter Safari and Wildlife Areas*

  These concepts, normally found in more temperate climates, will take on greater importance in urban and regional leisure activities—including tourism.

- *Ski-Trail Networks*

  Increasing attention will be accorded to cross-country ski networks within the metropolitan area. Trails for the physically challenged and blind will be incorporated, as will night-use illuminated tracks. (Norway has been the world leader in developing such systems and much can be learned from its experience—in the Oslo metropolitan area alone, more than 200 km of illuminated ski-trails are known to exist).

- *Winter-Oriented Outdoor Amenities*

  Hockey and ice-skating rinks, slalom tracks, ski-jumps and related amenities will promote fitness and sport programs. Educational objectives shall assist in helping young adults to enjoy and appreciate winter life.

- *Carnivals and Festivals*

  Programmed festivities normally occurring during mid-winter (Winterlude/*Bal de Neige*, in Ottawa-Hull, Quebec, Harbin, Sapporo, *etc.*) and in the pre-Lent period promoting positive images of winter will become more numerous and remain active for lengthier periods.

- *Winter-Indoor Gardens*

  Climate-controlled parks (which should be intimately connected with the exterior for use in the outdoor season) will be more commonplace, incorporating glazed-over, atrium-like structures, particularly in far Northern regions where prolonged cold temperatures, extensive snowfall and wind, and lengthy darkness prevail. In the majority of cases, they will be situated in public space at ground level, although in some rare instances—such as at Devonian Gardens in Calgary—they may be located four to five storeys up-in-the-air in office buildings in the central city.

V. TRANSPORTATION

- *Reducing the Necessity to Walk*

  Under very adverse conditions, it is desirable either to minimize or entirely eliminate the necessity to be outdoors. This can be achieved through linked public and semi-private spaces using gallerias, passages, arcades, *etc.*, which run through buildings (used by the public) and between them, offering protection in varying degrees.

- *Improved Transit*

  Bus service will have to shift schedules in response to seasonal demands (more frequent service with shorter waiting times in winter). Better accessibility, especially in suburban areas (where greater density will be essential), can help to reduce walking and waiting times. Heated shelters are desired at intensively used stops and at interchange stations (from bus to subway/train, *etc.*). Reduced dependency on the motor car might be worthwhile considering especially where winters are hard and lengthy. A healthy balance between land uses (particularly residences and employment) can assist in minimizing travel distances.

To summarize, according to the prevailing trends which are slowly and gradually producing a catalogue of winter-oriented interventions, the most important principle is to *integrate*, rather than isolate, people with their environment. Living *with* winter, not in spite of it, should be the planners' motto. As Hans Blumenfeld so eloquently wrote:

> Complete exclusion of winter from the city is not a serious option; partial exclusion has to be sought. It can pursue two routes, jointly or separately. First, part, but not all of winter's negative aspects can be eliminated throughout the city; second, all can be eliminated from parts of the city (Blumenfeld, 1985, p. 48).

LEITMOTIFS FOR HUMANISTIC DESIGN

Despite the intensity of new building activity in the Northern-latitude nations, design tendencies generally appear to reflect turmoil rather than consistency. Construction technologies seem to be the most potent sources of inspiration. Major conflicts persist in terms of expression between *organic regionalism* and *internationalism*, on the one hand, and between *romanticism* and *realism*, on the other. A wide spectrum of ideologically rooted approaches has been apparent, and is manifested as a kind of "cultural eclecticism" in the wake of stylistic pluralism embracing elements of *pragmatism, playfulness, vernacular folk tradition*, and an *association of connections* between traditional architectonic and urbanistic concepts spiced with the "myth of Arctic clarity" (Byggekunst, 1986, pp. N23-N24):

> Stylistic pluralism is by no means the sign of cultural prosperity, happiness, democracy and richness. It results from the confusion of artistic means and categories; it also results from the confusion of artistic and industrial techniques. It results from the destruction of cultural traditions and ethnic identities. Cultural pluralism marks the moment where idiosyncratic private interests and obsessions replace common and public culture (Krier, 1985, p. 57).

Often, these conflicting views have as their goal the creation of authenticity which derives from cultural values, and emphasizes the unique characteristics of *function* and *place*—the essential conditions for spiritually meaningful art. Building and space are searching for artistic form which is intimately linked with socio-historical time. They want to "belong" to their respective environments, while simultaneously acknowledging external impulses, thereby seeking a theoretical framework based on phenomenological interpretation. A tension can be sensed between design which springs from *functional pragmatism* and *technological possibilities*, and design which is revelatory and evocative of *place* and *timelessness*. If artistic creation can be viewed as an expression of symbolic intent embodied in material form, then this tension suggests the cultural duality of "being as having" *versus* "being as meaning." Such dilemmas should be seen positively, for without their existence, there would be little dialogue, and the essential fuel of intellectual ferment would cease to be present.

Two additional dichotomies further exacerbate the problem of developing a "grammar of the north." They are the almost mutually exclusive forces of *privacy* (in dwelling) *versus community*, and *indoor versus outdoor* semi-public and public space. The proliferation of single-family detached houses (rather than multi-family forms of collective habitation) are indicative of the former, while "glazed-over" galleria projects are demonstrative of the latter trend towards enclosure. The real challenge confronting urbanism and landscape design under harsh circumstances will be to create an *architecture of "in-between,"* mediating between these opposing propensities, and devising intermediate spaces of climatic and experiential transition:

> Real life takes place in the alternative between life indoors and life outdoors. Thus a double desire appears: to be inside, to be outside . . . The satisfaction of this double desire leads to a pleasure, a certain way of regenerating oneself. It seems that this pleasure has not been used consciously in architecture (Sauzet, 1987, p. 60).

The steady erosion of public space and urban place—especially in North American communities—is occurring because local governments are "bargaining away" civic space for urban redevelopment; making concessions to private developers who are agreeing to provide "gallerias" which, at best, can only be understood as semi-private or private realm, and in which users are allowed access on a selective basis. Whatever the reasons for this demise of the public domain, particularly in harsh climatic circumstances where subtle levels of protection are required—even during the marginal seasons—we require a hierarchy of spatial networks ranging, on the one hand, from enclosed to open-air, and from public to private, on the other hand:

> Between the absolute privacy and the absolute publicity there are (or should be) a number of semi-public possibilities where we can choose our ways and levels of interaction, the momentary balances between anonymity and intimacy, repose and provocation (Torsson, 1982).

INNOVATIONS IN NORTHERN URBAN DESIGN

NEW COMMUNITIES

To comprehend innovative developments based on roughly a decade of recent experience (from 1980-1990) in cold-climate regions, a case study approach would appear to be in order. This will focus on neighbourhood/community planning, often on *tabula rasa* sites. Such projects tend to emphasize innovative practices—more than the usual retrofit designs for existing areas. Furthermore, since much of this innovation has occurred throughout the Nordic nations, they will be singled out for their exemplary design and planning.

Most of the projects achieve energy efficiency (at the building and urban design scale), adopt a climate-sensitive approach, and behave in an environmentally-responsible manner, while espousing the goal of "habitability." Such "habitability" is understood to encompass those qualities of place where residents can thrive and be fulfilled—physically and psychologically—with a minimum of disruption, a minimum of stress and inconvenience, and a maximum of human comfort. A few of the most important examples follow.

DEVELOPING A "GRAMMAR FOR THE NORTH"

One of the pioneers in the field of "Northern urbanism" has been architect Ralph Erskine, a long-time resident and practitioner in Sweden, of British origin. His work, which has been important in cold

climates, has attacked problems at both architectural and urban design/site planning levels. He has suggested that thermally effective designs and concepts not only ought to provide efficiency of performance, but also that they lead to an aesthetic anchored in the characteristics of the various cold regions, thereby producing a vernacular expression which is an authentic outgrowth stemming from natural conditions, and not the importation of forms from more temperate climates—adapted to the rigours of the North through the application of technology.

All of Erskine's buildings and architectural compositions have demonstrated his fundamental ideas. In order to maximize daylight—in climates which, during winter, have long periods of darkness—he has often introduced rooflights and clerestory windows, frequently with light reflectors which deflect the low rays of the sun toward the central spaces in the structure.

His overall aim has been to develop an adaptable architecture and town design suitable for a range of climatic conditions and client groups, insisting on a participatory process during the design stages. From an architectural stance, Ralph Erskine has been the eminent pioneer calling for a unique approach to Northern urbanism. Especially during the 1970s, his philosophy has been in harmony with technical, political and economic requirements—so much so that he can be said to personify the *Zeitgeist* of our time:

> Ralph Erskine seems to capture all the pre-occupations of the moment: lowrise, high density, a modicum of participation, an informal aesthetic, a village scale, mixture of new and old, a resettlement of the existing community, semi-private space, ad hoc use of materials, moderate price, etc. If there is a Zeitgeist of the moment then Erskine is she (*Architectural Design*, 1977, p. 86).

Erskine's most radical innovation for cold climate design is the "windscreen building" or "long-wall," where a slab-like building (usually several storeys in height) is wrapped around the Northern perimeter of the building site, protecting elements situated within the "wall" (open space, community facilities, playgrounds or low-rise dwellings) from Northern winds, thereby providing micro-climatic shelter on the sunny orientation—and at the same time, protection from noise pollution from any roadways at the site's periphery. Applications of this important principle have been best illustrated at Svappavaara, Sweden and Fermont, Quebec (see Figures 3 and 4).

Fermont, Quebec

The most important project in which the Erskinian "windscreen principle" has been applied is at the Northern Quebec town of Fermont, a company resource-based community of some 5,000 inhabitants, designed by the Montreal firm Desnoyers and Schoenauer. The development of the planning and design for this town commenced in January 1970. Construction began in 1971, and by

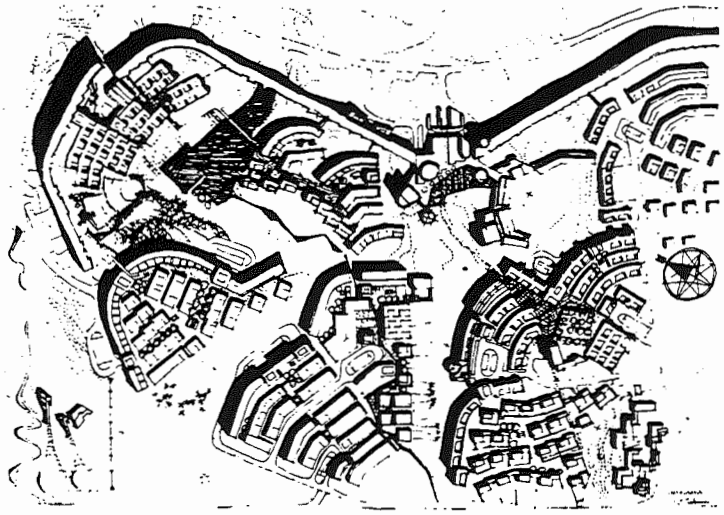


Figure 3: Original Plan of Svappavaara, Sweden (designed by Ralph Erskine).

Source: New Communities in Canada - *Contact*, University of Waterloo, 1976, p. 305.

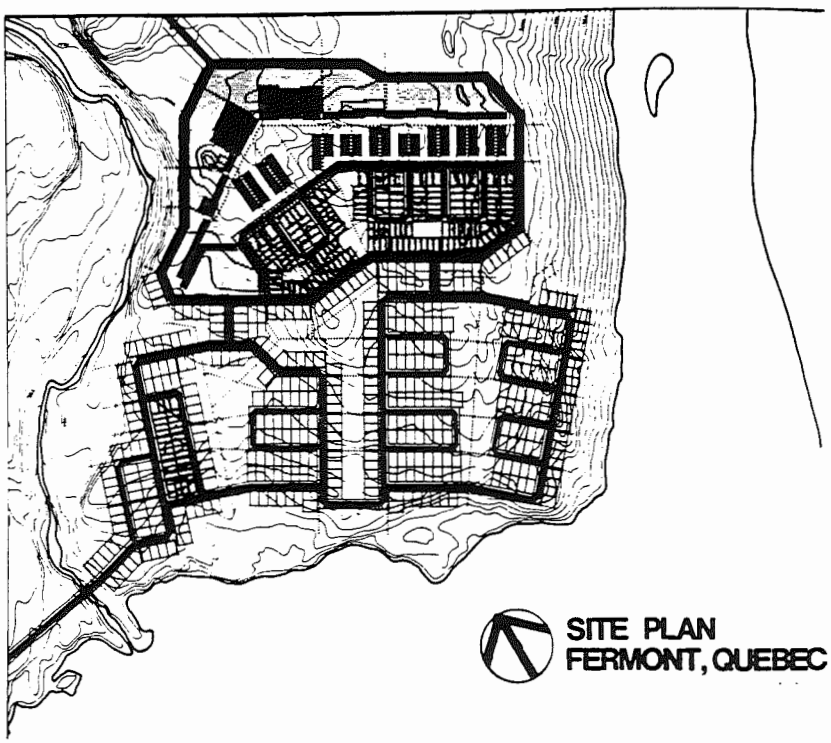


Figure 4: Plan of Fermont, Quebec (designed by Desnoyers/Schoenauer).

Source: *Cities Designed for Winter*, J. Mänty and N. Pressman, eds. (Helsinki: Building Book Ltd., 1988), p. 90.

1976, development of the townsite was largely completed. Here, the "long wall" contains the functions of a typical town centre. Along an "interior street" are to be found the library, school, administrative facilities, shops and recreation services. In addition, within the linear, climate-controlled building are found a hotel, indoor swimming pool, bowling alleys and related community equipment:

> In Fermont, a linear five-storey multi-purpose windscreen building was designed to give protection from the cold north-western, northern, and north-eastern winds. According to calculations based on tests, the wind shadow of this 50 foot high building affects the micro-climate of almost two-thirds of the townsite area. Since the density of dwelling units per acre is higher in the residential precincts affected by the windscreen building's influence, a much larger proportion of Fermont's inhabitants benefit from the wind abatement. In fact, every resident enjoys some protection from the wind because strategically located wide bands of the existing black spruce forest have been retained to shelter all low-density residential precincts (Schoenauer, 1977, p. 6).

Svappavaara, Sweden

The plan organization at Svappavaara (near Kiruna) employed extremely lengthy three-storey windscreen buildings sited at the top of a south-facing slope, linked at their bases by community oriented facilities and sheltering housing clusters within their embrace, which are also south-facing. The town centre facilities were distributed throughout the ground level of the "long buildings" preceding the Fermont scheme by approximately a decade. Unfortunately, the Svappavaara plan was not built in its entirety, and those components which were only partially executed have been severely compromised—with but a small portion of the windscreen buildings constructed (without the urban centre) and a much greater dispersed layout than initially intended:

> However, the plan of Svappavaara and the writings of its author, Ralph Erskine, have had an influence on Canadian planning for northern settlement. His advocacy of a design approach which combines protection from the elements with a positive experience of the natural environment and which skilfully balances the demands of community and privacy, has universal applicability as a principle for northern towns (van Ginkel, 1976, p. 305).

An early 1970s town plan for Resolute Bay, Northwest Territories (never completed), accommodating about 1200 inhabitants, was deeply influenced by Erskine's planning principles (see Figure 5).

Kista, Husby and Akalla, Sweden

Sweden's post-war land development policies resulted in regional strategies which acquired international renown. The first of these "new generation" planned suburbs was Vallingby, west of Stockholm. Although well over 30 years old, it is still hailed as one of the most successful ever built. It was known as the first ABC-suburb in the Stockholm region (*Arbete* or Work, *Bostad* or Residence,

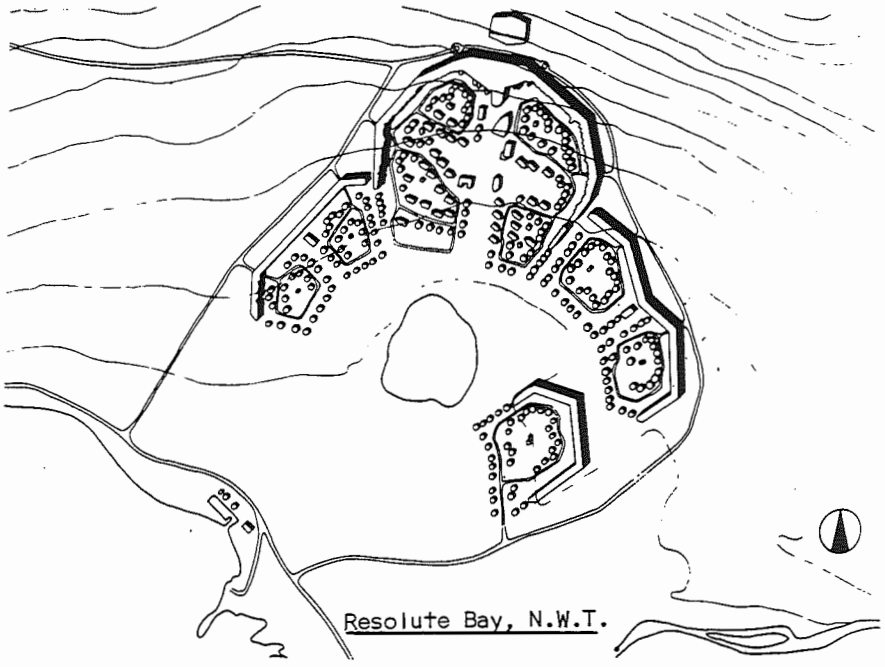


Figure 5: Original Plan of Resolute Bay, N.W.T. (designed by Ralph Erskine).

Source: New Communities in Canada—*Contact*, University of Waterloo, 1976, p. 306.

Centrum or Centre). These were intended to be more self-sufficient than earlier housing estates in terms of shopping and employment opportunities, and more densely structured than earlier residential developments. The overall organization of the ABC community was one which had an underground transit station and urban centre in the middle, apartment and high-density units within a 500 metre radius of the "centre," and lower-density units (semi-detached, row housing and single-family dwellings) situated between a 500-1000 metre radius of the town's centre. Separation of vehicular, pedestrian and bicycle movements was commonplace.

The second generation of new towns, known as the Skarholmen group, included traffic safety (minimization of grade-level crossings by pedestrians) as one of the main features. Although self-containment was still sought, a significant degree of commuting to work nevertheless occurred, contrary to planning goals and expectations.

Kista, Husby and Akalla, a triad of newly planned communities for the North Jarva district of Greater Stockholm, was drawn up in 1969 and ratified in 1971, with the greater part of the residential and ancillary functions (commercial centre, places of employment, *etc.*) constructed between 1973-82. These are among the most recently planned communities in the Greater Stockholm region. Close to 30,000 inhabitants reside in these three adjacent communities, linked to one another from the outset. In Kista, there are roughly 3,500 dwellings, in Husby, about 4,700 dwellings, and in Akalla, about 4,100 dwellings—a total of 12,300 dwelling units.

The housing mix includes multi-family dwellings, single-family houses and pensioners' housing, broken down, according to the master plan, as follows (Municipality of Stockholm, 1983, pp. 8-15):

1-2 storey buildings: 32% of dwellings (2,000 are small houses and ground-attached units)

3-6 storey buildings: 46% of dwellings

9-13 storey buildings: 22% of dwellings

It was expected that over 20,000 jobs would be present in the planning district after the service facilities and employment areas were completed. Many large, technology-based firms moved to the area, and it was anticipated that close to half of the residents would work near their place of residence. The rest would commute by rapid transit to the Greater Stockholm area, including its centre and sub-centres. Travel times by the "underground system" to the central Stockholm station are between 16-20 minutes (12.2-14.3 km). The unique features of these communities are the following (Municipality of Stockholm, 1983, pp. 8-15):

- The three were planned and developed simultaneously, each having an underground transit station, a town centre, a range of housing types, with industrial employment areas within walking distance of the residential precincts.

- The plans envisaged highly concentrated development (of 850 hectares, 250 are zoned for work, 200 for housing areas, 330 for recreational areas and about 70 for traffic-related uses).
- A maximum walking radius of 500 metres has been standardized from one's residence to the underground station located at the centre.
- The pedestrian network is a continuous system running in several directions, and crosses all roads and major local streets at grade-separated crossings.
- In the housing precincts, pedestrian walkways are designed as hard-surfaced "malls" between buildings, while "park-type" footpaths have been laid out in the recreational zones and open spaces.
- It is possible to reach, by bicycle or on foot, all community facilities and employment areas within each of the communities. There is rapid transit and a bus system—as well as a road network—linking the developments.
- All outdoor park and recreation areas are within easy access to housing areas. Walking, cycling and cross-country skiing are the dominant movement modes.
- Most buildings which envisaged changing functions over time (such as schools, day nurseries, service centres and some playgrounds and parking areas) were designed to be flexibly used and sited centrally in a "service band" running through the districts.
- The built-up areas and the transport systems have been carefully integrated to obtain a clear and consistent urban structure with straightforward traffic separation.
- The rather dense, built-up area was kept within tight boundaries, and a clear line was drawn between urban development and the recreational areas.
- In each centre, a community building for cultural and municipal activities is located alongside the residential pensioners' hotels and the senior level school. In this way, various users' needs of assembly rooms, meal services (from the school cafeteria), libraries, leisure facilities, meeting premises for associations, *etc.*, can be accommodated with a minimum of exposure to the outdoor environment, should one opt for such a choice.
- The shopping centre (of which Kista Centre is the largest) is an "interior street" linking the residential and work zones and containing the transit station with two entrances—one at either end. The shops are located on each side of the "mall" between the entrances to the underground stations.
- Roads with fairly high traffic volumes are located in deep cuts, enabling pedestrian movements to cross over them in grade-separated fashion, but always at ground level, without having to use either underpasses or overpasses.

- The employment of district heating systems and the use of pneumatic refuse conveyor (PNC) systems in residential areas have reduced the quantities of trucks, vans and service vehicles in local streets. The PNC installation in Husby and Akalla consists of 16 km of piping and serves approximately 8,000 dwelling units. The installation in Kista comprises 6.5 km of piping, serving some 3,000 dwellings, including 200 single-family houses.
- Technical infrastructure is provided through two tunnel systems, blasted out of the bedrock. One contains heating, water, electricity and telephone lines, while the other is for storm and waste water. Cost and implementation studies have justified this approach.

Most of the inhabitants live in well-equipped accommodation close to commercial, industrial and social services. Walking, cycling and other forms of non-vehicular movement tend to be the preferred modes. Public transit linking the new suburbs and the central city is one of the main features. At the district level, those who live in single-family or other lower density forms of dwelling pay the price of lengthier journeys and a reduced quality of services which are too costly to support in such development. Reliance on the car becomes imperative in such situations. Finally, municipal expenditures for capital costs, and maintenance of roads and infrastructure, are important factors in the urban pattern. Energy conservation and related issues tend to be the most dominant forces working toward concentrated development.

Malminkartano (Finland) and Skarpnäck (Sweden)

Both Malminkartano (Helsinki) and Skarpnäck (Stockholm) lie about 10 kilometres from their respective city centres. Both are situated in the intermediate zone between the inner city and the so-called "forest towns" that sprung up after World War II. Both areas are located next to commuter rail lines. They were thought of as a "natural" extension of the urban structure and are "new satellite towns," each for approximately 10,000 inhabitants. Malminkartano and Skarpnäck also resemble one another in that both were built on "greenfield" sites, and were completed in the mid-late 1980s (see Figures 6, 7 and 8). The following is a summary of the most important conceptual design principles for Malminkartano and Skarpnäck (Pressman, 1991).

Mixed Activities

The desire to mix activities in a residential area can be seen as a criticism of "bedroom suburb" construction and, in a wider sense, of the entire functionalistic view of the city. "Mixing" was primarily defended on the grounds that it could create "genuinely urban city space." Other grounds were the reduced need for traffic and lower energy consumption. At a very early stage, the goal of mixing work-

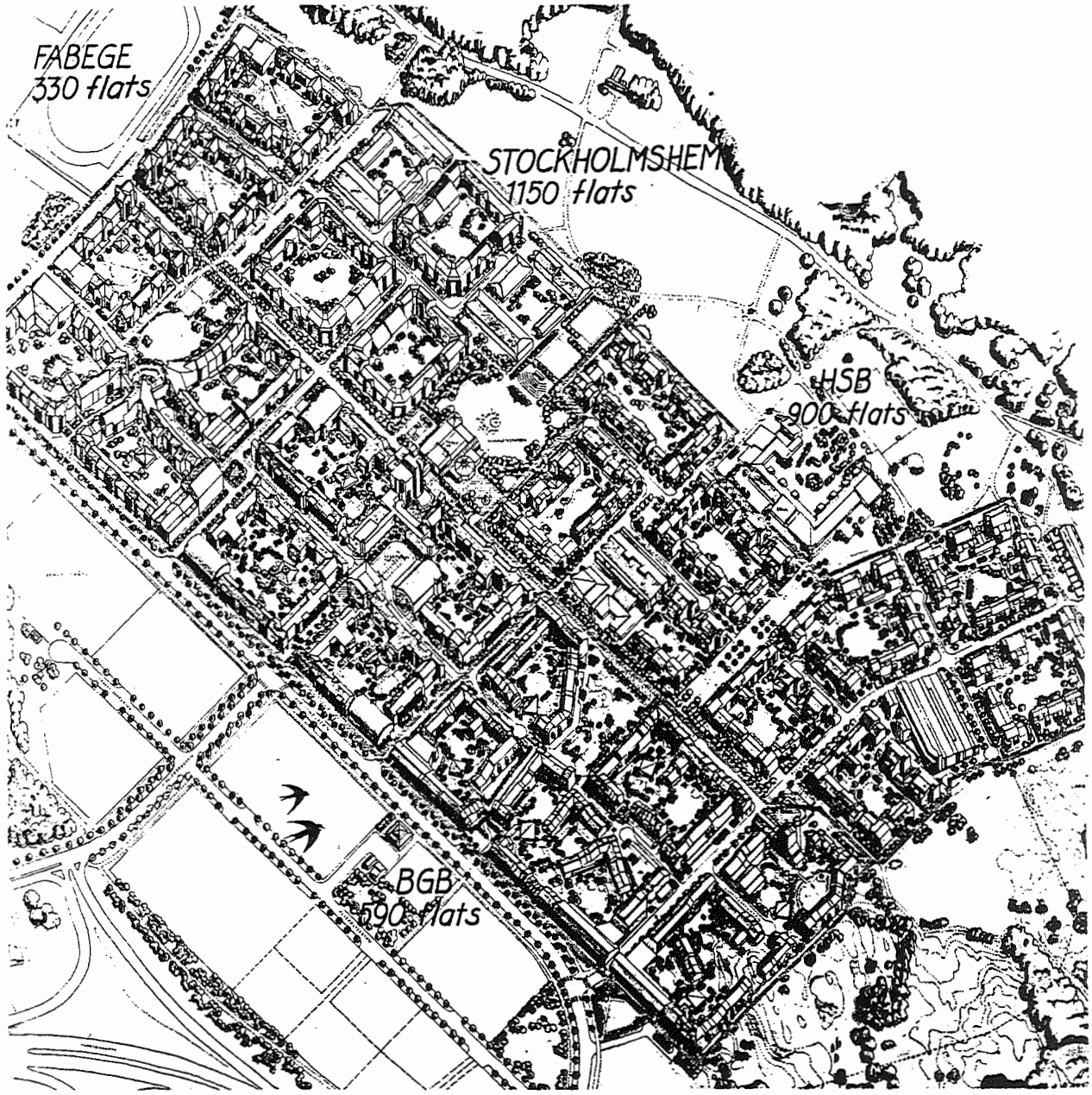


Figure 6: Plan of Skarpnäck (satellite community), Greater Stockholm Region.

Source: *Building Stockholm*, Swedish Council for Building Research, 1986, p. 63.

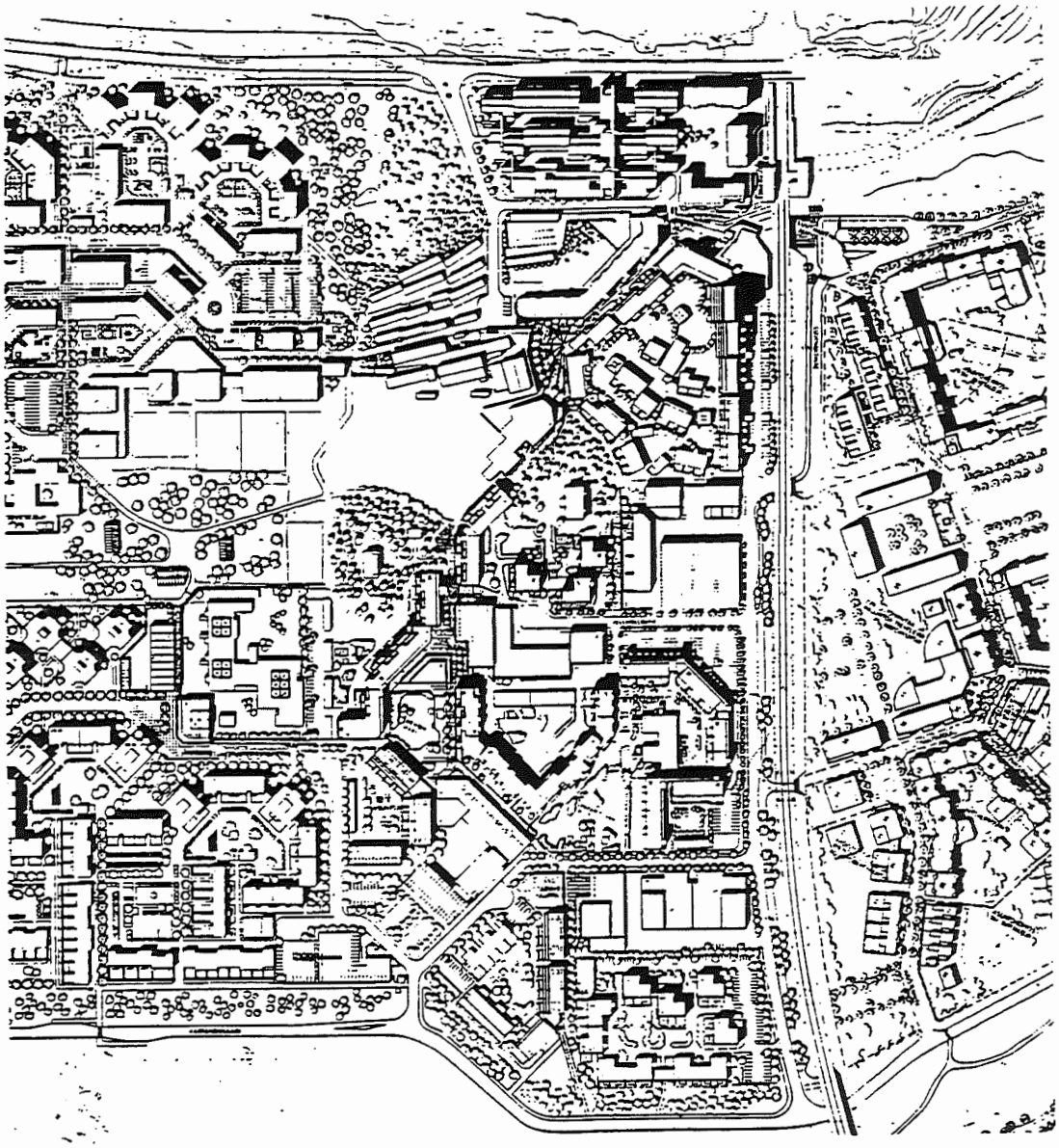


Figure 7: Malminkartano (Finland) Central Area Plan: 1:4000.

Source: "Innovative Prototypes for Cold-Climate Neighbourhoods," N. Pressman, 1991.

Photo credit: N. Pressman.

Figure 8: Malminkartano, Finland: View of courtyard space.

places and housing, mainly along the pedestrian routes, became the most prominent design principle for Malminkartano. This principle was also introduced in Skarpnäck at the master plan phase, and for the same reasons: to do away with "bedroom suburbs."

The Social Environment

The identity of the residential block and group of dwellings was emphasized. In Skarpnäck this was realized as a return to the closed courtyard-style block (see Figure 9). In Malminkartano, jobs in offices and small industry and common external spaces were emphasized as a way of providing enriching contacts between occupants. Experiments with so-called "residents' democracy" were conducted in both areas. An experimental project was launched in Malminkartano to improve the co-operation between inhabitants and to increase their chances of having an impact on matters concerning them.

Micro-neighbourhood

On the basis of the research and surveys for the master plan, the Skarpnäck residential blocks largely assumed the form of four-storey, relatively large closed blocks (see Figure 10). Thus block courtyards became spatially "room-like" and quite enclosed. Each residential block in the area housed only its own services such as parking (separate building), day care centre, meeting facilities, *etc*. The courtyard was further divided into smaller semi-private yards, and the stairwell units of most blocks were intended to form a "micro-neighbourhood."

Malminkartano is structurally different from Skarpnäck, in that it is a "cluster suburb" whose residential blocks are more distinctly unique in shape and architecture from one another (see Figure 11). Planning principles have been consciously used in the design of the residential blocks. They include: (a) arrangement of the block into smaller distinguishable groups of dwellings; (b) articulation of the outdoor space according to various occupant groups' needs; and (c) locating common facilities alongside daily travelled routes.

Microclimate

The four-storey enclosed block is ideal for the purposes of improving the microclimate in Scandinavian conditions. The block's "cold" sides, facing north and east, are accordingly closed, and the southwestern side is opened to allow the sun to shine in. A completely closed structure is to be avoided, due to the problems related to the drifting of snow. Skarpnäck is an example of such a "partially broken" closed block. Tight Scandinavian building regulations that contain stipulations on

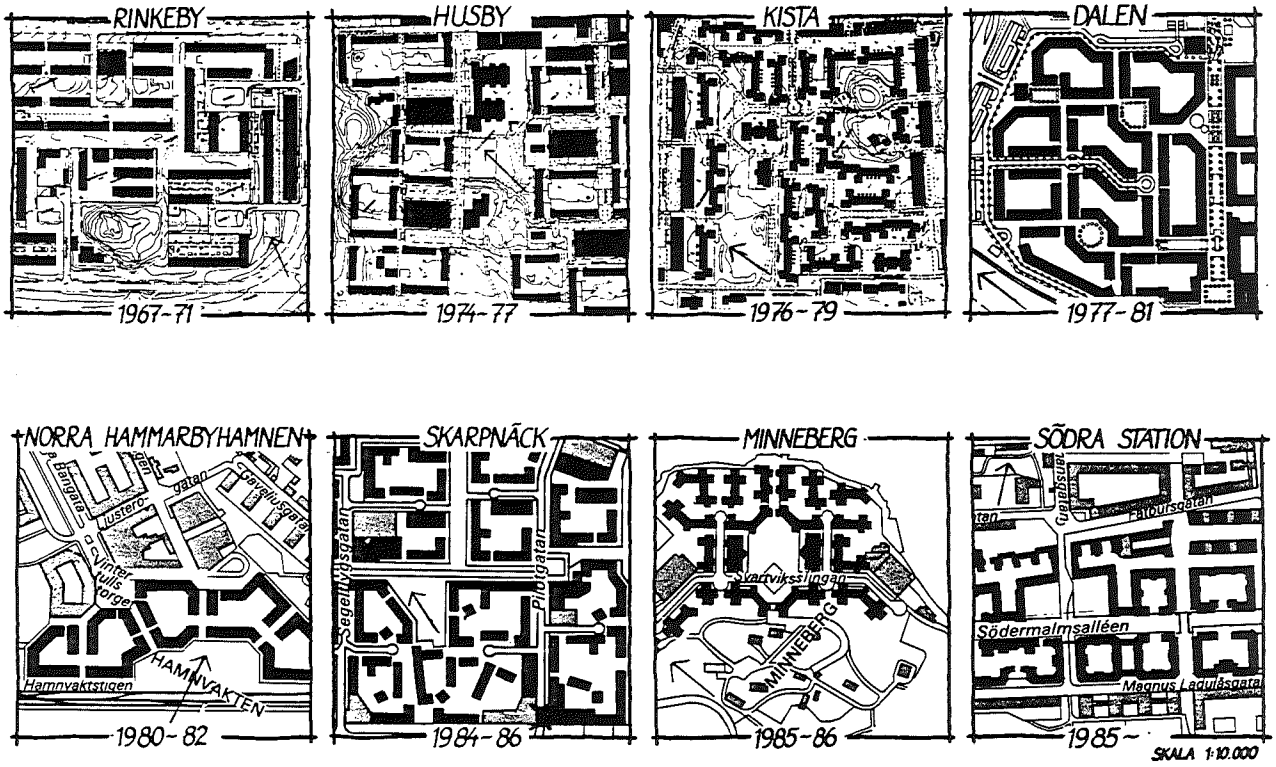


Figure 9: Courtyard Housing Estates, Greater Stockholm Region.

Source: *Building Stockholm*, Swedish Council for Building Research, 1986, p. 47.

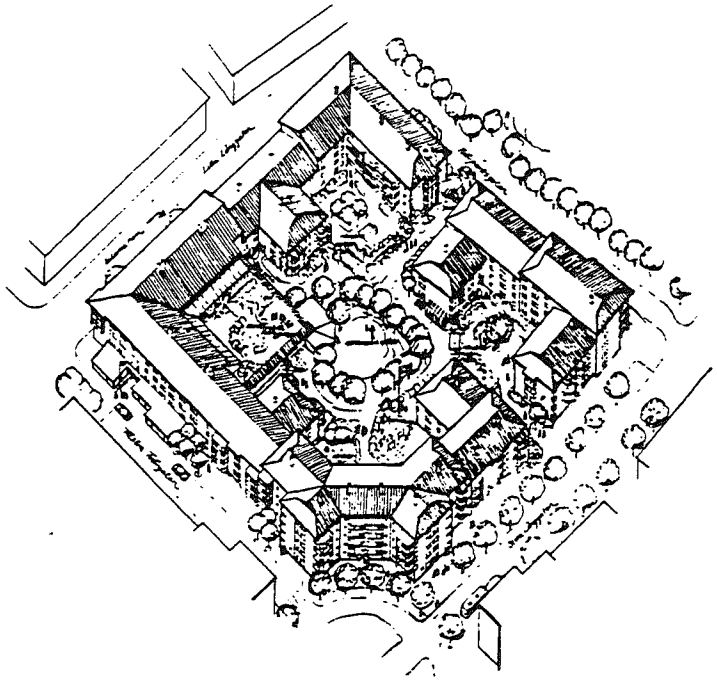
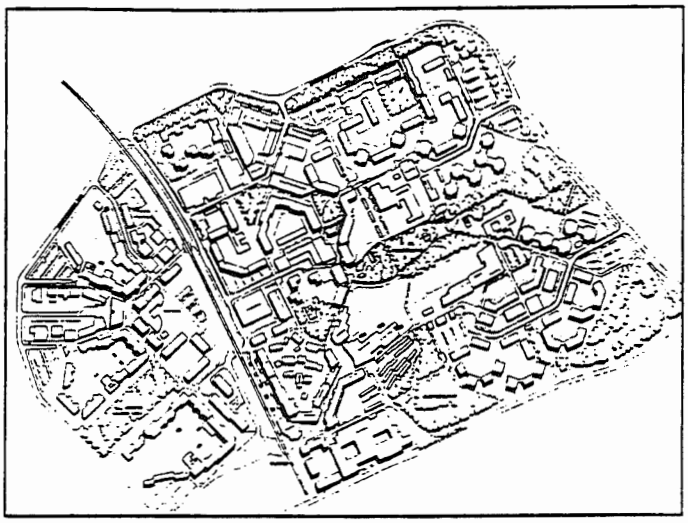
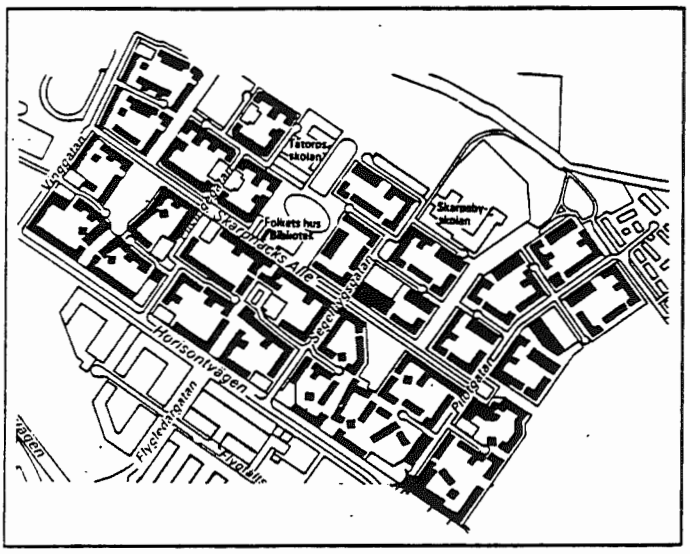


Figure 10: Skarpnäck: Axonometric of Courtyard Block Housing Configuration.

Source: "Innovative Prototypes for Cold-Climate Neighbourhoods," N. Pressman, 1991.



Malminkartano



Skärpnack

Figure 11: Skarpnäck and Malminkartano Structures Compared: 1:10,000.

Source: "Innovative Prototypes for Cold-Climate Neighbourhoods" (N. Pressman), 1991.

lighting angles and distances prevent totally unacceptable or extremely closed solutions. They require each dwelling to have an outdoor area (balcony, terrace, *etc.*), that is, to face a "warm" direction (between south and west).

Malminkartano blocks were extensively studied through scale models placed in a wind tunnel during the planning phase to determine wind patterns. Extra planted areas and trellises, fences and balconies between buildings were suggested technical solutions to contain winds and snow drifts. Proper orientation of buildings was most important. Some blocks were intended to resemble terraced houses, and many protective structural elements such as open shelters, pergolas and glassed-in patios were extensively used, especially on the warm sides.

The curvature of the streets, and especially the pedestrian routes, has been justified as reducing the need for wind-protected passages. The organic, curving and protective shapes of the public squares also improve the microclimate.

Public Outdoor Areas

Both Malminkartano and Skarpnäck paid serious attention to public outdoor areas between buildings. In Malminkartano, public buildings clearly demarcate the central square (Puustellinaukio). Designers of streets, traffic and parks were involved at the preliminary phase. Scale models were used to ensure that the materials and colours of buildings and the square match. The planning was aimed at joining the buildings and the intermediate spaces into "seamless" wholes. Arcades and canopies are widely used in Malminkartano to connect buildings with outdoor space.

In Skarpnäck, the public outdoor area comprises the central avenue, the square and the central park. The character of Skarpnäck's public facilities is more urbane throughout and their form is more regular and distinct. The square is enclosed by buildings on all sides, and the park area is clearly definable.

CANADIAN DOWNTOWN DEVELOPMENTS

Canada has been one of the world leaders in responding to harsh climatic concerns through urban developments situated largely within the central business districts of its large and medium-size cities. Some of the more significant projects will be described herewith, as these embody concepts and principles applicable to a broad range of international settings. Furthermore, they are indicative of the fact that the central areas—despite the proliferation of regional shopping centres which are motor car orientated—still serve as the primary foci of employment, government, retailing, entertainment and habitation. Development policies at both municipal and provincial levels have contributed to a

strengthening of housing and jobs within a range of transit-orientated commuting. Without a doubt, these are among the prime elements supportive of urban vitality which assist in preserving and enhancing "livability" in many urban communities. The creation of visually attractive, economically viable, safe, climate-controlled environments—providing for activities and their related spaces throughout all seasons—has been the dominant aim.

Toronto's Downtown Underground Pedestrian Mall System

This system is the largest one of its type in the world (the second largest is Montreal) at present, and comprises close to 10 km of interconnected passageways and shopping malls beneath the central city (see Figure 12). It came about as a result of the city's subway construction—combined with extremely rapid development in the 1960s and '70s—through both private and municipal co-operation. This intricate network constitutes close to 500 shops, in excess of 3,000 hotel rooms, together with three million m^2 of office space and residential accommodation. It is a continuous system which is linked to the subway stations, major office structures, key department stores, banks, the city hall, parking garages, the Eaton Centre and Union Station (the main railway station). Development policies for the downtown sector encourage expansion of this pedestrian mall as new buildings progress, with more of the newer sections containing "public areas" with benches, trees, fountains and sculptures. As the railway lands south of the city centre are developed, and with Harbourfront being expanded, these, too, will eventually be integrated within the larger subterranean and above-ground spatial framework.

Calgary, Alberta: +15 Pedestrian Walkway System

The +15 (feet), or +5 (metres) walkways are an integral part of Calgary's downtown transportation and open space system (see Figure 13). They enable pedestrians to move in climate-controlled walkways and on bridges which are situated at approximately 15 feet above grade or street level, safely separated from vehicles with the added benefit of weather protection. The Calgary system—one of the most extensive of its kind anywhere—boasts over 40 bridges and 10 kilometres of walkway providing access to office, retail and cultural facilities as well as to indoor and outdoor public spaces. In a survey undertaken by the Planning and Building Department, City of Calgary—Development, Land Use and Downtown Division, entitled *The +15 System: Pedestrian Counts and a Survey of Users* (October 1986), respondents, when asked to identify the most desirable feature of the system, replied this way:

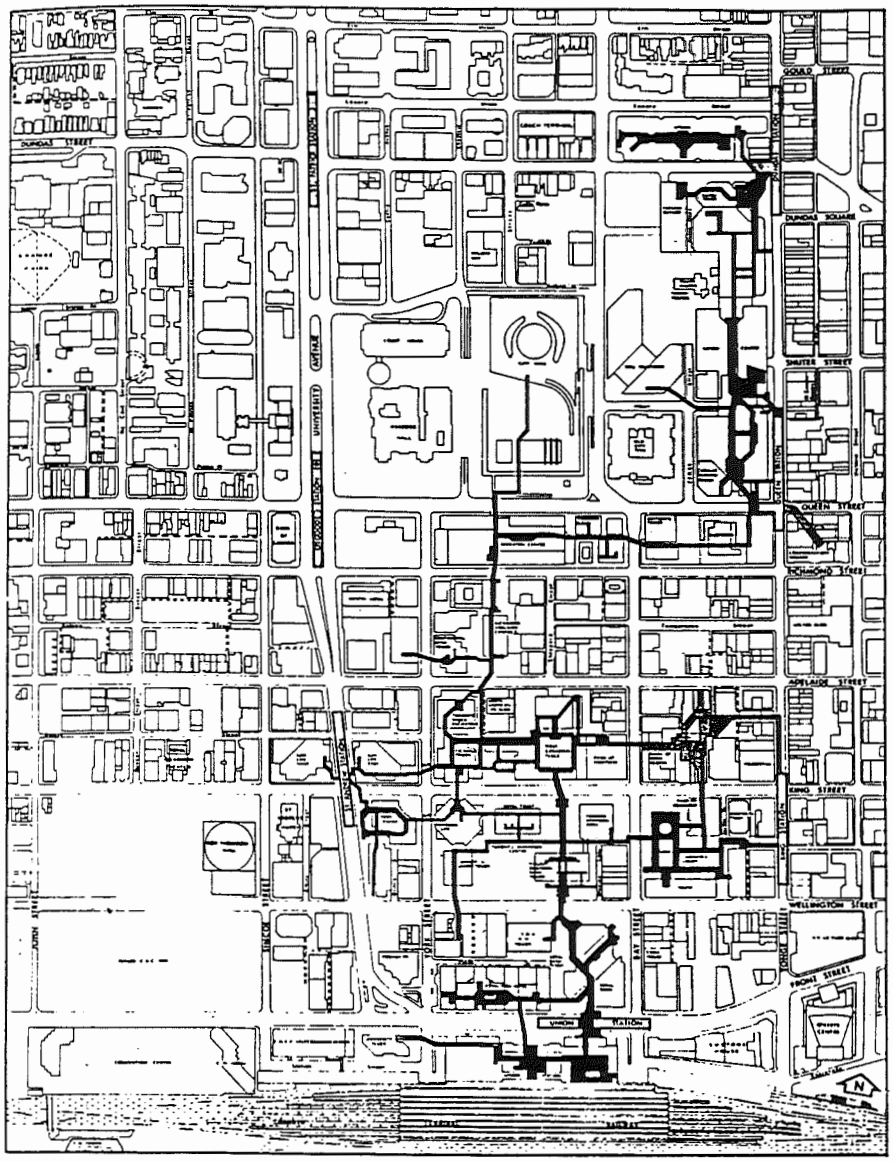


Figure 12: Downtown Underground Pedestrian Mall System, Toronto, Ontario.

Source: City of Toronto Planning and Development Department.

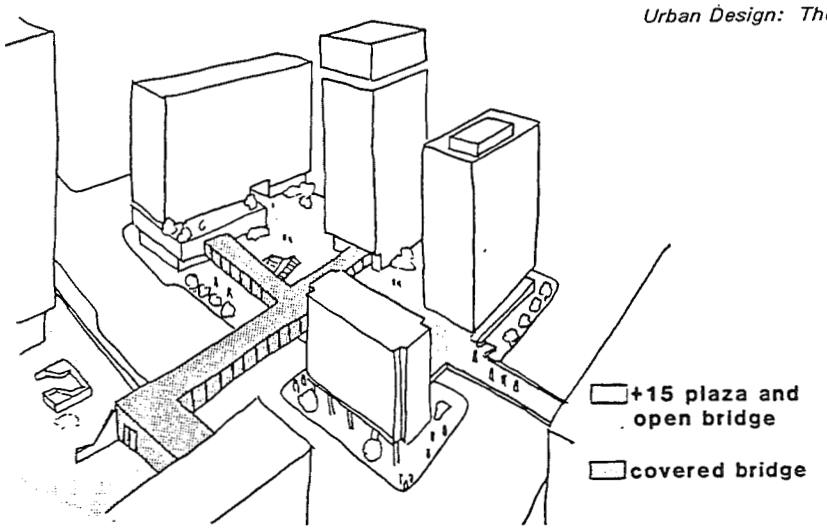


Figure 13: Calgary's +15 pedestrian walkway system—Perspective.

Source: *Cities Designed for Winter*, J. Mänty and N. Pressman, eds. (Helsinki: Building Book Ltd., 1988) p. 45.

Figure 14: Devonian Gardens, Calgary, Alberta.

Source: *Cities Designed for Winter*, J. Mänty and N. Pressman, eds. (Helsinki: Building Book Ltd., 1988), p. 46.

> Weather protection was stated as the most desirable feature of the +15 system by 57% of the users. Convenience and separation from traffic ranked significantly lower, 20% and 14% respectively.

In the 1970 Calgary Plan, "protection from adverse climate" was cited as one of the major objectives of the system. The City decided to go above grade—rather than below grade as in the cases of Montreal and Toronto—because it felt this created a more acceptable walking environment, providing improved accessibility to, and easier circulation within, buildings. The +15 plan was integral to a master plan for the entire downtown, with the aim of connecting buildings and creating a total pedestrian environment one level above the street—moving through buildings and over open spaces. Bridges are paid for by a combination of public and private funds—often with developers contributing cash-in-lieu of constructing +15 components to the interest-bearing +15 Fund since 1971. The City Planning Department negotiates co-ordinated hours of operation along specific +15 routes with the general rules being openings between:

1. 6:30 - 7:00 a.m. and 2:00 a.m. (when serving evening entertainment);
2. 6:30 - 7:00 a.m. and 5:00 - 6:00 p.m. (when serving office buildings).

Developers, on the whole, manage and maintain the +15 walkways through their buildings and the bridges that they build while agreements oblige the City to assume responsibility for the policing. The City, however, remains the legal owner of the +15 bridges.

Devonian Gardens, Calgary

One of Canada's and, indeed, the world's most unique "winter gardens" situated in the centre of a large metropolis is Calgary's Devonian Gardens (see Figure 14). It comprises 2.5 acres (approximately 1 ha) of natural beauty in a fully enclosed, climatically controlled environment in the heart of the city. Its setting is 46 feet (15 m) above street level and it is surrounded by shops, offices and restaurants. It contains 138 varieties of greenery, including 16,000 Florida tropicals, and over 4,000 local plants adorn the pathways which wind past effervescent fountains, sparkling waterfalls, attractive sculpture and wooden bridges. Seating accommodation for 800 persons is provided by terraces and public spaces throughout—not to mention the children's playground. There is a skating rink which is transformed into a reflecting pool when the weather is warm, the "Quiet Garden" and the "Sun Garden," which welcome users desirous of a spot for peaceful contemplation. Stage and art display areas provide settings for periodic exhibitions, lunch hour concerts and performances. Admission is entirely free, with the hours of opening being 9:00 a.m. until 9:00 p.m. daily.

This indoor park responds to a vital need for passive recreational space during the long, cold winter months when it is clearly inconvenient to use outdoor space in Calgary. Unique is the fact that most of the cost was borne by a private, charitable foundation—the Devonian Group (hence the name)—which contributed $6 million, with Oxford Development Group (owners of the office development) contributing $4 million, and the City of Calgary supplying a final $1 million.

An average of some 300 events are held annually in this park, found four storeys up in a highrise complex—an exceptionally rare urban experience. The developers own both the building and the gardens, and lease them to the City of Calgary for $1.00 per year. The City's Parks and Recreation Department provides for administration and maintenance, while the developers share security aspects with the Calgary Police Department.

The gardens are considered "public space," but they retain the right to have persons evicted for unruly behaviour. This may or may not cause them to be classified as "semi-private" space. They are a grand success, with conservative estimates suggesting that 850,000 people per year enjoy the facilities and skating rink. Furthermore, guests from virtually every country in the world have been there.

Miscellaneous Examples

The above examples provide some of the leading efforts in climatic protection operating below-grade and above-grade. There are many others which could have been described. The cities of Winnipeg (one of the coldest large cities in the world) and Edmonton have a system of combined "+15" pedestrian bridges and underground pedestrian mall networks woven throughout their central business districts. Montreal has the secondmost comprehensive subterranean pedestrian system, rivalling Toronto's (see Figure 15). In addition to its *Place Ville Marie* underground, the north end of the Rue St. Hubert—in the city's east end—has been canopied where the shopping function is most intensive. Kitchener has completed two +15 bridges linking the major downtown shopping mall—Market Square—to a modern hotel on one side and an office tower on the other, with this complex connected to a multi-storey parking structure.

Most of the developments have tended to "eliminate climate" by providing increased amounts of "interiorized" private space. What remains is to develop micro-climatic outdoor spaces for public use, particularly during the marginal seasons, whereby users can choose to be in open-air settings which afford some protection from wind and cold, and without having to make the choice of being either "inside" or "outside."

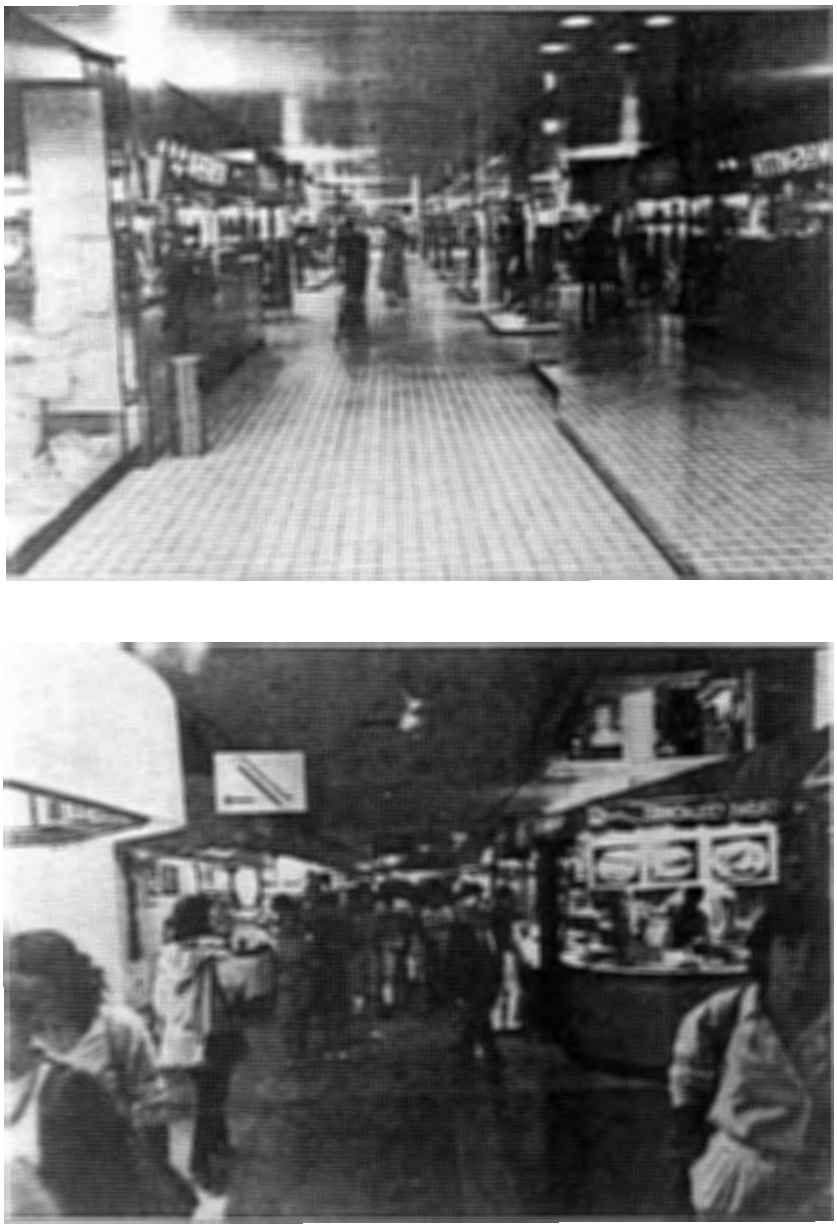


Figure 15: Underground Pedestrian Network (souterrain)—Montreal, Quebec.

Source: *Cities Designed for Winter*, J. Mänty and N. Pressman, eds. (Helsinki: Building Book Ltd., 1988) p. 41.

During the past years, micro-climatic concerns have been emphasized, especially in the central areas of larger cities where redevelopment has occurred. In 1979, as an outgrowth of micro-climatic problems, the City of Ottawa approved planning policies intended to address concerns which involved noise, pollution, lack of sunlight between tall buildings and wind turbulence causing pedestrian discomfort. The studies, dealing mainly with sunlight access, snow-drifting and accumulation, and wind turbulence control, are breaking new ground and are destined to contribute significantly to a much more sophisticated urban design approach to development. In 1987, the City of Winnipeg introduced a special urban design review process. Embodied within this review is the promotion of pedestrian comfort levels based on micro-climatic analyses and evaluation of proposals. Guidelines have been established which have as their objective the raising of standards for downtown development; the introduction of vegetation and colour; and, most importantly, climatic impact statements which study sunlight access, shadow configurations and produce wind tunnel simulation emphasizing snow drifting and wind problems. These characteristics are codified in a new zoning by-law, thereby providing much more than mere lip-service to outdoor comfort in the city's central business precinct. Additionally, emphasis has been placed on management techniques for encouraging the development of indoor parks, and more intensive year-round use of the river embankments throughout the metropolitan area.

Consulting engineering firms in Canada have been among the pioneers to develop techniques related to the study of existing or potential wind, snow, pollution and sun/shade problems associated with a broad range of development projects—industrial, commercial, residential, through to university campus master plans and newly planned communities. They utilize open channel water flumes and a boundary layer wind tunnel for analysis of such projects as snow control studies for town sites; wind pressure and aeroelastic studies for high-rise structures; pedestrian level wind studies for open spaces and publicly exposed plazas; studies of exterior shadowing and daylighting; and other research relying on hydraulic engineering techniques applied to urban development projects.

The most significant work tends to be applied to pedestrian level wind studies—conducted to help architects overcome dangerous, high velocity wind conditions which normally occur at the ground level and adjacent to the façades of tall buildings.

PRINCIPLES FOR CLIMATE-RESPONSIVE URBAN DESIGN

The following approaches should be followed if climate-responsive and energy-efficient urban reorganization are to be achieved in the North. These are viewed from the perspective of urban design concepts, policy development and regional planning strategies, and constitute the basis of design for a rational Northern urban habitat.

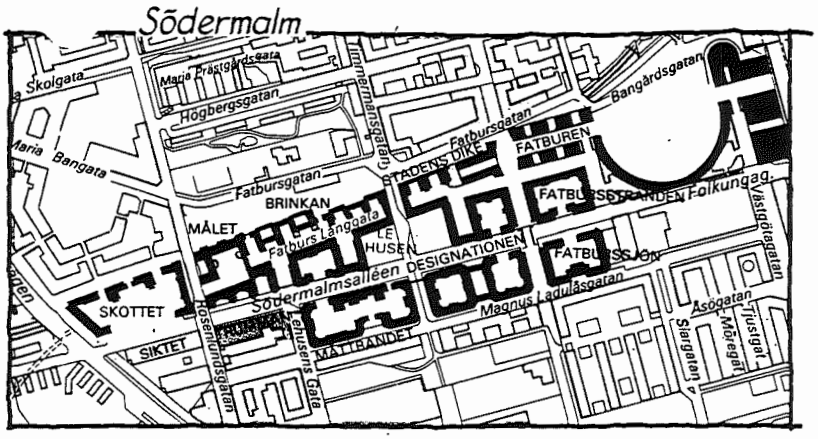


Figure 16: South Station Redevelopment Zone, Stockholm.

Source: *Building Stockholm*, Swedish Council for Building Research, 1986, p. 70.

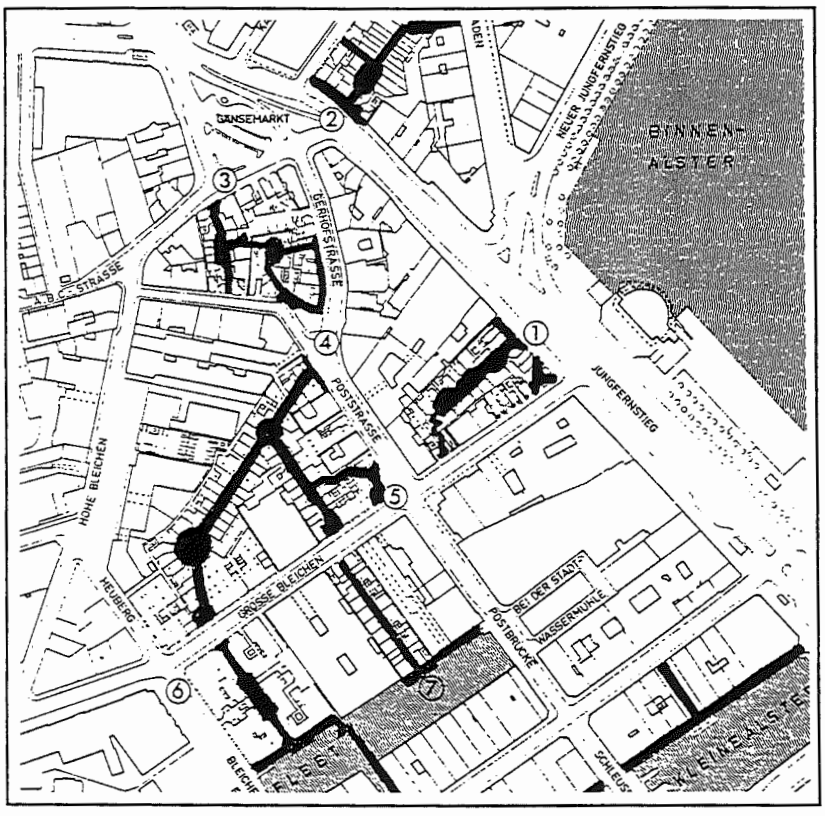


Figure 17: "Passagen-Viertel" (Arcade District), Hamburg, Germany.

Source: *Climate-Sensitive Urban Space*, Boudewijn Bach and Norman Pressman, (Publicatieburo, Delft University of Technology, 1992) p. 34.

1. *Compact Urban Form*

   Inhospitable surroundings should be "walled-out" by clustering buildings and using vegetation, windscreens, snow fences, shelterbelts and a spatial configuration which is relatively compact. These techniques will assist in achieving favourable micro-climates.

2. *Orientation of Footpaths, Streets and Dwellings*

   These should be designed so as to mitigate adverse climatic forces impinging on the site and to maximize passive solar gain wherever possible.

3. *Enclosed Residential Courtyard Concept*

   By arranging multi-family dwellings around interior courtyards, a more pleasant micro-climate is produced whereby wind turbulence and velocity can be significantly reduced (see Figure 16).

4. *Climatic Simulation Modelling*

   During the initial design stage, wind tunnel testing and shadow pattern impacts (through application of the heliodon) are advised.

5. *Higher Densities*

   In the residential, retail and commercial sectors, increasing densities can result in significant reductions to space heating requirements, and will reduce transportation energy demand minimizing the need for spatial displacement.

6. *Multi-Use Buildings*

   Buildings containing a diversity of uses or functions, e.g., shops, offices, residences, public facilities (cinemas, restaurants, post office, schools), can potentially minimize the necessity for movement—especially under harsh conditions.

7. *Mixed Land Use*

   Mixing land uses in various neighbourhoods or districts within the urban configuration—as opposed to segregation of uses through traditional zoning practices—will reduce the need for commuting. This creates greater self-sufficiency at the district and neighbourhood levels, as a broad range of services can be made economically available with improved accessibility by private or public modes of transportation—which include walking and cycling. Mixed-use nodal development is an effective technique for tightening regional form.

8. *Intensification of Functions*

   This implies more intensive use of existing land which is vacant and awaiting development (as well as redevelopment), including urban infill. Services and housing are the usual fabric at the neighbourhood level, although commercial and retail uses can be incorporated with public

transit installations. Where warranted by local market conditions, single-family houses can be converted to multiple-family use.

9. *Public Transit*

This is the most energy-efficient form of movement, but to be cost-effective, it must serve relatively high-density areas. There is high compatibility between higher density, mixed-use development and the provision of improved public transit, serving transportation corridors and linking nodes of concentrated development.

10. *Total or Partial Climate-Protection*

In certain high-use areas, it is useful to connect buildings via arcades, canopied (or even glazed-in) pavements and pedestrian networks leading to primary nodes of activity such as shopping, schools, cultural centres and transit stops (see Figure 17). Simultaneously, creation of welcoming outdoor public space for use in marginal seasons should be realized.

CONCLUSION

PRIORITIES FOR BUILT FORM

It is acknowledged that only the sensitive integration of skills from the disciplines of architecture, landscape design, applied engineering and urban planning will be capable of achieving improved comfort zones within a frequently disorganized urban fabric. If winter problems are to be reduced, it will be essential:

- to *integrate* concepts and techniques from the above fields toward controlling human comfort;
- to *relate* goals for obtaining physically improved comfort to cultural, biophysical and economic conditions in order to ascertain the extent to which application is feasible within planning practice;
- to *target* objectives which are based on specific problem areas, in the full recognition that multi-disciplinary approaches and co-operation may be essential if the most useful results are to be anticipated.

Only a *cumulative* effect of various strategies and actions can produce dramatic results. There is the constant danger of interpretation as to the relative importance of the techniques which can alleviate winter-induced discomfort. All strategies are inherently related. Which are most applicable to specific situations will often depend on socio-cultural factors (e.g., priorities perceived by certain user groups). Therefore, it will be essential to determine overriding criteria for each specific setting, applying those techniques which seem most compatible with the local issues. In order to obtain a reduction of winter discomfort, *incremental* and *short-term* objectives at relatively low costs will be necessary.

Through the demonstration that even seemingly small transformations to the physical milieu can ease many difficulties associated with the cold, dark season, it will be easier to gain the public and political support required to achieve longer term, more elaborate goals.

The urban design variables which can be manipulated significantly affect both public and private interests. They mostly address the issues (Pressman, 1988) of land-use policy, transportation, massing and building controls, outdoor living areas and public amenities.

What is important is the recognition that explicit winter-induced discomforts exist, and that they be acknowledged in planning practice. Once this occurs, our city centres and residential precincts can function in a manner which reduces the negative impacts of winter and enhances its beneficial qualities.

ADOPTING A CLIMATE-SENSITIVE APPROACH

Achieving suitable micro-climatic conditions will undoubtedly enhance the quality of urban life. Therefore, performance standards which protect pedestrians and cyclists from increased wind speeds induced by design and positioning of buildings must be formulated. These should be combined with measures to guarantee daylighting requirements, proper air circulation and sunlight access—through regulating built form, using front and rear sky exposure planes—especially in areas of intense public use (City of Toronto, 1990, pp. 42-44).

The environments benefitting from climate-protection strategies and improved micro-climatic conditions should be those which connect important nodes of activity such as shops and public transport stops, public squares and cycle-parking zones, major institutional buildings and high-use functions (e.g., railway or bus stations). If these strategies also contribute toward energy conservation and environmental protection, they will have made a powerful impact in improving urban quality. Both physical design and social organization have to work together to support everyday life, and urban architecture has an important role to play. Urban design concept plans should indicate major pedestrian links between origins and destinations suggesting where climatically sheltered zones might be realized.

In deciding the levels of priority for weather protection, the needs of various user groups must be carefully specified. User characteristics *vis-à-vis* trips (origins and destinations) will determine the movement network, its specific locations, and the detailing of the sheltering elements within the overall framework of the town or district. The extent of protection will have to be seen as a function of both need and cost. *In areas of significant pedestrian and cycle activity, consideration should be given to the requirement for weather protection devices such as canopies, awnings, arcades and colonnades* (see Figure 18).

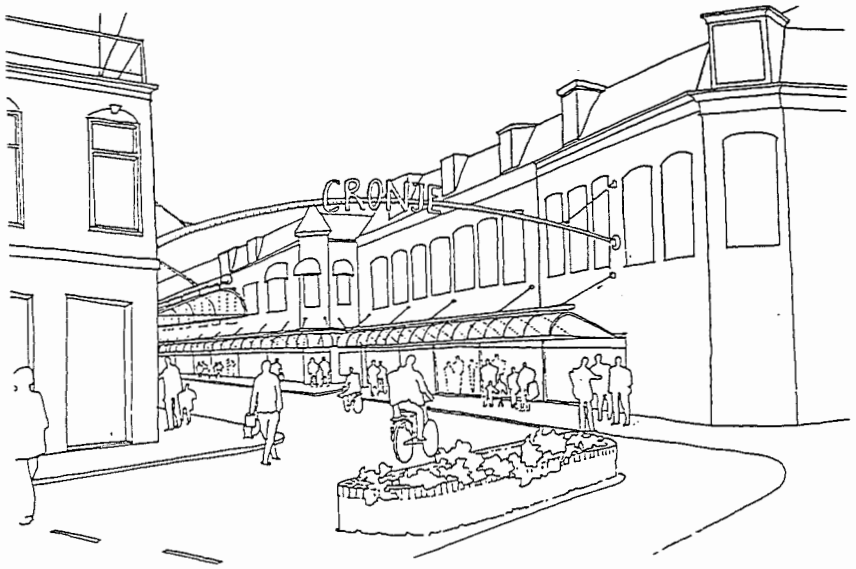


Figure 18: Climate-Protected Shopping Street in Haarlem, The Netherlands.

Source: *Climate-Sensitive Urban Space*, Boudewijn Bach and Norman Pressman, (Publicatieburo, Delft University of Technology, 1992) p. 49 (drawing by Boudewijn Bach).

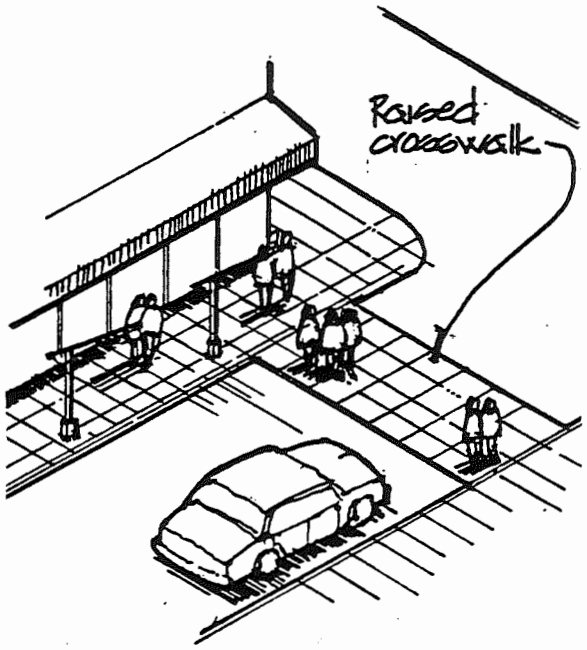


Figure 19: Suggested Crosswalk Detail for a Typical "Winter City."

Source: *Winter Cities Design Manual* (copyright, City of Sault Ste. Marie, 1990), p. 45.

Attractive and well managed streets and open spaces—and the activities both planned and spontaneous which occur in them—form the essence of urban life. They should be genuinely public in nature, as a counterthrust to the gradual erosion of the public domain resulting from large "atrium-style" pseudo-public environments and shopping malls located downtown and in the suburbs. Once out of either the car or public transportation, *everyone eventually becomes a pedestrian*. Therefore, it is essential to direct greater attention to the achievement of a milieu in which the slow-mode is dominant (Bach/Pressman, 1992, p. 91). Crosswalk design is especially important (see Figure 19), as is control of snowdrifts (see Figure 20).

The most critical goal is to extend the outdoor season (in colder regions), encouraging people to remain outdoors at times when they might normally withdraw and spend more time indoors. Climatic modification of the environment is required if human animation is to thrive in our urban centres during the colder periods. Even if outdoor social space and the activities which it harbours suffer a reduction during the cold part of the year, social activity can still be supported and maintained.

If improved bioclimatic conditions and a more humane urban planning are to be achieved, the following issues will have to be accorded high priority:

(a) Careful decisions must be made regarding the types and location of vegetation and planting for modifying climatic conditions.

(b) Multiple use of public space over varying times of the day (or night), week or even year, will ensure greater activity and animation adding to the perceived importance of the space as well as to user safety and satisfaction.

(c) Alternative microclimates should optimally be possible in the same space (some areas in shade, others exposed to sun—with varying degrees of protection from wind) (see Figure 21).

(d) Comfort criteria should be established for all seasons, where possible (especially if considerable seasonal variation occurs).

Flexible utilization of the public realm in different seasons will ensure improved livability for users, regardless of their needs or trip destinations. Adopting a climate-sensitive approach (in less than ideal climatic regions) is clearly the best strategy (when combined with high-quality, user-responsive, ergonomic design) for obtaining a "green-oriented" lifestyle desirable well into the twenty-first century:

> Managing of a large scale "climatic environment" where the sub-components are town and region, involves accommodation to the rhythm of annual seasons. This begins to determine the character of the urban design and structure of the land-use. The criterion for a livable town is its potential to respond to weather agents during different seasons of the year (Pietilä, 1988).

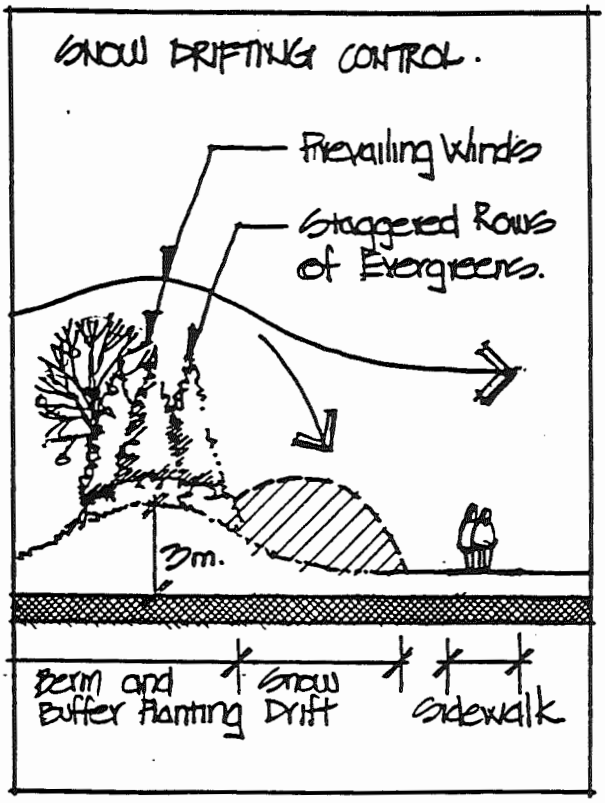


Figure 20: Section indicating Snow Drifting Control and Wind-Buffer.

Source: *Winter Cities Design Manual* (copyright, City of Sault Ste. Marie, 1990), p. 41.

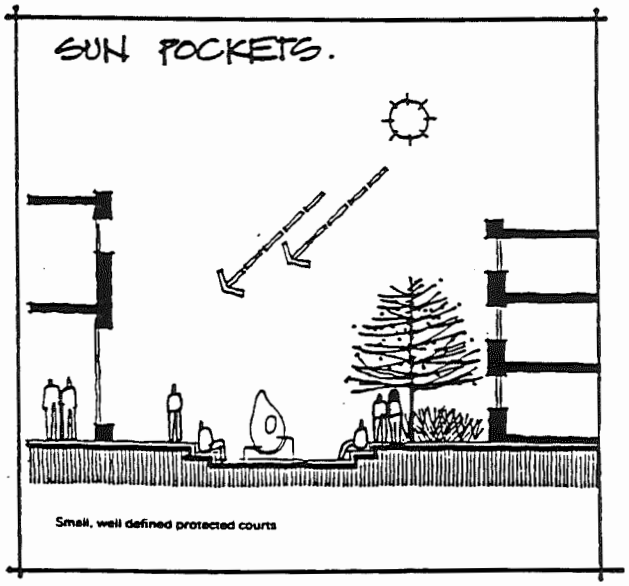


Figure 21: Section indicating "Sun Pockets."

Source: *Winter Cities Design Manual* (copyright, City of Sault Ste. Marie, 1990), p. 31.

FUTURE DIRECTIONS

There is clearly a considerable amount of existing climatological knowledge which has the potential of being applied to architecture, urban design, and town and regional planning. However, such information is not always available in a form that can be easily used, or applied, by architects, urban designers or planners. Hence, there is a need to translate it into directly usable design criteria, building standards, norms, principles and urban design guidelines for application by the above professionals—which also include engineers, policy analysts, landscape architects and other related disciplines. New "cold-climate" design standards—and solutions—will be essential.

Planners, designers and policy-makers must encourage and promote the application of climatological know-how in land-use and urban design concepts, while keeping abreast of newly developing information. Builders should be provided with incentives to demonstrate advantages of climate-adapted projects on particular sites. Local governments must embrace climatically sensitive development as part of their policies through the adoption of new design guidelines, revision of master plans and zoning by-laws, and inclusion of climate-oriented performance standards in competition programs. Finally, approvals for building and site-planning projects should be subjected to rigorous review of how well designs are adapted to the local conditions, in conformity with explicitly-stated "winter livability" structure plans.

The physical environment of the winter city can either support or impede the formation of social activities in outdoor public space. Social activities are particularly important for mental health in winter, due to isolation and other multiple stresses that have an impact on people during the cold, dark season. Urban space should be designed using micro-climatic principles that block winter winds and allow sunlight to penetrate between buildings. Application of these principles can extend the summer and marginal seasons and even allow summer-type activities (e.g., sitting in the sun) to take place on mild winter days. Based on a Norwegian study, architects Ralph Erskine and Boris Culjat from Sweden have suggested that the outdoor season could be extended by up to six weeks by simply using micro-climatic planning and design principles (Culjat and Erskine, 1988, p. 353).

Micro-climatic control of the environment is essential if some human animation and life are to be retained outside. The main principles which are to be incorporated should be year-round *usability, contact with nature, user participation* and *cultural continuity*—implying that the chosen shapes, volumes, textures, colours, materials and urban spaces between buildings should reflect the landscape and cultural heritage of the environs.

Innovatively organized housing and urban development competitions can assist in demonstrating—through pilot projects—precisely how physical interventions can improve the quality

of life in Northern environments. Practical lessons emerging from such competitions and landmark project designs will point to desirable ways of creating better climatically-adapted design and planning. Research and discussion, with follow-up monitoring and evaluation, are also crucial. Today, we urgently need to create the trends which will, in future, offer the environments we deserve—ensuring that all people experience optimum conditions of well-being, habitation, work and intellectual development in each of the four seasons.

NOTES

1. Five recent examples of this newly emerging literature are: Jorma Mänty and Norman Pressman, eds., *Cities Designed for Winter* (Helsinki: Building Book Ltd., 1988); *Vladimir Matus, Design for Northern Climates* (New York: Van Nostrand Reinhold, 1988); *Habitat International*, 13,2 (1989)—theme issue on "Settlements in Harsh Living Conditions"; *Neighbourhood Planning and Housing Design in Cold and Subarctic Areas*, Ministry of the Environment, Norway, October 1992 (Proceedings of the ECE Colloquium, Tromso, Norway, 1990); Boudewijn Bach and Norman Pressman, *Climate-Sensitive Urban Space* (Bouwkunde, Delft University of Technology, 1992).

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