PATCHING THE HOLES OF THE CITY
An Urban Design Framework for Redevelopment
of Arbutus-Broadway and nearby 21 Blocks

by

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ABSTRACT

Vacant, skipped-over or underused parcels of land in otherwise built-up environment can be identified in every city. These undeveloped or underutilized parcels of land are like “holes” of our city fabric. As the demand for new housing and services grows in urban areas, great opportunities and spaces for future developments are availed. The means to revitalize these “holes” in our dynamic city have gained more and more attention from the public. Theoretical responses have come through a long way from Modernism, to Postmodernism, Gentrification, and now New Urbanism. Even though new urbanism was originally an alternative to suburban sprawl, it provides existing urban built areas a broader vision of re-urbanization that crosses scales of Region, District, Neighborhood, and Block to Building. Sharing the similarities with the City of Vancouver’s urban design ideology, New Urbanism is the theoretical basis for this project. It specifies the study within Kitsilano East area, and to create an urban design framework that cross overlays of Open Space, Circulation and Urban Fabric. New Urbanism also provides the theoretical context through the following site planning and site design of Arbutus-Broadway and its nearby 21 blocks. This thesis project is hoped to be a drop in the sea that pushes the urban redevelopment wave forward while it creates a mixed-use, vibrant Arbutus-Broadway area, and supports its role in the city as a whole.
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1. INTRODUCTION AND BACKGROUND

1.1. Overview

Land use changes over times that result in imbalanced developments leave “holes” in the city fabric. Within any urban district, there are areas that are less efficiently developed than they could be. These under-used, skipped-over urban parcels adjacent to or within well developed areas are often ideal locations for future redevelopments. Rather than create brand new development, Urban “Infill Development” (ULI\(^1\) US), generally called “Redevelopment,” responds to some of the current and future concerns of our city such as revitalizing older neighborhoods, increasing housing units, preserving environmentally sensitive urban fringes, taking advantage of existing infrastructures, and saving land while still accommodating growth.

This is particularly true where industrial or strip commercial developments once existed, but now remain abandoned, vacant, derelict or underutilized. As land rezoning continues to meet the demands for new housing and public service, these “holes” provide space for future redevelopments. In some research fields, the term “Brownfield Redevelopment” (EPA\(^2\) US) is highlighted to point out rezoning projects on potentially contaminated industrial land. “Greyfield Redevelopment” (CNU\(^3\) US) is described as revitalization and infill development of older, economically obsolescent retail or commercial areas. The redevelopment or infill of Brownfield sites and Greyfield sites are significant thrusts of contemporary New Urbanism.

Economic, cultural or historical processes as well as urban decentralization over time leave holes in the city fabric. By the time suburban sprawl began to draw financial resources from the inner cities in favor of providing infrastructure for remote suburban areas, it was urban areas that began to experience degradation. Changing to service-based economy and auto transportation helped city decentralization and encouraged movement out of inner cities for low

\(^1\)ULI—The Urban Land Institute is a nonprofit research and education organization supported by its members. Founded in 1936, the mission of the Urban Land Institute is to provide responsible leadership in the use of land to enhance the local environment. [http://www.uli.org](http://www.uli.org)

\(^2\)EPA—In July of 1970, Environmental Protection Agency is established together by White House and Congress in response to the growing public demand for cleaner water, air and land. [http://www.epa.gov](http://www.epa.gov)

\(^3\)CNU—Congress for the New Urbanism is a Chicago-based non-profit organization that was founded in 1993. They work with architects, developers, planners, and other involved in the creation of cities and towns, teaching them how to implement the principles of the New Urbanism. [http://www.cnu.org](http://www.cnu.org)
density. The inner urban areas were left with the degradation of abandoned buildings, dirty streets, graffiti-covered walls, poorly maintained city sanitary system, etc. The “holes” left in the inner cities by historical reasons are far more complicated and beyond the urban planning and design scope, although revitalization efforts never stopped. “Gentrification” responds to inner city redevelopment by using cultural replacement and social re-classification process, which have gained some success but are still shrouded in controversy.

Sprawl development pattern over time leaves “holes” in the city fabric. Cities are an immense laboratory of trial and error, failure and success, in city building and city design (Jacobs, 1961, p9). For as long as we have observed cities expanding, mass developments have spread out in the 1950’s in favor of parcels in suburb with no physical constraints. These developments are labeled as low density (Figure 1.1), characterized by inefficient use of land, auto-dependence, strip commercial centers and big box wholesale stores surrounded by endless surface parking. (Figure 1.2) This development pattern, named “Sprawl” has received critical analysis and revealed serious environmental issues as well as social problems. One of the great mysteries of the American suburb is this: How, with such low density development, have we produced such extra-ordinarily high traffic? (As referenced in Roseland, 2005, p138) The New Urbanism program put first priority of growth on layering infill and redevelopment on previous sprawl by breaking down block scales and adding densities in underdeveloped land. However, although the New Urbanism is featured as an alternative to suburban development, re-urbanization of existing urban areas is one of its central credos.
These urban “holes” areas that vary by locations, size, causes and results, and degradation, share some common characteristics:

- The green open spaces either rarely existed or the existing open spaces are underused, rarely social and attractive. As time passes, the urban open spaces decay to be vacant spaces.
- The circulation system is rarely convenient and is no longer safe and pleasant.
- Urban blocks are dominated by inefficient land uses and not fitting into human scales.
  Neighborhoods are without mixed-use core area, or those that once hosted mixed-use areas are no longer viable.

These three common characteristics are interrelated as a plethora consequence of decreased qualities in Identity, Livability, Walkability, Connectivity, and Affordability.

Theories focusing on the issue of redeveloping inner-city “holes” through the 1950’s failure of Modernism, the 1960’s rethinking of Postmodernism, the 1970’s critic of Gentrification, to the 1990’s manifesto of New Urbanism will become mostly understood and appreciated. This project studies how theories of New Urbanism and its design strategies were applied in some award winning projects to deal with specific issues, how these practices and lessons help build up a project-based Urban Design Framework, and finally how this Framework help to reveal problems as well as opportunities and coordinate design strategies on a selected site, which in this project is noticeably located at Arbutus-Broadway and its nearby 21-Blocks.

1.2. Theoretical Review

1.2.1. From Modernist to Postmodernist urban design

By the 1930s, Modernism had entered popular culture. Starting at the end of the 19th century and the early of 20th century, Modernism was described as a series of progressive cultural movements mainly in humanistic fields of western society including urban planning and design. Modernist designers embrace changes of the present, rebels against traditions, and they conform to the new economic, social, technological aspects of emerging modern world. Backed up by this context, the North

Figure 1.3 Union Station in Portland, Maine was demolished in order to build a strip Mall.
Source: University of Southern Maine Urban Geography webpage
American cities rapidly spread out with the great help of automobiles and highway constructions, which in the suburbs fueled low-density sprawl through suburbanization. While in the inner cities developments, sprawl was taken in a form of simply mass clearance through Urban Renewal movement, vast areas that used to be vibrant neighborhoods were now being brutally demolished (Figure 1.3), and replaced by freeways, expressways, or even vacant lots.

Born with controversy from Modernism's Truman Show superficiality, Urban Renewal movement never lived up to the hopes of its original proponents, and its deep unpopularity has eventually found expression in postmodern theories of urban design that directly emerged from critiques of downtown redevelopment and inner city renewal through the 1950s and the 1960s.

Jane Jacobs' landmark work *The Death and Life of Great American Cities* (1961), the most telling of these, emphasized the values of traditional neighborhoods and critiques of large scale urban renewal, advocating mixed-use, high-density, safe streets, active ground-floor frontages, short city blocks, rehabilitated heritage buildings, and gradual instead of cataclysmic investments. Jane’s criticism resonates across 40 years, and her concept about urban design is considered the theoretical forerunner to wholesale evolution of New Urbanism in 1980’s.

Kevin Lynch’s *Image of the City* (1960), another seminal text, explored people’s perceptions of places and their mental maps and way-finding techniques, which described legibility and imageability to help people move around with a secure sense. Lynch called for the importance of historic character and pattern of the city, the identity of its diverse districts, and the need to deal sensitively with its assets. Later on in his book *Good City Form* (1981), Lynch added methodologies and theories of citywide and regional design that performance dimensions measures for urban design such as vitality, sense, fit, access, control, efficiency, as well as justice. Lynch’s special view on sensuous qualities and meanings of urban form is considered more a picturesque approach rather than design practice to inner city redevelopment.

Other theorists cross scales of regional city zooming into districts, neighborhoods, blocks and buildings exploring design of urban spaces and public realms, most notably Christopher Alexander through his *A Pattern Language* (1977), considered as urban designer’s tool box, demonstrated his pursuit of cross-cultural pattern language for urban design and architecture. According to Alexander, the roughly 250 patterns must be present in order for an “alive” built
environment that is pleasing and comfortable. These patterns start at "Independent Regions", describe the ideal regional entity, gradually becoming more specific to city neighborhoods and detailed to part of the structure like windows. Almost all the physical elements within scope of built environments can be found to be responsive patterns. Together, all the patterns form a language that can be used to foster meaningful human experience and social interaction.

William H. Whyte developed design principles for small urban spaces. In his book *The Social Life of Small Urban Spaces* (1980), Whyte describes how these spaces work and not. To him, what make urban spaces an effective part of the city are the people, another word for "Density". Highly used urban spaces are usually environmentally pleasant, safe, and comfortable with enough seating. Whyte especially pointed out a solution to loose "downtowns" of smaller cities in a suburb that is an infill development for higher density and compactness (Figure 1.4).

Some of the design critics like Michael Sorkin refer to "Postmodern urban design" as wholly "reproduction" and "Urban disguise" Smith Neil attribute "Gentrification" (Punter, 2003, pxxi), that result in postmodernist design practice. However, postmodernist theories launched a remarkable view of a full range of planning and design initiatives, plans and review processes of the last three decades, until environmental oriented theories, sustainable developments and *new urbanism* principles came to fore in the late 1980s and early of 1990s. Those initiatives will be reinforced and highlighted later on theories that take up the following issues:

- Restoring historic fabric of cities into coherent urban form,
- Reclamation of city streets for pedestrian use, and creation of new public spaces,
- Reconnection of inner cities to adjacent neighborhoods for more walking and cycling,
- Preservation and protection and reuse of historic landmarks, and
- Private development giving respects to the scale, grain and character of the city,
- Gradual infill instead of one-time catalyst investment, restoration instead of demolition, etc.

![Figure 1.4 A Street in Salem, Oregon, adopted infill in empty spaces with buildings to the scale of place, converting to shopping ways, with pedestrian spaces (Whyte, 1980, p93).](image)
1.2.2. *Gentrification* as Cultural Replacement

Being contemporary with Jane Jacobs, Kevin Lynch and William Whyte's design approaches were concerned with inner cities revitalization, a social approach that was gaining ground, doing its best to attract young urban professionals (yuppies) back to city centers for the business potential, low cost, convenience and historical significance. In turn, physically deteriorated inner cities and historic neighborhoods were renovated often through *Gentrification*.

Ruth Glass first used the term "*Gentrification*" in her book *London: Aspects of Change* (1964) to describe a phenomenon in London districts that *One by one, many of the working class quarters of London have been invaded by the middle-classes—upper and lower. Shabby, modest mews and cottages—two rooms up and two down—have been taken over, when their leases have expired, and have become elegant, expensive residences .... Once this process of 'gentrification' starts in a district it goes on rapidly until all or most of the original working class occupiers are displaced and the whole social character of the district is changed...*

Often the artists played the leading role of cultural agents in *Gentrification*, as they pursue cheap upstairs loft rooms for work and home and they value their affordability and mundane, off-centre status. These artists help to revitalize historic buildings experiencing abandonment, redevelop the old town centers into art and culture active areas, and open grocery stores and other necessary services that may not have existed there previously. The economic growth and increased rental value can often be beneficial to long-time residents of these areas. It is worth mention that artists are not the only power supply to *Gentrification*. As the matter of fact, *Gentrification* more and more takes place in areas favored by young skilled professionals with multicultural plurality. For example, in multicultural characterized Vancouver neighborhoods, the case came out in 1960's and 1970's that West 4th Ave in Vancouver experienced the first revitalization by hippies and university students.

However, *Gentrification* has the added side-effect of displacement, particularly for renters, that increased property values, along with an influx of wealthier residents tend to displace the neighborhoods' original inhabitants. Unfortunately, this continuous increase will eventually result in less affordability and will put the livability of the area in question. *Gentrification* still can be found playing important roles in some downtown redevelopments, though in a subject
that deeply divides critics as to its worth and social cost given its ability to physically improve areas but also to displace indigenous inhabitants. To respond to its pressure, cities employed different control mechanisms such as Affordable Housing, Inclusionary Zoning, Rent Control, Community Land Trust, and etc. in attempts to manage Gentrification through providing affordable housing units in urban areas. New Urbanism design strategies don’t exclude positive side-effects of Gentrification and encourage the cultural force of New Urbanist agenda through historical inner city redevelopment.

It should be understood that artist-led gentrification played a role of opening up opportunities to Pearl District Redevelopment in Portland. By the 1980’s Portland developers had discovered that singles, young married and empty nesters were eager to position themselves closer to downtown amenities. The first forays into the Pearl District were launched by artists and antique peddlers who were attracted by the cheap rents available in the underutilized and often abandoned structures. Soon the New Urbanism characterized Pearl District Development Plan in 1994 was adopted to regulate growth in that area (Figure 1.5). Like most of the victim of gentrification, the affordability of Pearl District area was put in question as the rental price quickly went up. The city of Portland had to implement some means to control the gentrification, such as 20% non-market housing units, rental units and small units.

1.2.3. New Urbanism’ Ideal World

When the debate with those loyal Urban Renewal proponents was still going-on, Venturi and his a group of students from Yale University had a studio project Learning from Las Vegas (Venturi,1971) exposed the unique strip mall culture and the antithesis of the traditional city to the public. The event of Learning from Las Vegas later on become a methodology of new way in thinking about urbanism and the modernist urban theory in America, therefore, provided ideological support to “Re-appreciation of Tradition” in New Urbanism.
Beginning in the 1980's and early 1990's, the emerging young generation and group of skilled young professionals took the attitude of being independent SOHO (small office/home office) people and look for places being attractive with active urban lifestyle. This growing "laptop crowd" is the social support of "Location Matters, Place Matters" concept in *New Urbanism*.

In the late 1980's, theories with an environmental orientation come to fore, although from McHarg’s *Design with Nature* (1969) to Sustainable Development in the 1980’s reinforcing his ideas about regional planning and watershed management, the journey took more than 10 years. At that time, criticism about endless urban sprawl development greatly increased its voice: auto oriented sprawl development has brought environmental pollution, traffic, tract of waste lands and abandoned infrastructures, vast investment for new developments and new amenities, demolition of traditional downtown and invasion into environmental sensitive areas, low density with low use of land, etc. Coming after the post-modern theorist forerunners, the interests in traditional urban values, patterns and imagery were renewed among the new generation and enjoyed a renaissance through the 1980’s. *New Urbanism* gained theoretical support from coordination of environmental theories with traditional neighborhood design theories.

It is important to know that Andres Duany and Elizabeth Plater-Zyberk are credited with initiating the movement that became known as *New Urbanism* through their landmark project of Seaside FL (1981). However, *Seaside has been over-hyped to the point that it has become the victim of its own success* (Walters, 2004, p21). Now having nothing to do with affordability, it has become a tourist Mecca. But Seaside’s contribution to reordering American suburb, according to Walter in his book *Design First*, was to start the movement initially known as Neo-Traditional Development or Traditional Neighborhood Development (TND). Co-mingling with east coast TND movement, Peter Calthorpe launched his “Pedestrian Pockets” or “Transit Oriented Development (TOD)” on the west coast in the late 1980’s, which gave rise to the birth of Congress for New Urbanism (CNU) in 1993. *New urbanism*, a comprehensive system of urban design theories was given a complete explanation through CNU’s seminal document *the charter of New Urbanism* which states that (Roseland, 2005, p141):

- **The region, Metropolis, City and Town**: Cities and towns should have clear edge that is physically defined by universally accessible public spaces and community institutions;
- **The Neighborhood, District and Corridor**: Neighborhoods should be addressed in a variety
of use and people; Developments should be open to alternative transportation modes including the pedestrian, transit as well as the car;

- **The Block, the Street and the Building**: Urban places should be framed by architecture and landscape design that support historic fabric, climate, ecology, and building practice.

In practice, *New Urbanism* means (Roseland, 2005, p141):

- Designing neighborhoods with a connected and permeable public framework of streets and open spaces as structural element;
- Designing interconnected and easy movement system through all parts of community by foot, bicycle, public transit and automobile;
- Designing buildings that respond to the public streets in a way of ensuring pedestrian comfort and safety, providing welcoming public realm (Figure 1.6);
- Designing universally accessible public open spaces connected with natural environment into neighborhood;
- Designing neighborhood that accommodates diverse and wide range of land uses, density, building types, and housing units for livability and affordability.

In 1996, Smart Growth Network was formed in response to increasing concern about the need for a new way to boost economy, protect environment and enhance community vitality (Smart Growth Online). Smart Growth is developed from an experimental and experiential agenda of *New Urbanism* theories.

In the past 10 years, those once radical ideas of *New Urbanism* about city and suburb design have gained considerable acceptance. However, the journey has never been easy. Most challenges came from Modernist loyalties and sprawl development proponents, as well as from *New Urbanism* itself. External challenges saw *New Urbanism*’s historical learning experiences, a reversion to traditionalism as a retreat from the high modernity, or the wordplay-games of postmodernity. Anti-New Urbanist claims those *New Urbanist* projects are nothing more than
creating streets with “café society”. New Urbanism itself had gone through a long period of earning sustainability credentials through coordination with environmental and sustainable theories. Meanwhile New Urbanism had to find a way to fight against the contemporary developments that give priorities to function, flexibility, affordability, marketability and profits over urban and landscape design. The New Urbanism, however, proved by its greatest hits in Katz’s book The New Urbanism: Towards Architecture of Community, broadened its program through its charter to cohere and apply the planning and urban design principles at all scales and in all situations from livable downtowns, inner city intensification, urban villages, and the retrofitting of suburbs.

In a conclusion, the New Urbanism is an urban design movement that emerged in the late 1980’s originally as an alternative to American suburban sprawl development, then in the early 1990’s. The scope greatly expanded through the charter to include all aspects of real estate developments in the metropolitan area, and it still remains expanding by joining with environmental and sustainable theories, which can find expression in Smart Growth planning strategies. The New Urbanist projects are generally involved with new developments, urban retrofitting and suburban infill under the three basic theoretical strands of New Urbanism: Traditional Neighborhood Development, Transit Oriented Design and Design for Rural Conservation. For conducting individual New Urbanist project, David Walters and his colleagues in their book Design First: Design-based Planning for Communities introduced importance of “Charrette” process which is explained as a format of intensive design workshops within a condensed timeframe that featured by the synchronous 3D process: Debate, Design and Demonstration that operated within a multi-disciplinary design team. Under “Charrette” process, the concept of building up a “Framework” in a format of Spatial Typologies with wide applicability that makes it achievable designing to a level of detail that includes building types, urban blocks and public spaces as well as the big picture issues of circulation, transportation, land use, landscape preservation and other major public amenities (Walters, 2004, p147). To Walter and his co-workers, their “Framework” is under typological categories of Traditional Neighborhoods, Mixed-Use centers, Districts and Corridors. While in this thesis project, the “Framework” is established under the categories of “Open Space”, “Circulation” and “Urban Fabric” to suitably address the differentiation in definitive issues, existing contexts, site scale and characters and other features that only pertain to this project.
1.3. Project Site, Vision, Goals and Objectives

1.3.1. Project Site

This project uses a site in the Kitsilano neighborhood of Vancouver BC to develop and test the Urban Design Framework. This site is an undeveloped partial of an otherwise vibrant pedestrian friendly neighborhood. The eastern part of Kitsilano, as Kitsilano East (Figure 1.7), is defined from Burrard Street to McDonald St and from Kits Beach to 16th Ave. Bordered with Downtown core, Central Broadway subcenter and other communities, this “edge” area provides an ideal context for the project to study New Urbanism implementation in design process on urban block scale through establishing an Urban Design Framework. The master plan under the Framework is conducted on the selected 21 blocks (Figure 1.8), which plays a role in the neighborhood context for the Arbutus-Broadway (Figure 1.9). Unlike much of the surrounding neighborhood, Arbutus-Broadway is characterized by over-scaled buildings and undeveloped sites, poor pedestrian amenities, lack of public spaces. Arbutus-Broadway, for which the Framework design strategies are implemented, is a focal point of (Figure 1.10):

- A potential site for future neighborhood core;
- An edge and transition of land uses;
- A physical node of transit intersections;
- A turning section of Arbutus rail corridor;
- A terminus of scale transition from regional city to local neighborhood.
1. 3. 2. Project Vision

Envision that this 21-Blocks area in the next 15 years has grown to be a vibrant neighborhood with dynamic mixed-use centers. Consider the following criteria:

It accommodates nearly 180 new housing units and 130,000 Square feet commercial services, while its character still remains familiar as pedestrian-oriented, live/work Kitsilano neighborhood; It is a neighborhood better connected to the rest of the city with an improved public realm, open spaces, green streets and a place where historic buildings are well preserved providing a glimpse into the area’s past; It is a neighborhood of safe, built on human scale, everywhere within 5 minutes walking distance and alternative transit modes are provided to connect with the rest of the city; It is a neighborhood of fine grain fabric and vibrant mixed-use core that take advantages of transit; It is a place that all the new development use permeable paving materials and Arbutus corridor gains its second life as a city wide greenway for biking and walking; It is a neighborhood that has achieved a role as an area of important economic activity and a balance in the process of becoming a better place.

1. 3. 3. Project Goals and Objectives

As part of an ongoing effort to envision the future of this 21-Blocks area, the primary goal of doing this Urban Design Framework Project is to realize a dynamic neighborhood mixed core on Arbutus-Broadway, which helps improve overall quality of Livability, Connectivity, Walkability and Affordability of the surrounding area. Several objectives have been established to support the goal of the project:

- Establish an Urban Design Framework as an experiment process that helps define “holes” within the existing city fabric, which could be potential future urban “cores”.
- Develop preliminary design strategies under this framework that facilitate dialogues in the planning and design process.
- Implement this framework and its strategies to envision and guide future development for specific study area in the next 15 years for ensuring that new growth is coordinated in a way that creates a vibrant urban neighborhood and supports the area’s role in the city as a whole.
- Encourage the local community organizations, the public and land owners to participate in a public process devoted to their interests and concerns, and to discuss the issues and opportunities for their future community.
2. CASE STUDIES

Several existing developments, known to be good examples of urban redevelopment using the principles New Urbanism, were chosen for study. From case studies, principles were derived to help develop the project’s Urban Design Framework.

According to Charter of New Urbanism, this project is scaled under “Neighborhood” category. The issues involved in redevelopment of Arbutus-Broadway, according to site characters and project objectives, are Infill and Intensification development, Traditional Neighborhood Design, Urban Retrofitting, and Mixed-Use Development, which determines the selected case studies being positioned on Calgary Garrison Woods Neighborhood Planning, Portland Pearl District Redevelopment, Vancouver Arbutus Neighborhood Design and Capers Block Design.

- **Garrison Woods, Calgary AB** Redevelopment Project is a resounding success that featured by Infill and Intensification in the older neighborhood. The infill and intensification brought about 1600 housing units including the renewed 565 existing military housing and created a vibrant neighborhood on a former low density military residential site.

- **Pearl District, Portland OR** Redevelopment Project has been launched since the 1980’s. The city’s development plan confirmed the value of traditional neighborhood design and historical district in Pearl District Redevelopment Process. The scales of traditional neighborhood are reinforced in response to existing historic fabric, density, building continuity, for attracting more city inhabitants moving back to historical urban centers.

- **Arbutus Neighborhood, Vancouver BC** Urban Retrofitting Project is associated with Renovation and Infill Development through the Industrial Land Rezoning Process. Arbutus Neighborhood Redevelopment focuses on scale breaking down to match surrounding area, historical connection between development and original site. A well designed mixed-use fabric on previously industrial lands is the goal of Urban Retrofitting and Infill Development in Arbutus Neighborhood.

- **Capers Block, Vancouver BC** is considered as a good example of Mixed-Use Development (MUD) on street block and building scale. MUD strategies implemented into Capers Block redevelopment address a wide scope of design perspective, and created Livability, Walkability, Diversity, Accessibility and Connectivity on this single city block.
2.1. Garrison Woods, Calgary AB

<table>
<thead>
<tr>
<th>Project Featured</th>
<th>Land Infill and Intensification Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-development Use</td>
<td>Canadian Forces Base (CFB), with 565 low-density housing units for military personnel residential intensification</td>
</tr>
<tr>
<td>Developer</td>
<td>Canada Lands Company</td>
</tr>
<tr>
<td>Date Completed</td>
<td>2003/04</td>
</tr>
<tr>
<td>Site Area (CFB East)</td>
<td>161 acres (65 ha), plus 15 acres (6 ha) of established uses</td>
</tr>
<tr>
<td>Residential units</td>
<td>1,600 units total—New townhouses; New single-detached houses; New apartment buildings (three and four storey); Refurbished single- and semi-detached former military housing units; New single-family infill among the refurbished units; Apartments above retail outlets; Coach house (mortgage-helper) units above garages on lanes</td>
</tr>
<tr>
<td>Non residential units</td>
<td>Retail space: 6,500 m² (70,000 sq. ft.); 2 private schools: 4,090 m² (44,000 sq. ft.) / 2,790 m² (30,000 sq. ft.); Existing museum and twin hockey arena</td>
</tr>
<tr>
<td>Floor Area</td>
<td>60 m² to 232 m² (650 to 2,500 sq. ft.)</td>
</tr>
<tr>
<td>Gross Residential Density</td>
<td>25 UPH (units per hectare)</td>
</tr>
<tr>
<td>Landscaped Open Space</td>
<td>8% in parks and common open space, plus private landscaped areas</td>
</tr>
<tr>
<td>Maximum Height</td>
<td>Four storey</td>
</tr>
<tr>
<td>Parking</td>
<td>Two-stall garages for all single, semi-detached houses and townhouses; 1.5 spaces underground parking fore each apartment unit; A senior’s project has substantially less.</td>
</tr>
<tr>
<td>Selling prices in 2003 and 2000</td>
<td></td>
</tr>
<tr>
<td>Apartment condos</td>
<td>$120,000–$220,000 $90,000–$190,000;</td>
</tr>
<tr>
<td>Townhouse condos</td>
<td>$325,000–$425,000 $250,000–$325,000;</td>
</tr>
<tr>
<td>New singles</td>
<td>$500,000–$700,000 $330,000–$425,000;</td>
</tr>
<tr>
<td>Refurbished singles</td>
<td>$290,000–$340,000 $195,000–$340,000;</td>
</tr>
<tr>
<td>Refurbished semis</td>
<td>$240,000–$290,000 $150,000–$190,000;</td>
</tr>
<tr>
<td>New infill singles</td>
<td>$350,000–$450,000 $290,000–$350,000</td>
</tr>
</tbody>
</table>

Table 2.1 Garrison Woods Project Data. Source: Canada Mortgage and Housing Corporation webpage

Figure 2.1 Garrison Woods master plan rendering. Source: Canada Mortgage and Housing Corporation webpage
2.1.1. Project Review

When the military moved out of the Canadian Force Base in Calgary in 1998, more than 182 ha (450 acres) of land were left vacant. This huge tract was split into three parcels; CFB EAST was one of them on the east and provided the site of 565 1950s-style housing units for military families at a very low density of 7.5 units per hectare. In 1997, Canada Land Company (CLC) created a socially responsible development without subsidies on this site, which today sets up the marketing example that became known as Garrison Woods (Figure 2.1) today.

The first catalyst movement was for CLC to persuade Canada Safeway to be at the anchor tenant for an existing retail area at the site’s north end. Higher density housing surrounds this anchor and other retail uses and forms the neighborhood core (Figure 2.2). Then the community quickly has developed at wholesale land infill and residential intensification that soon became a mixed-use, vibrant neighborhood (Figure 2.3).

Garrison Woods wasn’t originally meant to be a New Urbanist development, but turned out to be, speaking of the Urban Design process that coordinated by the City of Calgary with CLC to meet the ideology of Calgary municipal development plan on intensification in older neighborhood, as well as heavily involved public input.

The neighborhood of Garrison Woods is characterized by the linked green Open Space system, modified-grid street pattern, alternative circulation system and renewed Urban Fabric, that together ensure intensification without losing
the quality of public realm:

(1) Open Space system includes a central neighborhood park that also serves as neighborhood center (Figure 2.4). Neighborhood streets are scaled down with room left on both sides for creating tree-lined “Green Streets” (Figure 2.5). Trails and Greenways connect small parks together to serve the green structure of Garrison Woods. Customized road standards were to save mature trees on existing site (Figure 2.6).

(2) Modified-grid street pattern responds to the public concern about increased traffic that brought by higher density and support alternative transportation mood, including vehicle and pedestrians (Figure 2.7).

(3) A wide range of housing types is available at Garrison Woods, including the refurbished existing military housing units and new single-detached infill homes.

2.1.2. Lessons Learned

(1) Through development of Garrison Woods, public realm investments had been given high priority in high quality public open space system, which was a catalyst for intensification development to ensure intensification at no cost to environmental quality. On the other hand, intensification brought open lands for the placement of small and large parks, which contribute to the goal of a livable neighborhood.

(2) A higher density with mixed use neighborhood was achieved through intensification, either by renovation of existing military housing units or relocation of existing buildings for higher density and infill developments. CLC required builders to refurbish 400 of the 565 existing military housing units. Through the refurbishment of military housing reasonably priced home ownership was provided for 400 families. CLC also required that some existing buildings be re-used for the two schools. These existing buildings were relocated and rearranged to fit the overall denser site plan of Garrison Woods.
### 2.2. Pearl District, Portland OR

<table>
<thead>
<tr>
<th><strong>Project Featured</strong></th>
<th>Traditional Neighborhood Design (TND)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-development Use</strong></td>
<td>Industrial Land / Historic District</td>
</tr>
<tr>
<td><strong>Developer</strong></td>
<td>~</td>
</tr>
<tr>
<td><strong>Date Completed</strong></td>
<td>In progress (start in 1994)</td>
</tr>
<tr>
<td><strong>Site Area</strong></td>
<td>288 acre</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Residential units</strong></th>
<th><strong>Number</strong> 3,500 units by 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td>Low rise townhouse</td>
</tr>
<tr>
<td></td>
<td>High rise condominiums</td>
</tr>
<tr>
<td></td>
<td>Mixed use building with residential above</td>
</tr>
<tr>
<td></td>
<td>Refurbished warehouse lofts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Non residential units</strong></th>
<th><strong>Number</strong> 850,000 sq ft Retail, 1,425,000 sq ft Office, 1,500,000 sq ft Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td>Retail shops</td>
</tr>
<tr>
<td></td>
<td>Office spaces</td>
</tr>
<tr>
<td></td>
<td>Art studios</td>
</tr>
<tr>
<td></td>
<td>Civic service</td>
</tr>
<tr>
<td></td>
<td>Industrial lands</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Floor Area</strong></th>
<th>~</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gross Residential Density</strong></td>
<td>Over 100 UPA</td>
</tr>
<tr>
<td><strong>Landscaped Open Space</strong></td>
<td>~</td>
</tr>
<tr>
<td><strong>Maximum Height</strong></td>
<td>~</td>
</tr>
<tr>
<td><strong>Parking</strong></td>
<td>Surface parking discouraged</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Selling prices</strong></th>
<th>Median price $330,000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average price $389,471</td>
</tr>
</tbody>
</table>

Table 2.2 Pearl District Project Data. Source: City of Portland webpage

Figure 2.8 Perspective view and 3-D model of Pearl District in Portland. Source: Google Earth
2.2.1. Project Review

The 1988 Central City Plan recognized that the industrial areas north of the downtown area would be logical candidates for transition to residential and commercial uses. This resulted in the eventual establishment of the River District Development Plan in 1994 which laid the groundwork for the specific guidelines that eventually regulated growth in the Pearl District (Figure 2.8). The city employed the following techniques and tools (TND west coast webpage):

(1) Donation of land for streets, parks and open space.
(2) Support for the Portland Streetcar that runs through the district every 13 minutes which is regarded as a major catalyst for the area's commercial and residential growth.
(3) Establishing density requirements that have created the critical mass essential for retail viability.
(4) Using property tax abatements and other incentives to preserve historic buildings; using similar incentives to mandate the construction of affordable housing.

Since 1994 when the first residential unit was erected in the Pearl, more than 3500 lofts, condos and apartments have sprung up in the 85-block area that is bounded by Burnside on the south, I-405 on the west, the former Burlington Northern yards on the north and Park Avenue on the east. This residential growth has been accompanied by the addition of hundreds of offices and retail/service outlets. Most of the construction in the past ten years has emphasized multi-use structures with street-level food, service and retail shops positioned on two or more sides of the new buildings. The result is the evolution of a new neighborhood that is providing more 24 hours a day and 7 days per week vitality than the adjacent downtown. It is being supported not just by the 3500 residents, but also by thousands of workers in local offices and stores, as well as other Portlanders who regard it as one of the liveliest neighborhoods in the city (TND west coast webpage):

(1) Street Patterns in the Pearl District is the Portland’s assets of the friendly 200’ x 200’ blocks network, and the city has required that extensions into vacant land on the north side of the Pearl District utilize the same format. Traffic seems to have spread itself rather evenly throughout the Pearl District’s street fabric.
(2) One of the most valuable assets is the Portland Streetcar which runs through the Pearl every
It has been able to free many residents from dependence on the car for commuting, whether for work or play. Residents live with easy access to buses, a streetcar, light-rail, a train station and an international airport. Most Pearl District residences are only a 15-minute transit from downtown offices and department stores.

(3) The earliest prime movers in the Pearl were the artists and gallery owners who were looking for cheap rents in the late 1970's and the early 1980's. Although the rising rents have forced the displacement of most of the starving artists who helped spur the Pearl's renaissance, it remains a haven for dozens and dozens of upscale antique dealers, artists' galleries, boutiques, and home decorator shops. Residents of the Pearl are now blessed with a wide assortment of restaurants, coffee shops, wine bars, pubs and fast-food options. Many of the restaurants offer sidewalk dining or enclosed courtyards (Figure 2.10).

(4) In recent years, the emphasis has shifted from for-sale lofts, town homes and condominiums to apartments, and a majority of the projects now in the planning and construction stages are for rentals. Moreover, it is important to know that a substantial percentage of the rentals are not designed for at-market tenants. A majority of the new units have been constructed for those with limited incomes. Pearl District is favored by mixed-income as well as mixed-usage.

It may well be that the Pearl District will be the country's best re-creation of Jane Jacobs' idealized central city. With its short blocks, high density, pedestrian friendliness (Figure 2.11), mixed usage, restricted-income rentals, architectural variance, lively street activity, and the older
buildings that survive, it has become a favorite object of study for planners and developers.

2.2.2. Lessons Learned

(1) In the early redevelopment process, public investment was put in significant Public Space, Parks, and Art (Figure 2.12): Opened Classical Chinese Garden, Jamison Square Park, more planned; public totem pole art complemented by private art galleries throughout district;

(2) Emphasizing transportation Choices brought significant change to the Pearl District: Design of integrated transit and pedestrian needs, including the extending the transit mall and building the Portland streetcar;

(3) Higher quality of urban design achieved renewed Urban Fabric: Higher density achieved through increasing standard 3 to 15 units per acre to 100 units per acre average density (Figure 2.13); Housing for people of modest means integrated into a neighborhood that includes middle and upper income citizens; 20% of units designed for low and extremely low income citizens;

(4) Preserved cultural history and character of the area including Chinatown, Old Town's Italianate architecture, and 13th Avenue's industrial brick warehouses (Figure 2.14).

(5) However, Pearl District rapidly become an exclusive enclave that is beyond the reach of average Portland residents and independent retailers which brought out concerns that the gentrification of the Pearl will result in clearing out the diversity that the area attractive. Continuing the 20% non-market housing units within development, the other methods of ensuring the availability of affordable housing units include creating smaller units that fifteen per cent of the rental units and ten per cent of the owned units must have a total area less than 700 square feet and density with mixed-housing types.
### 2.3. Arbutus Neighborhood, Vancouver BC

<table>
<thead>
<tr>
<th>Project Featured</th>
<th>Urban Retrofitting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-development Use</td>
<td>Industrial Land (former brewery and factories)</td>
</tr>
<tr>
<td>Developer</td>
<td>The Molson Companies, Concert Properties</td>
</tr>
<tr>
<td>Date Completed *</td>
<td>1997</td>
</tr>
<tr>
<td>Site Area</td>
<td>25 ac (10.1 ha) with new population of 2,100</td>
</tr>
<tr>
<td>Residential units</td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>1,450</td>
</tr>
<tr>
<td>Type</td>
<td>New townhouses; New apartments; New mixed Use Commercial and Live/Work Developments; Mixed-use developments on refurbished brewery site</td>
</tr>
<tr>
<td>Non residential units</td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>145 (10% on former brewery site)</td>
</tr>
<tr>
<td>Type</td>
<td>Retail Space; Small Business offices;</td>
</tr>
<tr>
<td>Floor Area *</td>
<td>54 m²-116m² (584 -1,248 sq ft.)</td>
</tr>
<tr>
<td>Gross Residential Density</td>
<td>143 UPH (58 UPA)</td>
</tr>
<tr>
<td>Landscaped Open Space</td>
<td>0.9 ha (2.2 ac)</td>
</tr>
<tr>
<td>Maximum Height</td>
<td>four to eight storey</td>
</tr>
<tr>
<td>Parking</td>
<td>Underground parking</td>
</tr>
<tr>
<td>Selling prices *</td>
<td></td>
</tr>
<tr>
<td>One bedroom</td>
<td>$158,000 to $199,000</td>
</tr>
<tr>
<td>One bedroom and den</td>
<td>$186,000 to $228,00</td>
</tr>
<tr>
<td>Two bedroom</td>
<td>$209,000 to $299,000</td>
</tr>
<tr>
<td>Three bedroom</td>
<td>$330,000 to $346,000</td>
</tr>
</tbody>
</table>

Table 2.3 Arbutus Neighborhood Project Data. Source: City of Vancouver webpage

* Data only applies to Carlings Project. Source: Canada Mortgage and Housing Corporation webpage

**Figure 2.15** Perspective view of Arbutus Neighborhood in Vancouver. Source: City of Vancouver webpage
2.3.1. Project Review

The Arbutus Neighborhood in Kitsilano is cited as a pivotal example of Urban Infill development through residential intensification and redevelopment of former industrial land (Figure 2.15) (a former brewery and factories). The comprehensive redevelopment has created a vibrant residential neighborhood with medium-density that blends compatibly with a well-established single and two-family dwelling neighborhood.

A diverse set of stakeholders with very different goals was involved in planning the Arbutus Neighborhood. The development admirably responded the concerns of surrounding residents about increased traffic, the land owner’s purpose for maximum return on their investment and the city’s goal for higher density and contextual fit, as well as new street design standards and public open space network. As a result of coordination between the three parties, the design scheme that was tabled that include:

(1) A linear open space system using the street closure of 11th Ave and Yew Street to allow connection between Lord Tennyson School to Connaught Park and Kitsilano Community Center; this has the potential to be linked to the city-wide greenway/bikeway system (Arbutus Corridor).

(2) The use of the former City Works Yard on 10th Ave as a small neighborhood park (Figure 2.16);

(3) Pedestrian-oriented street based on existing grid street network (Figure 2.17); new internal streets are designed to much tighter urban standards (9m width including sidewalks vs. 20m for “standard” streets), reducing their
width providing an enhanced pedestrian environment;
(4) Arbutus St. is addressed as local commercial St., and encourage pedestrian shopping activities as it is located within 5 minutes walking distance to anywhere of the Arbutus Neighborhood (Figure 2.18). The building façade is finely designed to blend into the existing neighborhood (Figure 2.19).

The Arbutus Neighborhood admirably demonstrates many urban design strategies for successfully retrofitting a residential neighborhood without detracting from its pre-existing character and qualities. However, the development ignored the existence of Arbutus Corridor, which caused the visible disconnection (Figure 2.20).

2.3.2. Lessons Learned

(1) Arbutus St is honored as local “Main Street” by the Mixed-Use higher-density developments on both sides. Vertically, it locates the retail shops on the ground floor, the residential units from second floor, and the parking space underground. Off street parking and street trees offer buffer zone to vehicle and pedestrian. However, due to the lack of outdoor sitting facilities, the sidewalk is not fully used.

(2) Building densities were kept similar on all sites to ensure equity. On west of Arbutus Street, higher building forms were kept to internal sites next to the central dedicated open space, to meet the community’s objective for a compatible “fit” on the site’s westerly edge adjacent to Connaught Park.

(3) The retention of specific historic aspects including the railway spurs and archways; building forms referenced the historical larger brewery floor plates (Figure 2.21);

(4) About 145 non-market housing units (10% of the total units on the ex-brewery site) are integrated into what is otherwise primarily market housing. A seniors’ housing project (the “O’Keefe”), and the retention of a learning institution (The Fraser Academy) contributes to the creation of a “balanced community. Approximately 25% of the housing units are suitable for families.
2.4. Capers Block, Vancouver BC

<table>
<thead>
<tr>
<th>Project Featured</th>
<th>Mixed-Use Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-development Use</td>
<td>Auto dealership store</td>
</tr>
<tr>
<td>Developer</td>
<td>The Salt Lick Projects Ltd.</td>
</tr>
<tr>
<td>Date Completed</td>
<td>1995</td>
</tr>
<tr>
<td>Site Area</td>
<td>55,500sq ft</td>
</tr>
<tr>
<td>FSR</td>
<td>2.5</td>
</tr>
<tr>
<td>Floor Area</td>
<td>138,800 sq ft</td>
</tr>
<tr>
<td>Parking</td>
<td>Underground parking</td>
</tr>
<tr>
<td>Zoning</td>
<td>C-2B</td>
</tr>
</tbody>
</table>

Table 2.4 Capers Block Project Data. Source: City of Vancouver webpage

Figure 2.22 Floor plan of Capers Block in Vancouver. Source: City of Vancouver webpage

2.4.1. Project Review

The Capers Block covers the entire north block of West 4th Ave between Vine and Yew Streets in Vancouver’s Kitsilano neighborhood, at the center of vibrant neighborhood commercial “Main Street” (Figure 2.22). The project called for retail establishments on the ground level, along West 4th Ave, with office space on the second floor and two to three floors of residential housing above that. The Capers Block is one of Vancouver’s most successful mixed use projects, which applies infill densification on a neighborhood retail street.
(1) The high quality and proper scale of the project is evident from its carefully designed public and semi-private spaces at mid-block courtyards (Figure 2.23).

(2) The second floor of office and third floor of residential are built up to property line, while the above terrace back from the street, creating decks and reducing bulk of building. The retail space is constructed right to the property line along this street edge thus reinforcing the streetscape and sidewalk continuity (Figure 2.24).

(3) The project responds to environmental objectives not only by being dense, fine-grained and of mixed use, but also by using a renewable, passive energy source (ground-source heat pump system) for heating and cooling the complex.

2.4.2. Lessons Learned

(1) Within single Mixed-Use Development that normally associated with overwhelming scale, the residential lobby entrances are located on the two side streets to break the building into three sections by small courtyards.

(2) Capers Block addressed mixed ways in dealing with the rear service lane, that to make lane as a positive public edge through landscaping, and carefully screened loading bays. The mid-block courtyard provides connection between front and back, and a pedestrian network within a very limited area in Capers Block.

(3) These courtyards not only provide pedestrian amenities to the street, but also reduce the apparent bulk and length of the building, thus integrating into the existing character of West 4th Ave.

(4) The combination of housing over retail shops and offices adds to the vitality and diversity of the street and reinforces this area as a neighborhood centre (Figure 2.25).
3. CONTEXT ANALYSIS AND POLICY REVIEW

The Canadian cities shared the general post-war North American urbanism process. The City of Vancouver also experienced serious debate on downtown freeway proposals and large scale commercial developments in the 1950's. Vast infrastructure investment and business commercial redevelopment as well as urban renewal plans were launched in the same years. But this modernism movement was much slower to start than its contemporary cities in the neighbor country US, since The City of Vancouver and its neighborhoods are much younger, racial segregation wasn't that big an issue, and cultural diversity was much more eulogized. By the 1960's, the early phase of Gentrification came on the stage of Urbanism. Young professionals and artists soon filled up the service-led jobs in Downtown and edge of Downtown. Then the process of Urbanism wasn't staying at modernist development that long. It jumped to the 1970's resistance to Urban Renewal demolition development. Although, still some of the area were cleaned out homes for business buildings and mass developments, by the end of the 1960's the ideology of preservation and neighborhood planning, of the livable city and a socially mixed, compact, and diverse central area, had become a major plank of urban reform (Punter, 2003, p. xxxiii). By 1972, The City of Vancouver initiated neighborhood improvement and rehabilitation programs (Punter, 2003, p xxxiii), which confirmed re-appreciation of traditional neighborhood and historical buildings. Public participation had been a necessary part in planning process that led to demands for heritage programs, carefully tailored zoning designations, design guidelines, neighborhood improvement programs, new parks, greening initiatives and traffic calming (Punter, 2003, p xxiv).

However, by the 1980's Gentrification had put the neighborhood livability and affordability in question and city had struggle with finding areas where major residential intensification could take place. By the 1990's, redevelopment for higher density residential housing and rentals units had launched on the rezoned rail, port and industrial lands, which continues till today. Together with pursuit of affordable housing, the citywide planning efforts that launched in 2000's focus on heavy public investment in new parks, waterfronts, cycling and walking paths, freeways, and public art. That was matched by the private investment in commercial retail, small business, and consumer-led activities to create a more vibrant and more public urban environment (Punter, 2003, p xxv). The City of Vancouver urban design process is included under scope of New Urbanism.
3.1. Historical Process

Physically Kitsilano Community starts at Burrard St. and 1st Ave, reaches the boundary at Alma St and 16th Ave. Kitsilano is rich in its history as one of the earliest residence in The City of Vancouver and still retains its popularity. Kits is well known by its purely preserved landscape and the neighborhood’s input to keep Kitsilano growing while it retained its valuable character as livable place. 4th Ave to Alma streetcar line once played a role in opening up Kitsilano (Kitsilano Community webpage, City of Vancouver) (Figure 3.1).

After World War II in the 1960’s, Kitsilano had become popular with university students and young professionals from throughout North America. Kitsilano experienced the first Gentrification and 4th Ave was revitalized. 4th Ave still remains a typical commercial Main Street (Figure 3.2), and cultural plurality that succeeded from the past Kitsilano: outdoor cafés, art salons, high quality design of building façades and multicultural businesses, etc.

In 1996, the City Council issued an amended guideline for Zones C-2B, C-2C and C-2C1. W 4th Ave to Balsam St. zoned C-2B under this guideline, was put on future development list focusing on:
(1) Physical changes improving streetscape as a shopping area by adding features of storefront awnings, canopies, display windows, fascia-type signage and fine-grain architectural design of individual shop frontages.
(2) Pedestrian-generated retail shops, restaurants and service-oriented uses, and mixed-use commercial buildings with residential units above.
(4) Off-street parking associated with and carefully designed to accommodate the project.

The history of Kitsilano East is spoken by heritage buildings. These landmarks are the symbology of the area’s history and culture and the language of city’s pain and joy. Here, heritage buildings are found from Victorian homes, aged public buildings as schools, churches, armory (Figure 3.3), previous industrial buildings, etc.

The City Council put forth specific policies in each zoning guideline development bylaws to assist the retention of heritage buildings. For example, the site of Jones Tent and Awning Building and the site of Bessborough Armories were the subject of policy clarifications in the 1998 Arbutus Neighborhood C7 and C8 guidelines:
(1) To encourage all options for retention of heritage buildings,
(2) To ensure that developments adjacent to heritage buildings would not detract from their significance and character,
(3) To consider retention of buildings with heritage characters and to integrate them into the new developments (Figure 3.4).
3.2. Planning Process

Kitsilano East has always been in an active stage of development and growth (Figure 3.5).

In 1996, the City amended 1993 policy plan on Burrard Slope;

In 1998, the City amended 1993 Burrard Slopes C-3A Guidelines;

In 1998, the City amended 1993 policy Plan on Arbutus Neighborhood;

In 2000, the City adopted Official Development Plan on Arbutus Corridor;

In 2004, the City adopted policy plan on Arbutus-Broadway.

The Burrard Slope is described of the area south of the Granville Bridge, predominantly zoned as Light Industrial District (IC) (Figure 3.6). Since the 1980's, the industrial land rezoning process in this area started to meet the demand for new housing units and Burrard Slope, considered one of the development hotspots was aimed to be a mixed-used industrial area with commercial and residential areas. The City conducted guideline on Burrard Slope infill development was to:

(1) Allow some residential units to be introduced to this area, without compromising its current downtown “support service” role;

(2) Ensure that the services, including light industrial uses, are not forced out of the area by residential, office and retail use;

(3) Encourage high advanced technology industries and significant research-based industries compatible with adjoining commercial uses.

Another major urban design study in this area was of Arbutus Industrial land redevelopment in

Figure 3.5 The Planning Process in Kitsilano East. Grey line represents Arbutus Corridor.

Figure 3.6 W 3rd Ave at Burrard St looking towards east.
the 1990's. The area which used to be brewery and manufactory site was redeveloped as a new residential neighborhood for about 2,250 people (Figure 3.7). The 1993 Arbutus Neighborhood Plan and the subsequent CD-1 and in 1998 C-7/8 zonings guidelines built up urban design principles for this area to reinforce:

1. Publicly accessible open space system for use by the broader community;
2. Pedestrian and vehicular pattern in favor of grid street system; attractive local shipping district on Arbutus Street;
3. Arbutus Neighborhood as an attractive vibrant mixed use/residential area that blends the working heritage of the site with the surrounding residential areas.

Arbutus rail line starts from Vanier Park, parallel with W. 4th Ave and Arbutus Street, and reaches the end at Fraser River. This 11 kilometers corridor’s future remained uncertain once it stopped service in 2001. CPR as ownership holder concentrates on profits from the high end housing development; the public wants it to be an open space and city greenway, while the city put the corridor’s future in line for a possible public transit line. However, this concept dubbed “The Plan” didn’t move any further than designating all of the land in the Arbutus Corridor for use only as a public thoroughfare for purpose of (1) transportation including rail, transit, cyclist path; (2) greenways including pedestrian ways and cyclist paths in the Arbutus Corridor Official Plan in 2000. Currently, this abandoned corridor is occasionally used as bikeway and pedestrian short cut by the public (Figure 3.8). Therefore, this valuable corridor remains vastly underused. This project takes the side of the public and proposes a linear open space on the Arbutus Corridor, while supporting its future retention as a possible transit line (See 6.2. Remaining Issues).
3.3. Urban Process

Central Broadway area is jointed with Kitsilano East at Burrard St. and is a place with changing characters along its length (Figure 3.9).

In 2004, the City amended Central Broadway C-3A Urban Design Guidelines, which was adopted in 1976, and amended in 1977 and 1993;

In 2004, the City adopted policy plan on Arbutus-Broadway;

In 2004, the City adopted Broadway-Arbutus C-3A and 2000 Block West 10th Ave (North Side) Guidelines.

Broadway is a city wide main street and commercial corridor that its commercial services support area of 5th Ave to 16th Ave. The existing identity of this area is that of a major sub-centre of Vancouver and the economic alternative to downtown. East-west Broadway and north-south Granville St. are predominant arterials that both divide and bring together residential communities adjacent to the commercial zone. As one of the major sub-areas, Granville-Broadway is an identified node of activity (Figure 3.10), where people come to from many parts of the city, and also from where people go to the rest of the city. It is considered a

Figure 3.9 The Urban Process in Kitsilano East.

Figure 3.10 Nodes and potential nodes along Broadway St.
Source: City of Vancouver, Central Broadway C-3A Urban Design Guideline.
predominantly pedestrian-oriented commercial retail area mixed with office and residential uses, where the retail facilities fulfill local and regional needs.

The City’s Guidelines provide Granville-Broadway a development vision of:
A strengthened mixed use commercial center
(2) New developments local in character and scale and infill respect existing fabric especially those with historical details
(3) Improved on-street open spaces and street trees
(4) Safer streets crossing and better pedestrian linkage around
(5) Continuous building frontage and coordinating building heights.

Burrard-Broadway, located between IC industrial, RM residential zones on the north and RM, RT residential zones on the south, is another important sub-area featured by a mixture of land-uses including office, retail housing and auto-oriented activity. The south side of Broadway St. is built continuously at two stories high, whereas the north side has heights ranging from two to seven stories (Figure 3.11).

According to the City Guidelines, future developments around Burrard-Broadway will concentrate on:
(1) Introducing more housing to reinforce the existing residential pattern;
(2) Locating new office development and higher density buildings east side of Burrard St. for better association with commercial character of central Broadway area.
(3) Small scale infill or site redevelopments on west side of Burrard St. for a better connection within existing neighborhoods
(4) Improved on-street open spaces and street trees;
(5) Improved off-street parking of west side of Burrard for a vital buffer, safer shopping and a more human scale;

Except for being an emerging neighborhood center, Arbutus-Broadway plays another role of the west-bound terminus of Central Broadway C-3A District (Figure 3.12), and east-bound gateway of Kitsilano Community.

To respond to this context, the goals of the Arbutus-Broadway Guidelines are to:
(1) Ensure for stepping down building massing to neighborhood scale to respect adjacent residential uses;
(2) Create strong residential component above Arbutus-Broadway and provide high quality of residential livability;
(3) Improve public realm through high quality planning and design of urban open spaces system; and
(4) Enhance pedestrian-friendly streetscape for safer and more convenient walking, biking and transit activities.
4. URBAN DESIGN FRAMEWORK STRATEGIES

Within this project, the Urban Design “Framework” is structured under spatial typologies of *Open Space*, *Circulation*, and *Urban Fabric*. Their relationships to the city are described as *Open Space* being the basic environmental structure of the city and *Urban Fabric*, which is the social structure of the city where both are integrated together by a *Circulation* system. The order of these three categories on Framework’s typological list reflect a relative priority to *Open Space*. However, in the real urban design process, especially on projects within built environments, design of Open Space, Circulation and Urban Fabric are synchronously operated.

4.1. Open Space

The term Open Space in this project is understood as “Green Open Space”. For all land left open and prone to be undeveloped or abandoned, the term “Vacant Space” is utilized in this particular project. Here, the concept of Open Space within urban territories is divided into two categories that include *Urban Green Spaces* with environmental functions and *Public Open Spaces* with social functions.

The reason for *Open Space* being top element of Framework’s typological list can be found in Cynthia Girling’s discussion on the environmental role and ecological value of urban open spaces to the city, as well as Mark Francis’ focus on social functions of public open spaces. *...Urban green spaces currently serve many important ecological roles, ... They can cleanse and return water to the ground, where natural rainfall should go...As a term, “Urban Green Space” is roughly analogous to the more commonly used term “open space”...*Viewed positively, the terms refer to yards, parks, greenways and natural areas (Girling, p57)... *Providing for human use and enjoyment is a basic requirement in creating and maintaining successful open spaces. Past studies of parks, plazas and neighborhood open spaces definitively have shown that providing human needs is a prerequisite for successful public spaces...* (Francis, p13)

The Urban Design Strategies are built under category of *Open Space* (Figure 4.1):

(1) A linked system of new and improved urban open spaces should be established and easy to
get access to within the neighborhood.

(2) This open space system is well integrated into city fabric by connecting to transit stops and other important public destinations, through a pedestrian network of sidewalk, pathways and green streets.

(3) Arbutus corridor is revitalized as multi-purpose city greenway, for better connection to open space system, and for free flow of water, wildlife and pedestrians.

4.2. Circulation

The networks of streets, sidewalks, transit ways, bikeways and pedestrian ways form the basic structure of urban circulation system, which builds up connections between Open Space system and Urban Fabric, and keeps both in a balance. In this project, Circulation system is described as an interrelated network of Traffic Ways of private transportation mode, Transit Ways of public transportation mode, and Walk and Bike Ways of pedestrian transportation mode.

Both the Post-modernist and New Urbanist urban design theorists found themselves in critiques of the early 1950’s urban sprawl in downtown redevelopments and suburbanization for overwhelming traffic. Postmodernist pioneers, including Kevin Lynch and Jane Jacobs, advocate that our cities should learn from traditional urbanism that starts from livable street system associated with mixed-use neighborhoods and higher density settlements. Kevin Lynch talks in his book *Good City Form* (1984) that *...The private car makes our cities less habitable... It consumes petroleum and is expensive to run* (p.273)...*Equity suggests that we need two converging technical innovations: a public vehicle whose routes can be more finely and widely dispersed, and which can be more responsive to scattered individual destinations; and private vehicles which are less polluting, less dangerous and costly, and more easily used by those now unable to drive* (p.273)...

Jane Jacobs talks in her book *Death and Life of Great American Cities* (1961) that *...Traffic arteries, along with parking lots, gas stations and drive-ins, are powerful and insistent instruments of city destruction. To accommodate them, city streets are broken into loose sprays, incoherent and vacuous for anyone afoot* (p.440)... *The point of cities is multiplicity*
of choice. It is impossible to take advantage of multiplicity of choice without being able to get around easily. Nor will multiplicity of choice even exist if it cannot be stimulated by cross-use (p.442)...

The New Urbanism advocates believe in sustainable city form starts with ideal of smart transportation and transit oriented development. Girling, Cynthia and Ron Kellett talk in their book Skinny Streets and Green Neighborhood (2005) that ...These traffic-oriented street designs have severely reduced people’s opportunities to use nonpolluting modes of transportation, such as bicycling and walking (p.74)…Contemporary principles of street network design, such as those espoused by the new urbanism and smart growth movements, recommended diverse choices and comfortable, well-connected, safe environments for all modes of travel. Integrated networks that accommodate buses, cars, bicycles, and pedestrians in attractive street environments are believed to encourage more pedestrian travel (p.77)...

The Urban Design Strategies are built under category of Circulation (Figure 4.2):

(1) The roles of Broadway St and Arbutus St. as important civic spaces are reinforced through bringing street trees, landscaping, public outdoor spaces, and street amenities to sidewalks for pleasant pedestrian experiences, especially at the north side of Broadway St.

(2) Arbutus-Broadway has stronger identity of being local transit center through to knit transit access to open space system into the fabric of the neighborhood.

(3) Newly increased parking spaces are mainly located underground as result of intensification of Arbutus-Broadway, and managed off-street parking for a safer above ground walking environment. Shared parking is encouraged within mixed retail and office area, with minimum interference with nearby residential parking space.

(4) Alleys are designed as living spaces because they are very important to large masses of residential buildings bordering it. As residential density increases, alleys create meaningful outdoor spaces for families.

Figure 4.2 Pedestrian oriented Street design (Jacobs, 1993, p57).
4.3. Urban Fabric

The Urban Fabric, connected with Open Spaces by the Circulation system, is referred to the city blocks where people live and work everyday. The Urban Fabric is composed of residential land use (Single-Family houses, Townhouses, Apartment buildings...), commercial land use (Retails, Restaurants, Art Gallery, Theatres...), civic service (Schools, Post offices, Fire Hall, Government Offices...), and job sites (Office buildings, Industrial land...). What affect the quality of Urban Fabric are *Land Use, Density*, and *Built Environment*, which is also the focus of this project. Besides, the project defines where and how these actions will occur to ensure that any change to the neighborhood or city experiences in the future contributes positively to the city as well as the area’s vitality, which fosters the neighborhood as a pleasant place to live and work. The goal of *New Urbanism* is to build an auto-free entire region. To support this goal, the *New Urbanism* claims, according to its urban design strategies, that the better way, also an economic and environmentally friendly way, is to build compact, mixed land-use neighborhoods that characterized by higher density especially at the mixed neighborhood cores. These urban neighborhoods, referred to as “*Urban Villages*”, are built on human scale and are self-sustainable that people can live, work, shop and entertain in this single urban area.

The Urban Design Strategies are built under category of *Urban Fabric* (Figure 4.3):

1. A compact mixed-use neighborhood center is reinforced at Arbutus-Broadway area. This center is where Open Spaces, transit stops, commercial activities and jobs are integrated together and supported by higher density.
2. The livability is reinforced within neighborhood by increased housing units, job opportunities and improved public realm. Variety in housing units facilitate maximum affordability within the neighborhood.
3. Building masses within new developments fit the scale of neighborhood by taking advantage of small outdoor spaces and pedestrian oriented building frontage.

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*Figure 4.3 Mixed-use compact neighborhoods. Source: Congress for New Urbanism webpage.*
Two phases are included in the Urban Design Framework Implementation: Design each of three categories which are operated at the same time, and Integration of the three categories for producing master plans.

For each category, the implementation of the Urban Design Framework comes in 5 steps, namely, **Context analysis**, **Site analysis** for existing conditions and for proposed strategies, **Site planning** of 21-Blocks to **Site Design** of Arbutus-Broadway area. The left image shows an example of Urban Design Framework Implementation on Open Space category (Figure 5.1).

- **Context Analysis** concentrates on general characters of each category and important destinations within Kitsilano East area. It helps understand the existing urban spatial qualities and maintain the future planning and design fit into the existing context.

- **Site Analysis** for existing conditions concentrates on Pros and Cons within 21-Blocks and locates the critical area for future development.

- **Site Analysis** for proposed strategies
builds general guidelines for planning of each category within the 21-Blocks area.

- **Site Planning** is the product of above steps in a format of a master plan of each category within 21-Blocks area.

- **Site design** is an extension of Site plan into block scale. Site design materializes in ideas generated from site planning and justifies the applicability of Urban Design Framework on a specific site.

By then, the first phase of Urban Design Framework Implementation is finalized, resulting in three master plans of 21-Blocks and three master plans of Arbutus-Broadway area generated (Figure 5.2).

If the three master plans of **Open Space, Circulation, and Urban Fabric**, are overlaid, the resulting product would be the Master Plan the 21-Blocks area. This would also apply to the Master Plan of Arbutus-Broadway area. The image on the left shows the conceptual overlay process. These two master plans represent the final destination of Urban Design Framework Implementation process.
5.1. Design the Neighborhood as a Whole

5.1.1 Existing Urban Fabric in Kitsilano East

Kitsilano East is featured as a predominately residential land-use that surrounds dense commercial centers (Figure 5.3). Mixed commercial land uses are basically located along Broadway St and 4th Ave at Burrard St, Arbutus St, and McDonald St. Burrard Slope is zoned mixed industrial and commercial land that is undergoing rezoning for more housing units. Kitsilano East has a wide range of housing and commercial types, which feature a high degree of livability in this area.

Density is always associated with pattern of urban land uses (Figure 5.4). In Kitsilano East area, higher density is within dominantly commercial areas and mixed-use developments, including Burrard Slope district, Burrard-Broadway area, 4th Ave commercial corridor, Arbutus neighborhood, etc. Medium density is found in RM (multi family) zones that surround commercial centers. RM zones are surrounded by RT, RS (Double family and single family) zones.
Characters of existing Urban Fabric in Kitsilano East:

(1) Main streets are where mixed-use developments take advantage of public transit.
(2) An intersection of two main streets forms a local commercial center. For example: Granville-Broadway sub-center, Arbutus-Broadway and 4th-Vine St local commercial core.
(3) Higher density is associated with mixed-use development around commercial centers.
(4) Social services and commercial services are within walking distance of nearby neighborhoods and within transit stops, and are associated with open spaces system; for example, school yards are part of the neighborhood open spaces, and commercial frontage and outdoor sitting stalks take advantage of street plazas (Figure 5.5).
(5) Arbutus-Broadway area is an emerging commercial center within Kitsilano East area, especially after Arbutus Neighborhood development was implemented, housing and commercial development are in high demand.

<table>
<thead>
<tr>
<th>Zoning District</th>
<th>Zoning</th>
<th>Intent</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-Family Dwelling</td>
<td>RS-7</td>
<td>Maintain the single-family residential character and, on larger lots to conditionally permit multiple-family dwellings and infill. Neighborhood amenity is enhanced through external design.</td>
</tr>
<tr>
<td>Two-Family Dwelling</td>
<td>RT-7, RT-8</td>
<td>Encourage the retention and renovation of existing buildings. Neighborly building scale and placement is emphasized.</td>
</tr>
<tr>
<td>Multiple Dwelling</td>
<td>RM3, RM4</td>
<td>Permit medium density residential development, and to secure a higher quality of parking, open space and daylight access through floor area bonus incentives.</td>
</tr>
<tr>
<td>Commercial</td>
<td>C2B</td>
<td>Provide for a wide range of goods and services, maintain commercial activities and personal services that require central locations to serve large neighborhoods, encourage good design and proper land use.</td>
</tr>
<tr>
<td>Commercial</td>
<td>C7 C8</td>
<td>Encourage the transition of a predominantly industrial and commercial area into a mixed-use community with a strong residential component, while respecting the needs of existing development.</td>
</tr>
<tr>
<td>Commercial</td>
<td>C3A</td>
<td>Provide for a wide range of goods and services, maintain commercial activities, and some light manufacturing enterprises while preserving the character and amenity of the area, and provide for dwelling uses</td>
</tr>
<tr>
<td>Light Industrial</td>
<td>IC1</td>
<td>Permit light industrial uses that are generally compatible with one another and with adjoining residential or commercial districts.</td>
</tr>
<tr>
<td>Comprehensive Development</td>
<td>CD1</td>
<td>A separate CD-1 bylaw exists for each area or site zoned CD-1, tailor-made to the intended form of development.</td>
</tr>
</tbody>
</table>

Table 5.1 Zoning Districts and development intents in Kitsilano East area. Source: City of Vancouver webpage
5.1.2 Existing Urban Fabric in 21-Blocks

Generally speaking, the 21-Blocks area is built on a traditional neighborhood pattern of the 320'x640' grid street network. Schools associated with the neighborhood parks play important roles in neighborhood recreation centers for nearby residents within walking distance.

Characters of Existing Urban Fabric in 21-Blocks area:
(1) This 21-Blocks area, dominated by residential land uses (Figure 5.6), has a mixed density and residential types, including low rise, multi-family housing and rental apartment buildings,
medium rise condominium housing units, mixed-use commercial and residential units, single and double family housing (Figure 5.7).

(2) The commercial developments along W. Broadway St. are characterized by less pedestrian-friendly office buildings with commercial use at grade. Newer developments along Arbutus St. are more pedestrian-oriented, mixed-use commercial and residential buildings with retail shops on the ground floor. Several light industrial and commercial stores still can be seen along Arbutus St, including body shop, auto repairs, paint stores, etc. As demand for residential use increase, these single-floor and low-use buildings will be gradually excluded from this area.

(3) The Arbutus-Broadway area is a mixed-bag of one to eight story buildings of various ages: major office buildings are located predominantly at the north side of W. Broadway St. (Figure 5.8); single floor IGA Market store with surface parking spaces in front is located at the south side of W. Broadway St. (Figure 5.9); the rest of the area is occupied by a two story paint store, a single floor plant market, a drive-through laundry business (Figure 5.10). Because of varying site sizes, uses and forms of developments, the area lacks a consistent architectural character (City of Vancouver).

(4) There are several vacant lots around Arbutus-Broadway area that represent the low-use of existing land (Figure 5.11). The vacant land at east side of Maple St. at W. Broadway St. calls for new developments, but currently, it is place where an increasing number of the homeless visits. Another underutilized land is at Arbutus Corridor due to its uncertain future.
5.1.3 Proposed Urban Fabric in 21-Blocks

When Urban Fabric is well integrated with the Circulation and Open Space systems, the new mass developments take advantage of pedestrian-oriented streetscape, and are supported by alternative movement modes including walking, biking and public transit. This integration between the Urban Fabric and Circulation, and Open Space system also ensures that the new developments fit into the existing fabric of adjacent neighborhoods, while enhancing both the public and private realms within the neighborhood.
Planning Strategies of Urban Fabric in 21-Blocks area:

(1) The mass intensification and mixed-use developments (Figure 5.12) add higher density of commercial and residential units (Figure 5.13) onto the existing low density areas to support the overall vision of an identifiable local core around Arbutus-Broadway area.

(2) The new mixed-use developments are built up to street edge with a strong commercial presence (Figure 5.14) and small scale commercial frontage on ground level facing the sidewalk (Figure 5.15). Individual store front designs feature fine grain, high quality shop frontage detailing with extensive clear glass storefront windows and customized store signage. Together with pedestrian-oriented street amenities such as commercial ad flyers attached to lighting posts, it enhances pedestrian shopping interests.

(3) Residential developments are wide in range and types (Figure 5.16): mixed-use residential units above commercial level, 4-story low rise residential buildings around mixed-use developments both on the north and south sides of W. Broadway St, and a proposed 3-storey multi-family housing along Arbutus Corridor that support the nearby existing school, day care, and Kits early childhood education center.

(4) Based on lessons learned from the former development cases, recommended 20% affordable small units of housing are blended into the residential development, 15% housing units support family with children, and another recommended 15% for rental units.

(5) All developments are associated with managed off-street parking (Figure 5.17) at the front and underground parking at the back, and the parking entrance is carefully designed to fit into the livable neighborhood.
Figure 5.18 Master Plan of 21-Blocks.
5.1.4. Proposed Urban Fabric in Arbutus-Broadway

Figure 5.19 Master Plan of Arbutus-Broadway area.
Table 5.2 Arbutus-Broadway Project data. SU: Shared Parking O: Off street Parking

*Arbutus-Broadway Residential Density 30UPA: Residential Units (180 new units and estimated 40 existing units) within Site area (7.5 acre)

Designed new buildings within Arbutus-Broadway area include:

- 3 Mixed-Use retail and residential buildings on the south side of W. Broadway St;
- 1 Mixed-Use office and residential building on the north side of W. Broadway St;
- 2 Mixed-Use commercial retail and office buildings on the south side of W. Broadway St;
- 1 commercial building of focal point restaurant on the north side of W. Broadway St;
- 3 multi-family residential buildings on both sides of W. Broadway St.

Generally speaking, the Arbutus-Broadway is featured as residential scales and small business on the north side of W. Broadway St. to respond to the traditional character of existing Kitsilano neighborhood. On the south side of W. Broadway St, mass commercial and mixed-use commercial and residential developments build a strong connection with the emerging Arbutus St. local shopping corridor. Together, they reinforce the role of Arbutus-Broadway area as a local neighborhood, mixed-use core within the city built environment.
Design Strategies

- **Access:** New developments provide access to pedestrians at building front from street sidewalk; to vehicles, merchandise loading and social services at back from alleys. On south side of W. Broadway, underground parking space is shared between nearby businesses to minimize problems associated with parking shortage.

- **Safety Use:** New developments are pedestrian-oriented and associated with public transit, address convenient and safe walking and shopping experience.

- **Amenities:** New developments take advantage of street amenities including landscaping, lighting, outdoor sitting and dining stalks, creating a shared social space between street sidewalks and retail front.

- **Storm water flow:** New building designs with green roof technologies, heavy landscaping in private gardens that are capable of absorbing storm water before it reaches the ground and directing the extra flow into “Green Street” network.

- **Visual effect:** New building masses are erected up to street right-of-way to maintain a visual continuity at front. Mid-block courtyards, together with architectural detailed designs, are used to break the building bulk into a pedestrian-friendly scale. Architectural designs with setbacks, vegetated balconies, building materials and styles offer a visual variety and continuity in vertical dimension.

**Figure 5.21** “Vertical” uses in Arbutus-Broadway area.
5.2. Circulation

5.2.1. Existing Circulation system in Kitsilano East

Movement convenience is not only within this area, but also between Kitsilano East and the rest of the city (Figure 5.22). From Arbutus-Broadway, it takes:
- 20 minutes by foot to Kitsilano Park,
- 15 minutes by foot to Granville-Broadway shopping;
- 30 minutes by foot to Granville Island;
- 30 minutes by bike to Downtown;
- 20 minutes by bus to UBC,
- 10 minutes by bus to Alma shopping;
- 10 minutes by bus to 41st shopping;
- 30 minutes by bus to Sky train;

Figure 5.22: The Existing Circulation proximity in Kitsilano East.

Characters of existing Circulation in Kitsilano East:

1. Transit ways are integrated into street grid network that transit lines run on main streets, and are set within 5 minutes walking distance from each other as well as from public realms, such as schools, open spaces and daily services.

2. Off-street parking is widely used throughout neighborhood. Underground parking is commonly associated with mixed-use developments.

3. Buildings are built up to street R-O-W line with consistent frontage to feature main streets "pedestrian friendly". The neighborhood streets feature narrow, "Green Streets" (Figure 5.23).

4. Alleys are set at rear, usually for loading and unloading goods, garbage collections, entrance to underground parking or private garages.

Figure 5.23: 10th Ave Bikeway at Yew St towards east. Narrow street, off-street parking, row trees, traffic calm-down circle.
5.2.2. Existing Circulation system in 21-Blocks

This 21-Blocks area is built on the traditional 320x640 grid street pattern that associated with typical Kitsilano “Green Streets” and city bikeways, however, the auto-orientated commercial developments around Arbutus-Broadway area leave “Grey hole” in the circulation system (Figure 5.24).

Characters of existing Circulation in 21-Blocks:

1. Heavy traffic along city arterial road of Broadway St and local commercial corridor of Arbutus St, thus unsafe crossing takes place at intersections of Arbutus Corridor at Broadway St, and 10th Ave at Arbutus St.

2. Surface parking in front of IGA Market gives the street an empty, exposed feeling. The off-street parking spaces along Arbutus St offer a buffer protection between street sidewalks and public ways to encourage pedestrian activities.

3. Alleys on the south side of Broadway St. are refuge for the homeless. So is Arbutus Corridor along IGA market with unmanaged parking lots up to the corridor’s frontage (Figure 5.25).

Figure 5.24 The Existing Circulation system in 21-Blocks.

Figure 5.25 Arbutus Corridor at the side of along IGA market with random parking and poor maintenance.
5.2.3. Proposed Circulation system in 21-Blocks

Corridors are regional connectors of neighborhoods, centers and districts. When improperly located or maintained in an intangible situation, they can be barriers and create problems. Grid street pattern is a key tool to reconnect the area's open spaces, commercial activities, and transit services with one another and to create a walkable place (Walters, 2004, p151).

Planning Strategies for Circulation in 21-Block:

(1) Create pedestrian-friendly transit stops by incorporating stops into the open spaces system to improve and/or provide access to the nearby neighborhoods.

(2) Design sidewalks and main streets as welcoming public spaces with pedestrian-friendly frontage that address the livable neighborhood.

(3) Create a “Green Streets” network formed by neighborhood streets, bikeways and greenways (Figure 5.27). This “Green Streets” network bond Circulation and Open Space system into a “whole”.

(4) Relocate mass parking space to underground areas to provide additional space to pedestrians above ground. Use off-street parking as buffer zone between pedestrian flow and vehicle flow at the edges of the streets.
Figure 5.28 Master Plan of Circulation system in 21-Blocks.
Figure 5.29 Sections of W. Broadway.
5.2.4 Proposed Circulation system in Arbutus-Broadway

Improved and Designed Pedestrian amenities for sidewalk on both sides of W. Broadway St.

Relocated Bus stop from south side of W. Broadway St. at Arbutus St.

Improved amenities for Bus stop

Designed pedestrian and biking amenities for sidewalk and bikeway

Designed pedestrian amenities for sidewalk

Designed Arbutus Corridor bikeway through residential area / through proposed Street parks / through commercial and residential area

Mid-block courtyard for loading space and for walking through

Designed Pedestrian way at alley of South side of W. Broadway at Maple St.

Improved alley for entrance to underground parking

Underground parking entrance

Figure 5.30 Master Plan of Circulation system in Arbutus-Broadway area.
Figure 5.31 **Section A** Mid-Block Courtyard at South side of W Broadway, looking towards north.

Figure 5.32 **Section B** Alley at South side of W Broadway, looking towards west.

Figure 5.33 **Section C** Alley at North side of W Broadway, looking towards north.
Designed Circulation in Arbutus-Broadway area includes:

- Pedestrian sidewalks along both sides of W. Broadway St. and Arbutus St, as well as W. 10th Ave between Arbutus St. and Maple St.,
- Transit stops integrated into street parks at south side of W. Broadway St.
- Mid-Block courtyard at back of relocated IGA Market store for truck loading zone;
- Two pedestrian alleys, that both locate at south side of W. Broadway St.
- Underground parking for all new developments and shared underground parking at south side of W. Broadway St.
- Design of Arbutus Corridor bikeway that runs through a residential area at the north side of W. Broadway St, street parks on both sides of W. Broadway St, and mixed-use commercial-residential area at south side of W. Broadway St.

Generally speaking, the spatial qualities of the circulation system is featured by pedestrian-oriented movement pattern in north side of W. Broadway St as surrounded by predominantly residential areas; while in the south side of W. Broadway St, the circulation system is characterized by alternative movement patterns including walking, biking, transit riding. In general, in Arbutus-Broadway area, Circulation is managed by both vehicle and pedestrian movement systems that have coexisted but were separated from each other by underground parking, off street parking, and street trees.

Design Strategies

- **Access**: The original bus stop in front of BMO bank facing W. Broadway St. is relocated to Street Park on the south side of W. Broadway St. The new location provides ample space for riders waiting for bus. The integration of transit with open space makes the experience
with public transit more comfortable and pleasant. Together with the existing bust stop at Street Park facing Arbutus St., Arbutus-Broadway area is featured as a local transit center that represents the improved accessibility to and from the rest of the city.

- **Safety Use**: Knowing that a new bus stop will dramatically increase pedestrian volume, biking through W. Broadway St. is monitored by manual traffic lights and signage of reduced speed. Pedestrian are discouraged to use Arbutus Corridor bikeway to cross W. Broadway St. Different paving materials are used to separate the bikeway from the traffic way for visual warning.

- **Amenities**: Street trees, newspaper vendors, finely designed lighting, and off-street parking meters are added to sidewalks on both sides of W. Broadway St. These amenities help soften the overwhelming scale of the existing 7-story building on the north side, and reinforce the pedestrian-oriented retail frontage on the south side.

- **Storm water flow**: Add 8th Ave, Arbutus St. at the north side of W. Broadway St, 10th Ave and Maple St. into neighborhood’s “Green Streets” network. Storm water flow within Arbutus-Broadway area is directed along Arbutus Corridor greenway and “Green alleys” merging into “Green Streets” network.

- **Visual effects**: Pedestrian-oriented circulation system is integrated with the Open Space system and mixed-use commercial activities. Together, they offer the people within this system a visual appeal of pleasant walking and shopping environment.
5.3. Open Space

5.3.1 Existing Open Spaces in Kitsilano East

Situated in the context of North American urbanism, The City of Vancouver stands out for its international reputation of achieving a general high standard of urban design and healthy relationship to natural environment within its livable urban neighborhoods, such as Kitsilano.

Kitsilano is marked as a livable community for its well maintained landscape (Figure 5.37).

*City Park:* 1 Kitsilano Park, 2 Vanier Park, 3 Hadden Park; *Community Park:* 4 Connaught Park; *Neighborhood Park:* 5 Arbutus Neighborhood Park, 6 Delmont Children’s Park; *Community Garden:* 7 Kitsilano Community Gardens *Others:* 8, 9 school yards, 10 Sea Forth Park, 11 Granville Loop etc.

Characters of existing Open Spaces in Kitsilano East:

1. Parks follow the city’s interconnected grid network pattern and are bordered with streets.
2. Parks are associated with city’s bikeway, pedestrian green streets and green way system.
3. Parks are within 5 minutes walking distance of transit stops, and Parks are located every 5 to 10 minutes walking distance between each other.
4. Neighborhood parks are the major outdoor social spaces for nearby residents (Figure 5.38).
5.3.2 Existing Open Spaces in 21-Blocks

This 21-Block area has several developed open spaces, including Kits Community Garden, Delamont Park, Arbutus Neighborhood Park, Arbutus Neighborhood Greenway and two school yards (Figure 5.39) and there is still opportunity to create more when intensification and infill is seen as possible low density areas around Arbutus-Broadway.

Characters of Existing Open Spaces in 21-Blocks:

(1) In the middle of residential land-use, existing open spaces play important roles in recreation centers for the residents of nearby neighborhoods. However, direct connection between existing open spaces can’t be clearly recognized, especially along the north-south direction.

(2) The potential linkage, Arbutus Corridor, is partially used by the public as a pedestrian pathway, but its low-use is overwhelmed by characterized rail line right of way.

(3) Arbutus-Broadway is where the transit center is located, as well as the “Grey and Open” Spaces, such as vacant lots, surface parking and frontage setback (Figure 5.40).
5.3.3 Proposed Open Spaces in 21-Blocks

It is important to understand that a linked system of open spaces (Figure 5.41), whether new or existing, is a critical element for a successful urban neighborhood. When associated with transit stops or other public destinations through street network, this extended open space system gives both environmental and social functions to the neighborhood. Therefore, the Framework focuses not only on adding new members to the existing open space but also on improving the connections to and between them.

Planning Strategies for Open Space in 21-Block:
First, link extended greenways to existing parks and planned open spaces for a greener and stronger open space network.

(1) Propose a vegetated pedestrian bikeway (Figure 5.42) and linear open space on Arbutus Corridor for passive use of the arbutus corridor for flow of people, wildlife and storm water. Row trees are intensively used along the corridor to confirm the edge of bikeway and make biking pleasant. Permeable paving is used wherever vegetation is
taken out. The railway track is preserved to illustrate the Arbutus Corridor’s historic importance to the neighborhood and city and to maintain Arbutus Corridor open to a future transit line (Figure 5.43).

(2) Spatial quality changes along the Arbutus Corridor Bikeway (as AC Bikeway in the following sections) to accommodate the changed characters of adjacent areas.

(3) 11th Ave-Arbutus Greenway is extended to Cypress St. to reinforce the visual connection between Arbutus Neighborhood green spaces with Lord Tennyson schoolyard and the Cypress Bikeway.

(4) The Arbutus Corridor Bikeway and its adjacent parks are designed as an entirety, with no low landscaping on its edge except as screening to parking and sidewall of buildings.

Second, a link to extend greenways and add open spaces to important public destinations, such as transit stops, and necessary daily commercial amenities for a improved public realm within neighborhood (Figure 5.44).

(1) Turn vacant land on south side of 7th at Arbutus St. into outdoor play land for the expansion of adjacent day-care, also as an extension to Delamont Children’s Park.

(2) Add a street park to north and a semi-shaded street park to south side of Broadway in Arbutus-Broadway and provide a park edge to add definition to the Arbutus-Broadway; to the west, it is met by Arbutus St, to the east, by east side property line of Arbutus-Corridor.

(3) Add a pedestrian sidewalk to proposed alley at south side of Broadway in Arbutus-Broadway.
Figure 5.45 Master Plan of Open Space system in 21-Blocks.
Section A
1 Building setback 4.5m
2 Pedestrian way 1.2m
3 Bikeway 2.5m
4 Pedestrian way 1.2m
5 Community garden 13m
6 W 6th Ave

Section E
1 Building setback 3.0m
2 Pedestrian way 1.5m
3 Pedestrian way 1.2m
4 Bikeway 2.5m
5 Pedestrian way 1.2m
6 Building setback 4.2m

Section B
1 Delamont Park

Section F
1 Building setback 3.5m
2 Pedestrian way 1.8m
3 Row trees 1.2m
4 Bikeway 2.5m
5 Row trees 1.2m
6 Pedestrian way 1.8m
7 Landscaping 4.0m

Section C
1 Child playground
2 Pedestrian way 1.2m
3 Bikeway 2.5m
4 Pedestrian way 1.2m
5 Building setback 10m

Section G
1 Building setback 2.2m
2 Pedestrian way 1.8m
3 Row trees 1.2m
4 Bikeway 2.5m
5 Row trees 1.2m
6 Pedestrian way 1.8m
7 Building setback 8.2m

Figure 5.46 Arbutus Corridor Section A to E.
5.3.4 Design of Open Spaces in Arbutus-Broadway

1. Street park semi-open space for sitting (See Figure 5.52)
2. Street park open space for dining
3. Entrance for residential building / semi-open space for sitting
4. Street park semi-open space for sitting / dining (See Figure 5.53)
5. Pedestrian path for walking / Shopping (See Figure 5.54)
6. Street park open space for waiting for bus / walking / sitting / dining
7. Mid-block courtyard for sitting / dining
8. Entrance for residential building / Mid-block courtyard for sitting

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Figure 5.47 Master Plan of Open Space system in Arbutus-Broadway area.
Figure 5.48 Section A Street Park at North side of W Broadway, looking towards east.

Figure 5.49 Section B Street Park at North side of W Broadway, looking towards north.

Figure 5.50 Section C Street Park at South side of W Broadway, looking towards south.

Figure 5.51 Section D The mid-block courtyard at back of IGA Market at Arbutus Corridor, looking towards east.
Designed open spaces in Arbutus-Broadway area include:

- Two street parks on both sides of W. Broadway St,
- Two mid-block courtyards, that one locates in commercial area at south side of W. Broadway St., and the other locates in residential area at north side of W. Broadway St,
- Pedestrian path along Arbutus Corridor bikeway, associated with outdoor sitting on both sides of W. Broadway St. and dining areas mainly on south side, and
- One semi-private entrance yard to the residential building along Arbutus Corridor bikeway at the north side of W. Broadway St.

Generally speaking, the spatial qualities of open spaces at the north side of Broadway St. is featured as a semi-open neighborhood park for residents, and mini plaza for nearby employees at lunch time, knowing that new developments around this park are mainly residential and mixed-use office buildings. At south side of W. Broadway, open spaces are featured as multi-used spaces for residents, transit riders, pedestrians, cyclist and customers, knowing that the surrounding areas are primarily mixed-use commercial developments.

**Design Strategies**

- **Access:** Street parks have clear boundaries marked by row trees along Arbutus Corridor bikeway, Arbutus St., and W. Broadway St. Parks have full access both visually and physically along the edges of pedestrian sidewalks.

- **Safety use:** Pedestrians and cyclists don’t share spaces and paths, although visually, areas for pedestrians and cyclists have full access to each other. For safety purposes, rough paving materials are used for pedestrian realm to discourage cyclist invasion, and rail tracks are saved to visually reinforce the single use of bikeway.

*Figure 5.52 Street Park shaded space looking towards south.*
- **Amenities**: The amenities for sitting are widely used in the form of movable chairs, benches, planters. The other major applied amenities include outdoor dinning tables, public arts and lighting with flyers in the park at south side, as well as low lights in park at the north side.

- **Storm water flow**: Wherever vegetation is taken out for pavement, permeable paving materials are used and on the above are same amount of vegetation coverage in form of tree crowns to make up the loss of natural surface of land. Another amenity for storm water flow is the gutter that is designed on both sides of Arbutus Corridor bikeway.

- **Visual effect**: Street parks and open spaces contribute to the visual appeal of the streetscapes along Arbutus St. and W. Broadway for its highly shaded spaces and comfortable scales. Parks and open spaces also offer high quality of visual attraction to pedestrians for the vibrant edges that include pleasant retail windows, finely designed building frontages and pedestrian-oriented sidewalks. Parks and open spaces also offer visual attraction for carefully selected materials for paving and public art, including preserving the railway tracks, signage, and re-use of lumbers for historical response to previous history on the site.
6. PROJECT SUMMARY

6.1. From “Urban Holes” into “Urban Cores”

As mentioned in chapter 1, this project is a local interpretation of contemporary New Urbanist theories using a site in Vancouver, British Columbia. The Urban Design Framework of this project focused on the following New Urbanist design strategies (Walters, 2004 p67):

- To create compact, walkable neighborhoods with connected streets, sidewalks and street trees to make walking to work, to school, to the bus stop or train station, or just walking for fun. Integrate offices, shops, public facilities such as schools, libraries, parks, outdoor spaces into neighborhood to create a mixed-use center for everyday life.
- To design for densities that support active neighborhood lifestyles both in the public and private domains.
- To design public spaces with focus on building orientation and neighborhood activities.
- To move large parking spaces away from the street frontage and screen them with buildings.
- To create a range of affordable housing opportunities and choices within the neighborhood.
- To preserve open spaces around and within the community, and link them into an interconnected system that makes the best use of the street grid network.
- To maximize the capacity of existing infrastructure by retrofitting the derelict urban sites and infill gaps in the urban fabric.
- To design a distinctive sense of place as a building block of the community development.
- To preserve the historic building identities and the characters of traditional neighborhoods.

These strategies have found expression through the entire urban design evolution at Arbutus-Broadway area, from “Urban Holes” to “Urban Cores”. The Urban Design Framework views and directs the design process at a higher position to make sure that the final design product meets the external challenges. The Framework-conducted design process may seem as simple as the conceptual turn-over of “Parking” to “Park”, but during that process, it is the full-time cooperation between established categories of Open Space, Circulation and Urban Fabric that produces positive results. “Open Space” is the trigger factor and visual indicator of urban spatial quality changes. The Circulation system is the internal mechanism that weaves the Urban Fabric and Open Space processes together. The Urban Fabric is where physical design processes are transmitted into social-economic and demographic entities.
Since this project shares the same design ideologies with New Urbanist theories, it has the responsibility to confront external critics of these theories, some of whom are conventional development proponents. Walters did an extensive study of putting most of the critiques together in his book *Design First: Design-based Planning for Communities*. The following lists his top 6 criticisms of urban design theories and discusses how this project addressed those critiques.

**Critique 1:** *New Urbanism’ historicist learning and reversion to traditionalism is a retreat from high intellectual grand of modernity* (Walters, 2004, p22).

**Response:** The Urban Design Framework does not attempt to exclude “Creativity” that modernists seek in their brainstorming design. Furthermore, the Framework encourages creative design products on building technology, streetscape, social places and visual public arts in a visible and rational form that supports human scales, environmental priority and better understanding of the context.

**Critique 2:** *New Urbanism’s search for a more walkable urban future is just planting “Café Society” and efforts at community building is creating “latte towns”* (Walters, 2004, p26).

**Response:** During the Urban Design Framework process on “Walkable neighborhood” at Arbutus-Broadway area, Café stores, small businesses and retails are given priority for developing commercial typologies that support higher commercial densities. But the idea behind this image is to promote a richer public realm lifestyle that fosters urban vitality. The important point is that coffee shops, restaurants, bars and the like offer opportunities for daily communication and socialization.

**Critique 3:** *New Urbanism is intrusive government planning and social engineering that trample on land owner’s “right” on their own lands* (Walters, 2004, p71).

**Response:** In this project, CPR is the sole owner of Arbutus Corridor, which was used as a transportation rail line. This project proposes a linear, multi-use, green open space along Arbutus Corridor, which continues the corridor’s established role in the public realm. The “multi-use” green open space that combined with nearby mixed-use commercial and residential developments move CPR to a position of stake holder, instead of a potential loser of ownership of Arbutus Corridor. The Urban Design Framework focuses on close cooperation between multi-parties and public participation, instead of a forced take-over.
Critique 4: New Urbanism’s building improved urban future only favors wealthy middle to upper-class and dismisses access to better urban places that the less affluent sector of the population also deserves (Walters, 2004, p91).

Response: The Urban Design Framework proposes a wide range of housing types and pedestrian-oriented neighborhood design to address the design of livable neighborhood. Various housing types offer a wide range of choices for home buyers. Pedestrian-oriented neighborhood designs put everyday needs within reasonable distance to help free residents from the expense of car ownerships. This project took the possibility of Gentrification into account and recommended a certain percentage of affordable housing, non-market housing and rental housing developments to serve as a control mechanism to address issues associated with New Urbanist developments.

Critique 5: New Urbanism and Smart Growth is all about “Higher Density” and is conspiracy by developers to get rich by building as many homes as possible on any given piece of land (Walters, 2004, p68).

Response: The Framework uses “Higher Density” as one tactic to realize intensification on the site of Arbutus-Broadway. However, it should be understood that here, “Higher Density” within scale is totally different from “Endless Density” without context. The Framework carefully reviewed the existing density and scale of neighborhood, and proposed a “Higher Density” strategy consistent with recent nearby development and to support continued high quality transit service.

Critique 6: New Urbanism binds people to particular places and dismisses the possibilities of larger scale mobility and connection that automobile would offer with a wide variety of locations (Walters, 2004, p23).

Response: The Framework proposed Pedestrian-Oriented building designs and pedestrian-friendly streetscape schemes, moving away surface parking and auto-oriented developments. It seeks to support alternative transit modes, to increase people’s choices for moving around. The idea behind of the Framework circulation strategies within a walkable and livable neighborhood is not to delete cars from people’s lives, but to offer multi-options for people to move around, thus help resolve environmental problem that caused by cars.
6.2. Remaining Issues

As discussed briefly in Chapter 3 Section 2 Planning Process, the 11 kilometers Arbutus Rail Line’s future is still uncertain. Therefore, the future of this corridor that runs through the most vibrant neighborhoods of Vancouver, is subject to the outcome of the current law suit between the City and CPR as land owner (Figure 1-1) which will determine the final answer: “Court blocks CP Rail Plan, Old Retail Line to Stay Green” (Vancouver Sun). “But there is still no clear decision on final use for the west-side railway land” (Vancouver Sun).

However, the continuous mission of the Corridor in the public realm has mostly been agreed on, but whether as linear open space or a public transit line, or both is still undetermined. The Urban Design Framework sided with Arbutus resident Stan Carter who proposed a linear open space, walkway and bikeway on Arbutus Corridor, along with all projects related to this process. But, the Framework Design Strategies don’t exclude the opportunity for Arbutus Corridor to resume its public service as a transit corridor. The Framework works on this concept. Some of the ideas and strategies are set to support this concept are:

• To preserve the railway tracks for future street car use;
• To consider Street Park on south side of Broadway St for conversion into a transit-oriented

Figure 6.1 Public media, Vancouver Sun has Arbutus Corridor issue exposed to the public (1).
But there's still no clear decision on final use for the west-side railway land

The court affirmed the city's right to enact its Arbutus Corridor official development plan, effectively killing a proposal by CP Rail, which owns the 11-kilometre west-side corridor, to sell or develop the land for commercial or residential use.

Vancouver Mayor Sam Sullivan, currently in Turin for the conclusion of the Winter Olympics, hailed the victory in a news release.

“We are very pleased that the Supreme Court of Canada has upheld long-standing council policy, and contributes to the livability of the city.”

A CPR representative noted the court's decision does not change the current status of the property as a rail-freight corridor, nor does it provide for

Preserving the corridor for the benefit of Vancouver residents has been a long-standing council policy, and contributes to the livability of the city.”

The City of Vancouver iron the proposal by CP Rail, which owns the U-B battle of the Arbutus Corridor kilometre west-side corridor, to sell or develop the land for commercial or residential use.

The City of Vancouver iron the proposal by CP Rail, which owns the U-B battle of the Arbutus Corridor kilometre west-side corridor, to sell or develop the land for commercial or residential use.

STAPPS CANADA

Paul Clark, vice-president of community and public affairs, said a change in ownership would require a change in ownership, and he did not rule out restarting rail service on the line, which has not been used since 2000.

He said a public discussion is needed to determine the best use of the land.

“That public discussion should go on to say what is it that we could do here, because simply having it sit there as a rail line with suspended operations is not bringing great value to the communities along the line,” he said.

The court's decision drew sharp criticism from the Vancouver-based Urban Development Institute, whose executive director termed it "intolerable."

“DWhat a terrible time to be sending such a signal to the investment community when we are inviting the world to come for the Olympics and we are trying to attract investment," said Maureen Enen.

Figure 6.2 Public media, Vancouver Sun has Arbutus Corridor issue exposed to the public (2).

hub featured as a pedestrian center

- To implement traffic control mechanism, including amenities, existing traffic lights along Arbutus-Corridor on both sides of Broadway to help develop this future transit line;
- To design a pedestrian path along the corridors, to serve as a bikeway’s edge, and also to help minimize biking mishaps.
- To design attractive landscape along Arbutus-Broadway that can be converted into station loading zone.

This project is a design vision only. It did not address financing and legal mechanisms needed to see such a plan come to fruition.

6.3. Closing statement

This project is about developing the rationale, combining the resources, examining all viable options, to close the gaps in the fabrics of the city. The final outcome is hoped to be something that will enhance the appearance of the overall system, as well as improve the lives of the
residents and end users. Anything that promotes Beauty, Productivity, Comfort, Convenience and Betterment of the environment will render a much needed service to the community and the public at large. I hope that this modest work will in someway advance that cause. It is to that spirit of service, that this work is humbly dedicated, with credits to those who inspired this work; those preceded me in this effort and those who will follow in my footsteps.


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