

**URBAN BY DESIGN:
AN EVALUATION OF PUBLIC SPACES IN
DOWNTOWN NEW WESTMINSTER**

by

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ABSTRACT

This research evaluates the public realm along Columbia Street in downtown New Westminster from an urban design perspective. The purpose of doing so is to provide a basis for future design decisions and related policy development affecting the quality of the public realm. The evaluation employs 35 specific criteria grouped under seven broad principles of urban design: good form, legibility, vitality, meaning, comfort, accessibility and security. The underlying premise to this research is that these broad principles interrelate to create and protect the integrity of the public realm as a whole that may otherwise be compromised by individual developments on privately owned properties. Evaluation results suggest that improvements are needed to Columbia Street's public realm in order to better support its intended role as a successful commercial core of a regional town centre. While the research does not recommend specific improvements to public spaces along Columbia Street, the evaluation results suggest aspects of the public realm that would benefit from greater attention.

Keywords: New Westminster; urban design; public realm; public space

DEDICATION

Dedicated to Stephen Scheving, former Senior Planner for the City of New Westminster, whose unsurpassed knowledge, passion and enthusiasm for Downtown New Westminster could serve as inspiration for all who desire to see Columbia Street regain its former glory.

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INTRODUCTION

Research Objectives

This research evaluates the public realm along Columbia Street in downtown New Westminster from an urban design perspective. The purpose of doing so is to provide a basis for future design decisions and related policy development affecting the quality of this public realm. Metro Vancouver's growth management strategy for the Lower Mainland designates downtown New Westminster as one of eight interconnected regional town centres. As such, the area is intended to develop as a high density, mixed-use neighbourhood with residential uses located in close proximity to shops and services as well as places of employment, recreation and entertainment. It is also intended to provide "safe and attractive streetscapes and public spaces [that] encourage people to walk and cycle around the centre" (GVRD). As Columbia Street is the commercial core of downtown New Westminster, a high quality public realm along the street is integral to achieving this vision.

In designing my research program, I established three key objectives to satisfy. My first objective is that the research be credible. The evaluation should be based on accepted theory and practice and minimize researcher bias. If others were to repeat the evaluation, they should yield similar results. Decision makers should trust that the results are valid and confidently use them as a basis to justify new policies and initiatives for improving the public realm. A second key objective was that the research be

comprehensive. It should address in depth a wide range of physical factors that impact the quality of the public realm. The results should be of sufficient detail for decision making or provide a strong basis for further investigations. My final objective is that the evaluation should be practical to conduct. Completing the evaluation should be achievable primarily through observation or by gathering information that is readily available. The evaluation should not require use of specialized equipment to complete.

Background

Columbia Street forms the historic commercial core of downtown New Westminster with a concentration of heritage buildings that date back to 1887. The Guichon Block at 409 Columbia Street is the oldest structure along the strip and is one of just two buildings to survive a fire in 1898 that destroyed most of the street. The other surviving building, the Burr Block built in 1892, also remains today at 411 Columbia Street. More than one third of buildings currently standing along Columbia Street were built in the first few years following the 1898 fire. Most of these buildings as well as several others built at later dates are listed on the City of New Westminster's heritage inventory. Included on this list are the Westminster Trust block, the City's first skyscraper at nine storeys, as well as the former Canadian Pacific Railroad station, now occupied by the Keg restaurant at 800 Columbia Street and built in 1899 and reflecting the area's historic role as a transportation centre.

Hyack Square occupies the street end on the south side of Columbia Street at Eighth Street. Prior to its construction in 1986, the area had served as a road connection between Columbia and Front Streets. Since its development, this City-owned public space has been the site of several exhibitions and annual festivals. At one time, a

Maypole stood on the site for the annual Maypole festival. Designed as a pedestrian plaza, an overpass at its southern end connects Columbia Street to the quay. In recent years, the City has removed benches and other amenities in the plaza, presumably to deter illegitimate users, such as drug dealers, from loitering in the space.

In the 1940's and throughout the early half of the 1950's, Columbia Street was known as the "Golden Mile" in recognition of achieving the highest sales per square foot of commercial floor space in the region (Figure 1). The street's prominence as a mercantile centre in the region began to decline in the mid fifties. Regional shopping malls established in Burnaby and Surrey and began to draw shoppers away from Columbia Street. Competition increased even within New Westminster itself. In 1955, Woodward's located a new store uptown and a new shopping mall shortly followed as new investment concentrated in the area. In an attempt to stem Columbia Street's decline, area merchants lobbied the City to develop a parkade with the hope of luring shoppers back by providing abundant parking nearby (New Westminster Tourism and Convention Development Association, n.d.). As a result, the Front Street parkade was constructed in 1959 and still stands today. However, it did not have the desired affect and shop vacancies continued while buildings fell into disrepair (City of New Westminster, 1984, p. 22).

Figure 1: The “Golden Mile”



Columbia Street in 1946
(Photo courtesy of City of New Westminster Public Library)

In 1975, the Greater Vancouver Regional District (GVRD) (now Metro Vancouver) published a regional growth strategy entitled the *Livable Region Plan*. One of the Plan’s main strategies was the development of the “Regional Town Centre” concept that would “bring jobs, shopping and cultural opportunities closer to where people live” with the aim of creating “urban spaces that are attractive alternatives to downtown [Vancouver]” (GVRD as quoted in City of New Westminster, 1987, p. 3). The *Livable Region Plan* designated Downtown New Westminster as one of these regional town centres and the GVRD placed priority on its development as such over the other designated town centres. A 1977 study commissioned by the GVRD and City found that downtown New Westminster had potential but “competition from newer centres would require the use of special techniques to have it realized” (City of New Westminster, 1987, p. 3). Shortly after, the Province created the First Capital Corporation, a subsidiary of the British Columbia Development Corporation, with the objective of facilitating the regeneration of the struggling downtown through redevelopment (City of New

Westminster, 1990, p.40). Initial developments under this program include the Law Courts, Douglas College and Begbie Square. Subsequent developments occurred along the waterfront including a public market, a hotel, an office building and a riverfront pedestrian promenade. Columbia Street's two SkyTrain stations, at Eighth Street and at Fourth Street, opened in 1986.

Over the years, the City of New Westminster has adopted a variety of policies and initiatives intended to revitalize the streetscape along Columbia and improve its public spaces. In 1987, the City adopted its Community Plan for Downtown New Westminster. When it came time to update this document, the Downtown Business Improvement Association worked with the City, area residents and businesses to develop an overall vision for the downtown that would guide future redevelopment. The result was the Downtown Action Plan adopted in 1996. Many of the initiatives recommended in this Plan have been implemented such as a grants program to provide funding for façade restorations of historic buildings along Columbia Street.

More recently, the City began to implement a redesign of Columbia Street with the aim of reducing and slowing through traffic and improving conditions for pedestrians and cyclists. Four driving lanes have been reduced to just two, one in each direction while bike lanes have replaced the previous outside driving lanes. Along some stretches of the street, parallel parking has been replaced by back-in angle parking, providing a wider buffer between traffic and pedestrians. As most traffic that travels along Columbia Street has neither an origin nor a destination in New Westminster, Columbia Street's merchants are not expected to suffer due to reduced traffic (Thomas Consultant's Inc, 2004). Instead, a impact assessment commissioned by the City prior to implementing

these measures suggest that improved pedestrian conditions will boost commercial activity along the street (Thomas Consultant's Inc, 2004, p.10).

Possibly the most effective revitalization will be realized through major new residential developments in the downtown area. Currently under construction in the area are approximately 950 new residential units in five separate high-density developments. The largest of these is a phased development occurring immediately west of the study area adjacent to the New Westminster SkyTrain Station. The current and initial phase of this development includes the construction of 404 residential units in two high-rise towers along with approximately 5,000 square feet of retail space connected to the SkyTrain's platform level. For the future phases, the developer proposes to construct two more high-rise towers, one to accommodate a third residential tower and the other to accommodate a hotel and possibly convention centre.

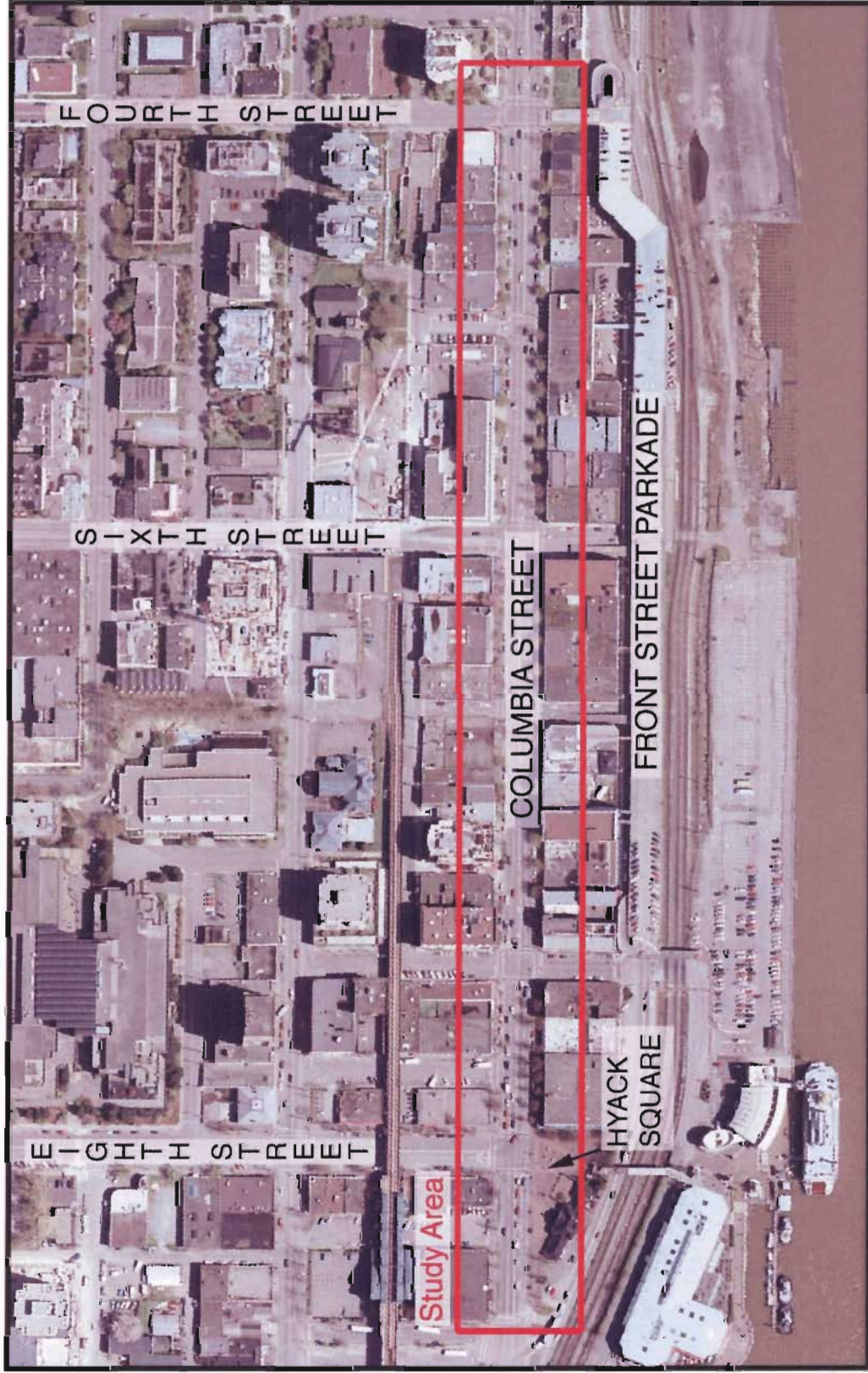
These high-density developments bring the potential of regeneration along Columbia Street as an increased population provides a growing customer base for local businesses. However, despite all this new development, Columbia Street still lags far behind other major commercial high streets in the region in terms of commercial lease rates as well as occupancy rates as evidenced by several vacant storefronts. Columbia Street has some of the region's lowest retail lease rates at \$10 to \$20 per square foot. For comparison, the regions highest retail lease rates can be found at the corner of Burrard and Robson in Vancouver where space leases for \$140 to \$220 per square foot (Mitham, 2007, p. 14).

Statistics Canada (n.d.) has recently released 2006 Census data for census tracts. The study area is captured in one census tract that, in its entirety, is bounded by Royal Avenue to the North, Fourth Street to the East, the Fraser River to the South and Eighth Street to the West. Population in this area grew by 5.6 percent from 1,793 to 1,893 people between the 2001 and 2006 censuses. This rate is slightly lower than the 6.5 percent population growth for the Greater Vancouver region during that same period. The median age in the Census Tract at the time of the 2006 Census was 38.2 years, slightly lower than the 39.1 years median age for the region. Approximately 92.6 percent of the population is age 15 and over compared with 83.7 percent for the region as a whole. These figures do not capture population growth that would have resulted from projects that achieved occupancy after the census was completed. It also does not include population data for the Quay or the remainder of the downtown, as disaggregated census data is not currently available for those specific geographic areas.

Study Area

The study area for my research is illustrated in Figure 1. It includes both the north and south sides of Columbia Street and is bounded at the west by McNeely Street and at the east by Fourth Street. This area was chosen because it corresponds with the City designated Columbia Street Heritage District, where much of the City's policy work has focused. However, part of the study required observations to be made outside of the study area in order to assess the quality of its connections with adjacent areas of the downtown.

Figure 2: Study Area



Base photo courtesy of the City of New Westminster

Public Realm

In their book *Public Places, Urban Spaces*, Carmona *et al* differentiate between the physical and social dimensions of the public realm. For them, the physical public realm is the “spaces and settings – public or privately owned – that support or facilitate public life and social interaction” (2003, p. 109). The social public realm is the “activities and events that occur in those spaces and settings” (2003, p. 109). These two concepts are interdependent, as one dimension is meaningless without the other. However, for the purposes of my research, it is their concept of the physical public realm that I consider. It is the collection of physical characteristics evident in the urban landscape that may be experienced by any member of the public. These characteristics may be discrete, readily identifiable entities such as a bench or a street lamp. Or, they could be more conceptual in nature such as walking routes and linkages. And, as mentioned in the above definition, these characteristics may be publicly owned such as a sidewalk or privately owned such as a building façade. The success of the physical public realm is determined by the ability of these interrelated characteristics to produce a venue that enables and encourages social activity and events.

THEORETICAL PERSPECTIVE

My research is based on the premise that success of the physical public realm, as described in the previous section, can be facilitated through application of urban design principles. The role of urban design in this regard is to create and protect the integrity of urban form across property boundaries. This integrity is vital to the success of the public realm because the human experience of it transcends property boundaries, seeking cohesiveness among the multitude of elements and their interrelationships present in the urban landscape. As observers move through the urban landscape, their impression of it is influenced in part by those physical characteristics perceptible within the range of their physical senses. Their experience of the public realm does not begin and end and begin anew with each property line crossed over but rather encompasses a much wider geographic extent that, at a minimum, coincides with the range of sensory input.

In the absence of urban design, the integrity and cohesiveness of the public realm would likely be undermined by real estate markets that segment urban lands into discrete parcels. These parcels are treated as commodities to be bought and sold separately and developed independently from one another. Left unchecked, individual landowners could develop their property as they wish without regard of such development's impact on the urban whole. A disparate urban landscape would likely emerge as a result, lacking cohesiveness and compatibility between its constituent parts. Urban design intervenes in this divisive process by reassembling the discrete parcels, if only conceptually, to address

the urban landscape as a unified whole. It strives to integrate urban form across private property boundaries so that cumulative effects of individual developments result in high quality public spaces satisfying to the user.

This role for urban design is articulated by Ernest Sternberg in his 2000 paper entitled *An Integrative Theory of Urban Design*. Sternberg builds his case for urban design by arguing that the integrity of the urban environment is transformed and degraded by its commodification. For Sternberg, urban land is not a true commodity, like a manufactured item, because it is part of a greater, integrated whole. He contends that the very process of turning urban land and buildings into discrete commodities undermines the complex interrelationships that exist between elements in the urban landscape. For Sternberg, the role of urban design is to protect against the destructive forces of commodification by “creating, protecting and restoring cohesive experiences of built form” (2000, p. 267). He argues for a foundational theory for urban design that recognizes its integrative role in protecting urban form from land markets’ destructive effects.

According to Sternberg, the works of many classic writers in urban design such as Camillo Sitte, Edmund Bacon, Jane Jacobs and Kevin Lynch can be reinterpreted in this vein. While they all may not have specifically addressed such economic concerns in their works, Sternberg contends that they “implicitly recognize that it is the integrity of the urban experience across property boundaries that the urban designer should seek to reassert” (2000, p. 268). This implicit recognition forms the theoretical underpinnings of their work that each of these classic writers share.

Despite this commonality, Sternberg found each writer emphasizes a different facet, or “integrative principle” of urban design. Through their compiled works, he identifies at least four integrative principles of urban design that when taken together begin to comprise the urban whole: *good form* achieved by careful control of spatial and compositional relationships within the built environment to “sustain a satisfying experiential continuity across properties” (2000, p. 271); *legibility* where constituent parts of the city such as paths, edges, nodes, landmarks and districts are easily recognizable and form discernable patterns; *vitality* where urban form supports and encourages vibrant and active street life; and, *meaning* where urban form expresses a coherent cultural experience of the city while accommodating diversity.

Sternberg acknowledges that this list is not complete and indicates there are likely other integrative principles for the urban designer to consider. As an example, he suggests another principle may be *comfort* that concerns itself with the ability of the built environment to anticipate and respond to the beholder’s physical needs. The main thrust of Sternberg’s argument however, is not in identifying the integrative principles themselves but rather in demonstrating that these principles reflect the capacity of the individual to experience urban form in a variety of ways. It is the urban designer’s task to “compose across experiential domains to produce a continuity of experience” (2000, p. 275) that satisfies this human capacity.

Much of the theoretical and practical literature in the field of urban design that I reviewed supports Sternberg’s principles. For example, based on extensive experience and their own review of related literature, The United Kingdom’s Department of Environment, Transport and the Regions (DETR) and Commission for Architecture and

Built Environment (CABE) developed seven “principles or objectives of good urban design” that describe “what should be sought to create a successful place” (2001, p. 14). Several of their principles – character, continuity and enclosure, and diversity - substantially overlap with Sternberg’s principles of meaning, good form and vitality. One of DETR and CABE’s principles, that of legibility, directly corresponds to Sternberg’s integrative principle of the same name, both inspired by the work of Kevin Lynch, particularly his 1960 book entitled *The Image of the City*. Likewise, two of four key qualities described by Project for Public Spaces (n.d.) as contributing to the success of a place, can easily be interpreted as agreeing with at least three of Sternberg’s principles. Both Jan Gehl (1987) and William Whyte (1980) discuss at length the importance of adequate seating provision and weather protection, both qualities that directly support Sternberg’s principle of comfort. These examples are a small sample of works I reviewed, not referenced by Sternberg, that provide analysis in support of his principles.

From my literature review, I found two additional prevalent themes in urban design that contribute to the success of the public realm but yet do not readily correspond with any of Sternberg’s five integrative principles. One prevalent theme is accessibility. Numerous writers have discussed its importance in facilitating successful public spaces. DETR and CABE have as one of their seven principles *Ease of Movement* that stresses a place should be “easy to get to and move through” (2000, p. 15). Likewise, Project for Public Spaces (n.d.) has as one of their key qualities *Access & Linkages* that also emphasizes the importance of effective connections both with outside places and within a given area. Carmona et al believe that “movement through public space is at the heart of the urban experience” (p. 169) and discuss the importance of connections between places,

particularly for pedestrians. For all of these authors, a successful place must be readily accessible by a range of transportation options both locally and regionally. If Sternberg were to continue identifying integrative principles of urban design, I believe he would be likely to consider *accessibility* as one.

Another theme that appears frequently in the urban design literature pertains to creating safe urban spaces by reducing opportunities for crime. Several writers have discussed the importance of addressing safety concerns through urban design. As Carmona et al explain, “lack of security, perceptions of danger, and fear of victimisation, threaten both the use of the public realm and the creation of successful urban environments” (2003, p. 119). Jane Jacobs (1961) was first to argue that street activity, natural surveillance and territorial definition of public and private spaces could all be encouraged by the design of spaces and consequently reduce opportunities for crime. Oscar Newman (1960) further developed Jacobs’ ideas emphasizing the importance of surveillance and territorial definition in crime reduction (Carmona et al, 2003, p 121). The Crime Prevention Through Environmental Design (CPTED) approach shares these elements while focusing on “modifying the physical environment to affect criminal behaviour” (City of New Westminster, 1999, p. 5). The depth of knowledge on this subject and its seemingly importance could warrant a seventh integrative principle.

For the purposes of my research, I have taken the liberty of adding these two themes as the sixth and seventh integrative principles to the list that Sternberg initiated. He acknowledged that his principles “do not by any means exhaust the urban designer’s integrative task in the city” (2000, p. 275) and suggested other principles are likely. I believe principles of accessibility and security are compatible with Sternberg’s belief that

urban designers must “compose across experiential domains to produce a continuity of experience” (2000, p. 275). For their implementation to be successful, both these principles defy containment within property boundaries but rather must transcend those boundaries to address an area as a unified whole. While these seven integrative principles each address a particular aspect of the urban whole, there is considerable overlap between them as they are all mutually reinforcing. This overlap will become apparent in the next section as I discuss how these principles guided my selection of evaluation criteria for use in assessing the public realm in downtown New Westminster.

METHODS

The research methods consisted of two phases: development of a checklist, guided by the seven integrative principles and based upon the professional and academic literature, for use as an evaluation tool; and, collection of data by administering the checklist. The following discussion describes these two phases in greater detail and demonstrates that, taken together, they satisfy the three objectives established for the research design: comprehensive, credible and practical.

Checklist Development

This phase of my research comprised the development of a checklist for use in evaluating the public realm in the study area. The checklist's primary function is to prompt and structure observations made in the field. It contains a series of 35 criteria, each relating to a specific design aspect of the public realm. This number of criteria is relatively high in comparison to other urban design evaluation tools I came across during my literature review. For example, CAFE developed a checklist, based on the seven objectives of urban design developed by DETR and CAFE (2000), to "appraise the urban design qualities" of specific case studies (2001, p. 13). Their checklist is similar to the one I've created except that it contains just their seven broad objectives with a brief description of each. It does not provide individual criteria for each of the seven objectives. For the purposes of this research, I chose to identify explicit criteria in order

to minimize interpretation, both on the part of the researcher as well as the reader, and thus facilitate transparency and credibility of the results.

My selection of the checklist criteria was guided by the seven integrative principles of good form, legibility, vitality, meaning, comfort, accessibility and security as described in the previous section. In order for a criterion to be included in the checklist, it needed to have met the general intent of at least one of the integrative principles. The checklist groups the 35 criteria under seven headings that correspond with the integrative principles. Each criterion addresses a particular aspect of the broader principle.

I also selected only concepts from the literature that were relevant to the purpose and study area of this research. Some discussions in the literature did not apply to a mixed-use, pedestrian-oriented, high street in a dense, urban core. For example, Gehl (1987) discussed in detail the need to define private, public and semi-public spaces in a residential setting in order to clearly differentiate spaces that are publicly accessible from those that are not. Although this idea relates to the integrative principle of security, it is not entirely relevant for a commercial high street where most street frontages are publicly accessible.

In establishing the checklist criteria, I also selected only concepts from the literature that were readily observable by the layperson without necessitating the use of specialized equipment or knowledge. This selectivity simplifies the data collection process, making the checklist more practical to administer. If relevant concepts from the literature were not readily observable, I modified them so that they would be. For

example, Yang and Kang's evaluation of acoustic comfort in urban open spaces provide maximum decibel levels for acoustic comfort (2004, p. 227). However, to determine the decibel level, a specialized instrument and knowledge how to use that instrument would be necessary. Instead, I included in the checklist a criterion that noise levels should be physically comfortable. Any researcher able to hear within the normal human sensory range should be able to evaluate whether the sound environment satisfies that criteria.

In other cases, relevant but non-observable concepts were simply omitted if their intent was covered by other criteria included in the checklist. For example, CAGE suggests that public spaces should be designed with ease of maintenance in mind (2001, p. 24). However, I could not conceive of a way to evaluate such a criterion by observation alone. Subtleties in the design of the public realm that may ease maintenance would likely be readily apparent only to the designer or someone who is tasked with the maintenance. Although I did not include a criterion in the checklist specific to this concept, I did include a criterion that asks whether the area have been maintained thus capturing the intent of maintenance.

When formatting the checklist, I found that several criteria could be suitable for more than one category. As previously noted, the integrative principles themselves are mutually reinforcing with objectives that overlap. It follows that specific criteria that support those principles would also overlap. In order to minimize redundancy, I selected just one category to place each criterion. To do so, I strived to identify the primary objective that each criterion would satisfy and then match that objective with the integrative principle that best related to it. For example, literature in the field of Crime Prevention Through Environmental Design (CPTED) identifies the importance of

maintaining an area so that it gives an impression of being cared for (see Newman, 1972 and City of New Westminster, 1999). From a CPTED perspective, an area that gives an impression of being well cared for is less likely to be, or perceived to be, targeted for criminal activity than an area that does not look cared for. However, other literature discusses the importance of maintaining an area for more aesthetic reasons that support the area's identity of being a desirable place to reside, work or visit (see DETR and CABE, 2000 and Project for Public Spaces, n.d.). Given these different perspectives, this criterion could appropriately be grouped under the security principle or under the meaning principle. I chose the latter as I determined that the criterion's primary objective is to influence the aesthetics and identity of an area. Reduction in crime or perception thereof is a consequence of this primary objective.

The checklist prompts the researcher to score each criterion on a scale from zero to five (see Table 1). This scoring method is modeled after the one developed by CABE (2001) but has been modified for the purposes of this research. The scale developed by CABE provided only a qualitative descriptor for the highest and lowest score and did not provide a descriptor that lent itself to numerical measurements. As some criteria in my checklist lend themselves to a subjective and qualitative response while others can be easily measured and thus quantified, I have included descriptors that address both situations.

Table 1: Rating System

| 0 | 1 | 2 | 3 | 4 | 5 |
|-----------------------------------|---|--|--|--|--|
| Does not satisfy criterion at all | Very Poor; satisfies criterion not more than 20 percent of the time | Poor; satisfies criterion 21 to 40 percent of the time | Fair: satisfies criterion 41 to 60 percent of the time | Good; satisfies criterion 61 to 80 percent of the time | Excellent; satisfies criterion 81 to 100 percent of the time |

The scoring component of the checklist provides another layer of data that compliments and clarifies the researcher’s descriptive observations. For example, the first criterion in the accessibility category asks whether the area is “connected with outside areas...” I found that the study area was well connected in some respects and had very poor connections in other respects. If a written description only was provided, it may seem that, on average, connectivity to the area is neither weak nor strong but somewhere in between. However, I believe that the poor connections contribute significantly more to the overall quality of connectivity than the good connections and was able to reflect this belief by assigning that criterion a lower than average score.

Prior to finalizing the checklist for use, I conducted a test run by administering the survey in an area different from the study area. The purpose of testing the checklist was to gauge whether it was practical to implement, identify any redundancies or omissions, and determine whether advanced information was required to properly administer the survey. I tested it along the 200 and 300 hundred blocks of Water Street in Gastown, Vancouver. I chose this area because it shares similar characteristics to the study area and so should provide a reasonable simulation. Both areas are the historic core of their respective cities’ downtowns and have similar scale developments and land uses.

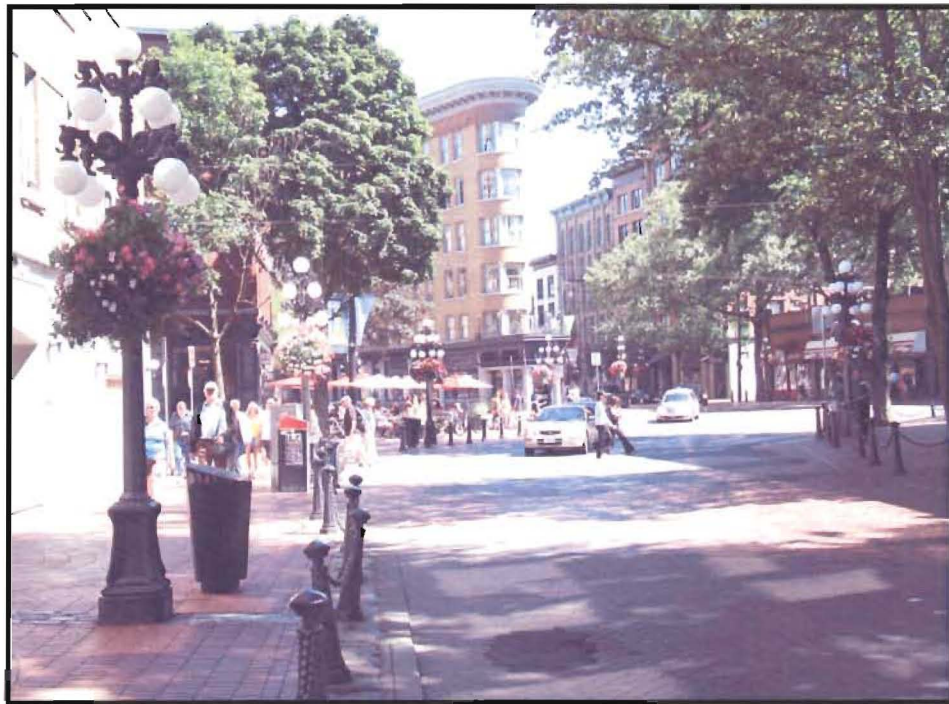
Commercial street frontages line Water Street just as they do Columbia Street. Both areas have office uses on upper floors. Both areas lack strong anchor uses, are within walking distance of two SkyTrain stations and are cut-off from nearby waterfronts by a rail corridor. Of course there are several differences between the two areas however, for the purposes of testing the survey, I felt that those differences weren't significant enough to undermine the purposes for testing the checklist.

The test-run did reveal some issues with the original checklist design that were then revised to produce a final checklist. The most significant change was introduction of the scoring mechanism to the checklist. Prior to the test-run, I planned on simply marking which criteria were met and not marking the criteria that were not met. However, I quickly realized that most if not all criteria may be met to varying degrees and that a range of responses was most appropriate to accurately capture the situation. Another important finding from the test-run was that it would be helpful to identify in advance, nearby places of interest and other destinations outside of the study area in order to evaluate the connectivity between the two. Without this previous identification, it would be necessary to walk all of the connecting routes looking for destinations and places of interest at the time of administering the checklist. I also discovered redundant criteria in the checklist that I subsequently omitted or consolidated as well as some elements that were missing from my checklist. For example, I was able to expand upon a list of street furnishings that provide amenities for users of the area.

The photos below (Figures 2 through 5) use examples from other areas in the region to illustrate the rating scale developed for the checklist. Under the meaning category on the checklist, the first criterion asks whether “physical elements such as

buildings, building materials, street furniture, public art combine with active features such as street entertainers and vendors to create characteristic visual expression and consistent sense of place.” An example of urban form that would receive a full score for this criterion is Water Street in Gastown. The area has a very distinct historic theme that is supported through numerous cues in the built environment such as a heritage lamp standard design, dominant use of stone and brick as a building materials and the original steam clock that still functions. Street vendors generate activity while hanging baskets add to the visual appeal of the area. These elements combine with others to create a distinct sense of place.

Figure 3: Gastown, Vancouver



Street lamps with hanging baskets support distinct historic theme in Gastown, Vancouver (Photo: J. Natland)

Figure 4: Building facades in Gastown



Dominant use of stone and brick in Gastown building facades
(Photo: J. Natland)

Figure 5: Street vendor in Gastown



Street vendor generates activity in Gastown
(Photo: J. Natland)

Near the opposite end of the scale, Kingsway Avenue along much of its length would score only one point for the Activity criterion that asks whether there are “narrow and continuous street frontages with many doors increasing opportunities for activity and interaction, uninterrupted by inactive space.” While some portions along Kingsway do meet this criterion, they are too often interrupted by spaces that do not. Many commercial buildings are set back from the street and it is their parking lots that greet the pedestrian walking by. Car dealerships and auto service establishments are particularly guilty of this pattern although it is repeated by numerous other buildings along the street.

Figure 6: Kingsway Avenue, Vancouver



This deep setback of this building deters activity along the sidewalk
(Photo: J. Natland)

Data Collection

The third phase of this research consisted of collecting data by observing characteristics of the study area environment and recording those observations on the checklist. Some preparation was required prior to completing the checklist. Based on my experience with the test-run, I knew that it would be challenging to record observations on just one checklist for the entire study area. To overcome this challenge, I divided the study area into three transects of approximately equal size and prepared three individual checklists, one for each transect. I also realized from the test-run that some observations would be more easily recorded in graphic form rather than by words. To facilitate the graphic recordings, I prepared a base map for each of the three transects using the City of New Westminster's GIS available on their website (City of New Westminster, n.d.). The base maps displayed legal parcel boundaries, street addresses and street names only. Final preparatory work involved using the City's GIS, my own personal knowledge of the area and websites for organizations in the surrounding area to identify destinations, places of interest that were outside of the study area but within a short walking distance. This advanced knowledge allowed me to focus my efforts on routes that connected the study area with these destinations and places of interest to evaluate the quality of those connections.

I chose four different times to collect the data so that physical conditions that might or were certain to vary with time of day and day of week could be captured. Most of the observations were made on Friday, November 17, 2006 in the early afternoon under partly cloudy skies. I chose this time because it allowed me to observe sunlight penetration into the public realm. I also made some observations after dusk that evening

in order to evaluate lighting conditions in the area. I made observations for a third time on Saturday, November 18, 2006 at approximately 2:00 p.m. The purpose of returning at this time was to judge whether noise levels were different on a weekend day from a weekday. I anticipated that larger volumes of truck and rail traffic along the Front Street corridor likely to occur on a weekday could impact the noise environment along Columbia Street. I made final observations during a fourth visit to the area on Sunday, July 15, 2007. The purpose of this fourth visit was to record any changes that had occurred in the eight months that lapsed since the original observations so that the evaluation would be as current as possible upon completion of the research. In addition, the seasonal difference from the initial observations provided additional data regarding landscaping and shading.

At all four times, observations were recorded for just one transect at a time on individual checklists and base maps for each transect. During the observation period, I took photos of every street front and other physical elements in the study area. When writing up the results later, I was able to refer to the photographs to clarify, confirm or provide greater detail to the recorded observations. I also used the City's GIS (City of New Westminster, n.d.) for the measurement of features I had recorded on the maps such as distance between bench locations and widths of storefronts. I used observations recorded on the maps to respond to the associated questions on the checklist. The individual checklists for each transect were scored separately. I then consolidated the results from the three checklists into one final checklist, adjusting the scores to reflect the conditions of the combined transect areas.

RESULTS

Table 2: Rating System

| 0 | 1 | 2 | 3 | 4 | 5 |
|-----------------------------------|---|--|--|--|--|
| Does not satisfy criterion at all | Very Poor; satisfies criterion not more than 20 percent of the time | Poor; satisfies criterion 21 to 40 percent of the time | Fair: satisfies criterion 41 to 60 percent of the time | Good; satisfies criterion 61 to 80 percent of the time | Excellent; satisfies criterion 81 to 100 percent of the time |

Table 3: Good Form

| | Criteria | Score |
|--------------|---|--------------|
| G-1 | Dimensions of spaces, buildings and other features relate to the range of human senses and social field of vision; height of buildings relate to width and importance of space they enclose; walking spaces are sufficiently narrow to concentrate activity yet wide enough for maneuvering | 3 |
| G-2 | Spaces, including street spaces, are defined and enclosed by buildings, structures and landscaping; continuous building line along block reinforces street; where buildings are setback from building line, they provide usable, attractive spaces; | 4 |
| G-3 | Persistent visual rhythm of facades with vertical emphasis reinforcing traditional building structures | 3 |
| G-4 | Edge conditions are conducive to sitting, standing, staying and provide comfortable vantage point to survey activity occurring in surrounding area; hierarchy of spaces where large open spaces such as plazas contain smaller spaces within creating inner edge conditions | 2 |
| G-5 | Primary view corridors terminate on landmark, significant building or other feature of interest | 0 |
| TOTAL | | 12/25 |

Table 4: Legibility

| | Criteria | Score |
|--------------|--|--------------|
| L-1 | Clear and recognizable routes and destinations interrelate and facilitate navigation | 4 |
| L-2 | Views over distance of reference points, memorable buildings, prominent landmarks and landscape features create visual links | 3 |
| L-3 | Corner buildings are emphasized through height, architectural style, use or other characteristic to provide identity and points of orientation | 2 |
| L-4 | Quality of signage – commercial, directional, interpretive – facilitates wayfinding and enhances identity and legibility | 4 |
| L-5 | Rich details at eye level such as at ground level storefronts and building entrances attract attention and enhance memorability | 2 |
| TOTAL | | 15/25 |

Table 5: Vitality

| | Criteria | Score |
|--------------|--|--------------|
| V-1 | Mix of compatible uses and activities stimulate one another, respond to needs of residents, provide attractions for visitors, encourage activity into the night; useful and necessary activities provide reason to be there while optional and pleasurable activities provide reason to stay | 3 |
| V-2 | Narrow and continuous street frontages with many doors increasing opportunities for activity and interaction, uninterrupted by inactive space | 3 |
| V-3 | Activity at one level, not dispersed over several levels; at same plane as viewer | 5 |
| V-4 | Activity generators and gathering points such as food outlets/vendors, playgrounds, retail shops, entertainment, water features generate interest and increase quality of experience; highly active uses are concentrated around focal points such as corners and plazas | 2 |
| V-5 | Buildings of different sizes, types, lease rates to accommodate different uses over time | 4 |
| TOTAL | | 17/25 |

Table 6: Meaning

| | Criteria | Score |
|--------------|--|--------------|
| M-1 | Physical elements such as buildings, street furniture, banners and public art reference local traditions and coordinate with active features such as street entertainers and vendors to create characteristic visual expression and a consistent, distinctive sense of place | 2 |
| M-2 | Newer developments respond to existing patterns of development and building forms in terms of architectural style and detailing, massing, setbacks, materials, colour palettes, textures | 2 |
| M-3 | Civic and community buildings located around public spaces to provide symbols of community identity and focus of civic life | 1 |
| M-4 | Aesthetically pleasing, makes good first impression; the area is well maintained and gives the impression of being cared for; built forms utilize high quality and durable materials | 3 |
| M-5 | Complementary, year-round landscaping utilizes local plant species | 4 |
| TOTAL | | 12/25 |

Table 7: Comfort

| | Criteria | Score |
|--------------|---|--------------|
| C-1 | Awnings, trees and other features such as building heights and street orientation provide shelter and shade while also providing opportunities to enjoy pleasant climatic conditions | 3 |
| C-1 | Noise levels and quality are physically comfortable; can carry on conversation without straining to hear; loud intermittent noises are masked by pleasant white noise such as a water feature; sounds relate to observable activity | 4 |
| C-3 | Amenities such as garbage receptacles, drinking fountains, bicycle racks, pay phones, newspaper boxes and benches are provided at regular intervals along street | 3 |
| C-4 | Choice of seating options such as fixed benches, moveable chairs, ledges, stairs; some options have arm and back support; different configurations facilitate conversation or enable solitude | 3 |
| C-5 | Seating location relates to other amenities and activity generators in the area; oriented towards activity, scenery, points of interest; integrates with pedestrian circulation | 3 |
| TOTAL | | 16/25 |

Table 8: Accessibility

| | Criteria | Score |
|--------------|---|--------------|
| A-1 | Well connected by a variety of transportation modes with outside areas; short blocks frequently intersect with connecting pedestrian routes; transit stops conveniently located next to destinations; cycling routes are direct, safe and convenient to use | 2 |
| A-2 | Distances for pedestrians are as short as possible due to concentrated and compact land uses; routes can be perceived in manageable stages | 3 |
| A-3 | Routes are inviting and easily traversable by pedestrians; little or no resistance from physical and/or perceptual barriers; vehicles do not interfere with pedestrians use of space or deter pedestrians from accessing space | 4 |
| A-4 | Equal and integrated access for all physical abilities; if stairs are necessary, they are broken into sections and/or are low and easy to climb and a ramp alternative is provided nearby | 4 |
| A-5 | Pedestrian routes and public spaces are linked visually and physically to adjacent interior spaces such as building foyers and retail spaces | 3 |
| TOTAL | | 16/25 |

Table 9: Security

| | Criteria | Score |
|--------------|---|--------------|
| S-1 | All spaces have clearly intended legitimate use; ownership and control of all spaces is apparent; zones of responsibility are clearly delineated | 3 |
| S-2 | Pedestrians can view all spaces upon approach, they are visibly accessible with clear sight lines, no hidden or recessed spaces | 4 |
| S-3 | Warm lighting illuminates routes, building facades and other features as well as socially relevant subjects such as people and activities during dark hours; increases visibility and recognition over distance | 4 |
| S-4 | Conducive to natural surveillance by pedestrians and building occupants; opportunities for them to casually observe street activity | 4 |
| S-5 | Security presence provides sense of safety and care but is non-obtrusive; If physical installations to deter crime and protect property are necessary, they are designed to fit with the character of the area | 2 |
| TOTAL | | 17/25 |

Total Score 105/175

DISCUSSION

Overall, the study area scores 105 points out of a possible maximum of 175. Stated another way, the area satisfies the urban design principles at a level of 60 percent. The following discussion provides a rationale for the scoring of each criterion and is organized in the same order as the checklist.

Good Form

The first criterion in this category asks whether spaces, buildings and other physical features in the study area have dimensions that relate to the range of the human senses and social field of vision. The study area receives a score of four for this criterion. While the scale of built features is acceptable, they do not fully support social contact and pedestrian comfort.

The width of Columbia Street (roadway and sidewalk) is wider than ideal to maximize opportunities for social activity. According to Gehl (1987), at distances of 20 to 25 metres (60 to 80 feet), “most people can perceive relatively clearly the feelings and moods of others” enabling meetings of people to “become truly interesting and relevant in a social context” (1987, p. 67). At distances of 30 metres (100 feet), “facial features, hairstyle and age can be seen and people met only infrequently can be recognized” (1987, p. 67). Beyond this distance, recognition deteriorates and opportunities for social interaction depreciate considerably. As Columbia Street is approximately 32 metres (105 feet) wide, acquaintances on opposite sides of the street

may be able to recognize one another however their interaction may not be socially inspiring.

With respect to building height, Gehl (1987) suggests a maximum of three storeys is ideal with up to five storeys being acceptable to enable “meaningful contact with ground level events” (p. 100). Building heights along Columbia Street generally meet this standard. Although building heights range from one storey to 12 storeys, approximately 83 percent of total building length is three storeys or less. An additional eleven percent is between four to five storeys in height while the remaining six percent of total building length exceeds five storeys.

Gehl’s ideals roughly coincide with a standard put forth by Carmona *et al* in *Public Places, Urban Spaces*. They describe how “continuity of the street wall” as well as the ratio of street wall height to street width can “determine the sense of spatial enclosure” (2003, p. 146). Their research indicates a ratio of 1:1 is the minimum acceptable while a ratio between 1:2 to 1:2.5 “provides a good sense of enclosure in a street” (2003, p. 147). Using this ratio, a street wall comprised of three storey buildings would warrant a street width between 60 to 80 feet thus meeting Gehl’s recommended dimensions for enabling meaningful social contact. However, dimensions on Columbia Street do not satisfy this ratio; the height of most buildings is too low and/or Columbia Street is too wide. With 63 percent of the building wall height at 9 metres (30 feet) or less and a street width of 32 metres (105 feet), the height to width ratio along most of Columbia Street is 1:3.5 or greater.

Sidewalk widths along Columbia Street seem appropriate. Ranging between 4.5 and six metres (15 to 20 feet), they are wide enough to accommodate larger volumes of pedestrian traffic characteristic of high streets yet not too wide to seem empty with moderate usage. Pedestrians at the outer edge of the sidewalk can experience activity occurring at storefronts. Hyack Square is larger than necessary for level of activity it seems to typically experience, however special events may require the larger area.

The second criterion asks whether spaces are defined and enclosed by buildings, structures or landscaping and whether buildings along the street form a continuous building line around the block. I awarded four points for this criterion. Generally, buildings have a consistent front setback and form a continuous building wall. However, there are a few minor exceptions.

A private open space at 611 Columbia Street disrupts the building line in that block. Likewise, a low blank wall on the south side of the street in the 400 hundred block also disrupts the continuity of building form along the block. In addition, two large vacant sites, currently under development, also disrupt the building line. Some buildings, although built to a common building line, have recesses around storefront doors (see Figure 6). These recesses seem to be intentional design features meant to break the monotony of a continuous building wall. They do provide space for retail sidewalk displays and in some cases seem to lead the pedestrian to the shop door. However, in most cases, they are not well utilized and detract from the streetscape rather than add interest.

Figure 7: Building Line



A continuous building line along some portions of Columbia Street is interrupted by setbacks of storefronts (Photo: J. Natland)

Criterion GF-3 asks whether there is a persistent vertical emphasis in building facades that reinforces traditional building structures. Load bearing masonry of traditional building designs tends to have a vertical emphasis for structural reasons. Therefore, "...buildings with a strong horizontal emphasis tend to disrupt the visual rhythm of traditional streets" (Carmona *et al*, 2003, p. 157). Verticality in building facades also tends to provide more visual interest than facades that are dominated by a horizontal dimension. Horizontal lines "are visually faster than vertical lines" (Carmona *et al*, 2003, p. 157) whereas vertical lines are likely to retain a viewer's attention for a longer period. Furthermore, an emphasis in vertical facades is apt to be adequately balanced by the horizontality of the street itself (Carmona *et al*, 2003, p. 157). The streets of old Montreal demonstrate this affect with strong vertical lines in the buildings

balanced by the horizontality of the streets emphasized by their relative narrowness (see Figure 7).

Figure 8: Old Montreal



Historic buildings in old Montreal have a strong vertical emphasis in their facades (Photo: J. Natland)

Columbia Street scores three points in this regard as little more than half of the total building façade length has a strong vertical emphasis. Most facades of the older buildings have a strong vertical emphasis, likely influenced by structural requirements. This verticality is most obvious in the CIBC building and the Bank of Nova Scotia building as facades of both buildings have prominent columns. In contrast, many buildings constructed from the 1950's onwards have horizontal dominance in their

facades. For example, the Police/C2C building at the corner of Sixth Street is horizontal not only in its massing that is wider than it is taller but also in its façade elements. A long band of unbroken windows on its façade facing Columbia Street has a strong horizontal emphasis. Likewise, the West Coast College of Massage Therapy building also has stronger horizontal lines than it does vertical. The horizontality of these two buildings along with several others interrupt the visual rhythm along Columbia Street established by the dominant verticality in building facades of older buildings.

The fourth criterion enquires about the quality of edge conditions, suggesting that edges should provide opportunities for sitting and staying and that large open spaces should contain smaller spaces within to provide inner edge conditions. The study area scores low in this regard and receives just two points from the maximum of five. Overall, edge conditions are not very conducive to providing a comfortable vantage point nor does the one large space – Hyack Square – contain a well-defined smaller space within.

While standing could comfortably occur along most building facades, sitting along edges is hindered by an absence of features that would enable sitting such as benches, ledges or stair. The only sitting opportunities along the edge of the street require payment as they are provided by sidewalk cafes. A colonnade at 635 Columbia Street detracts from edge conditions by presenting a false edge and creates shadowed and hidden spaces behind supporting columns. Edge conditions at Hyack Square are not conducive to sitting, standing or staying as there are no sitting options and the edges of the square are far away from its interior where most activity occurs. The planters do not successfully delineate a smaller space as they are not proportioned appropriately or spaced close enough together to provide a sense of enclosure. Also, the height of the

planters and the narrow width of their ledges are not conducive to comfortable sitting (see Figure 8).

Figure 9: Hyack Square



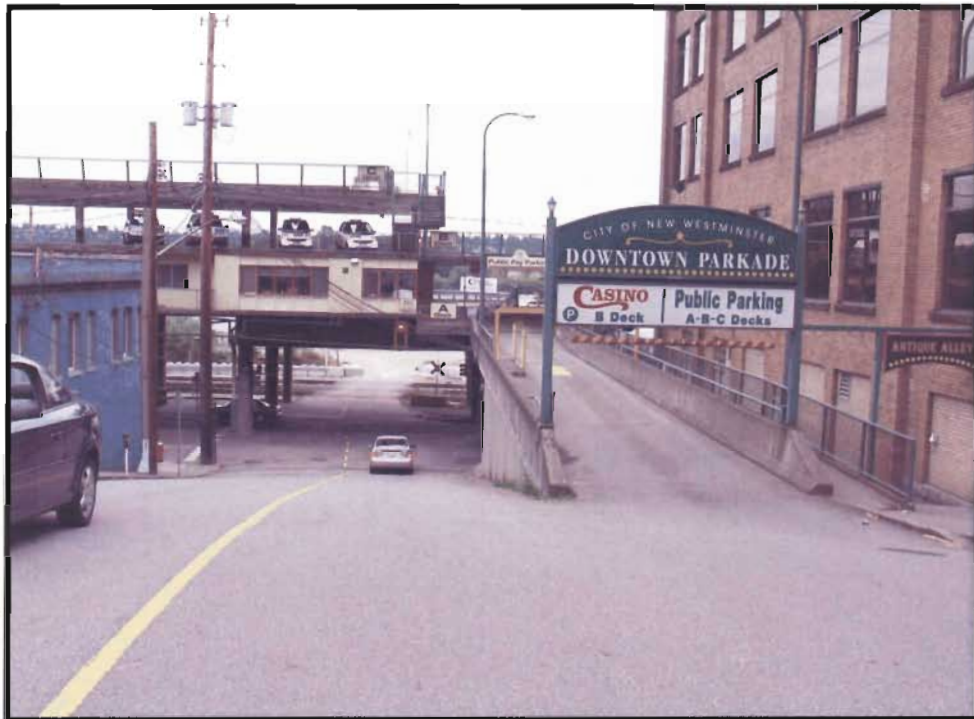
Edge conditions in Hyack Square do not provide a comfortable vantage point from which to view activity in the square (Photo: J. Natland)

The final criterion in this category asks whether primary view corridors terminate on a feature of interest. The study area does not receive any points for this criterion. The primary view corridor along Columbia Street itself does not terminate on a feature of interest in either direction. At the eastern end, the horizon is simply the road dipping with an overpass in the distance. Looking westward, the road continues for a while then bends to the right. Off in the distance are high-rise developments at the Quay. However, they are too far away to provide any interest.

Other view corridors lay perpendicular to Columbia Street along the intersecting streets. Looking north, the intersecting streets rise up a steep grade, quickly disappearing

into the horizon. The best opportunities for a pleasing view should be in the southward direction along most intersecting streets. The Fraser River is just a short distance away and at a lower elevation. Unfortunately, what would otherwise be appealing views of the river as well as the shoreline of Surrey beyond have been obstructed with the Front Street Parkade (see Figure 9).

Figure 10: Front Street Parkade



The Front Street Parkade blocks views of Fraser River from Columbia Street (Photo: J. Natland)

Legibility

The first criterion in this category asks whether clear and recognizable routes and destinations interrelate and facilitate navigation interrelate and facilitate navigation. The study area scores four out of five points for this criterion. The grid pattern of streets downtown facilitates recognition of routes that intersect with Columbia Street. Columbia Street itself interrelates well with destinations, as most are accessible directly from the

street. Several businesses along the street, such as The Keg Restaurant, SkyTrain stations, Police Building, Army & Navy, Salvation Army and Starbucks, serve as modest anchors and may increase recognition of the route. However, with the exception perhaps of Hyack Square and the Keg Building, there are not strong destinations along Columbia Street. As a result, no one block of Columbia Street stands out from the others.

Criterion L-2 asks whether reference points, buildings landmarks and other distinctive features are visible from a distance to create visual links. The old district of Segovia, Spain provides an excellent example of where a landmark structure is visible from a distance creating a strong visual link. A well-preserved aqueduct, believed to be first raised by Romans in the first century AD, remains standing on the perimeter of the old section of town. At its highest point, the aqueduct is 28 metres tall and is visible from many of the adjacent narrow, winding streets that could easily disorient a newcomer (see Figure 10).

Figure 11: Segovia's Aqueduct



View of the distinct aqueduct from the adjacent commercial district in Segovia, Spain (Photo: J. Natland)

Columbia Street scores three points in this regard. As Columbia Street is straight and fairly wide, much of it is visible from any location along it. Moderate variation in building height along its length allows higher buildings to stand out more prominently. Street signs above intersections are visible from a distance and so enable approaching pedestrians to know in advance the street they are approaching. However, there is a lack of unique features such as a monument, clock tower, sculpture, fountain or other such structure that could provide a very distinctive and recognizable reference point from a distance.

Criterion L-3 asks whether corner buildings are emphasized through height, architectural style, prominent use or other characteristic to provide points of orientation.

The answer is that not many do with only six of 24 corner buildings meeting this criterion. As such, the study area scores only two points for this criterion.

The fourth criterion in this category asks whether signage in the area facilitates wayfinding and enhances the identity and legibility of the area. The area scores fairly high in this regard, receiving four points. Directional and interpretive signs are consistent and well located along the street. However, much of the commercial signage does not contribute to the identity or legibility of the area.

Directional signage is located throughout the area and includes not only standard street signs but also signposts with multiple signs indicating destinations of nearby points of interest (see Figure 11). A large map of the area, mounted on building facade at the northeast corner of Sixth Street and Columbia Street, highlights destinations and areas of interest and also provides direction guidance. Interpretive signage is located on several heritage buildings along the street providing a graphic and written history of the building.

Figure 12: Directional sign on Columbia Street



Photo: J. Natland

While all storefronts have signage identifying their business, the quality of commercial signage is inconsistent. Several locations have attractive signs that give the impression of being durable, made of high quality materials and professionally designed. This signage enhances legibility by contributing to a favourable identity for the area. Unfortunately, several other businesses have poor quality signs that do not achieve this same standard. For example, hand scrawled advertisements on neon paper haphazardly fill the windows of some convenience stores, detracting from a favourable identity for the street.

The last criterion in this category asks whether rich details at eye level attracts attention and facilitates memory. The study area scores just two points in this regard. Most storefronts do not provide rich architectural detail. However, some of the older heritage buildings are fairly detailed at the street level. Columns and a contrasting colour scheme at the CIBC building is one example. The recently restored building at 774 Columbia Street features distinctive arched windows along the length of its façade (see Figure 12). Façade materials at the Pier 660 building are a distinctive black and provide a dramatic background to their neon sign.

Figure 13: Arched Windows



Arched windows along front façade of 774 Columbia Street
(Photo: J. Natland)

Vitality

The study area scores three points for the first criterion in this category. It asks whether the study area contains a mix of compatible land uses that may stimulate one another, respond to the needs of local residents while also providing attractions for visitors. While there is a mix of uses along Columbia Street, they do not necessarily stimulate one another to a level that a successful high street should.

Residential, office and institutional uses on Columbia Street and adjacent streets provide a customer base for retail shops and services along Columbia Street. However many shops and services present such as pawn shops, bridal shops, check-cashing stores may not have wide appeal to the general public. Convenience grocery, banks, shoe repair and other similar services provide a reason for local residents to visit the area while a modest amount of optional and pleasurable establishments such as restaurants, cafes, gift shops provide a reason to stay.

Missing from Columbia Street but present in almost all other commercial high streets in the Vancouver region is a major grocery anchor. This omission significantly limits the street's ability to respond to needs of local residents. Instead, residents may be more likely to visit nearby Columbia Square at Tenth Street and Royal Avenue to satisfy their shopping needs and wants as it does provide a major grocery store along with other attractors such as a bank, restaurants, general merchandise store and medical offices.

A cluster of bridal/wedding shops in the area serves a regional market and likely attracts visitors to the area. It seems that this bridal cluster should create an opportunity for synergistic businesses such as florists, photographers, caterers and other businesses

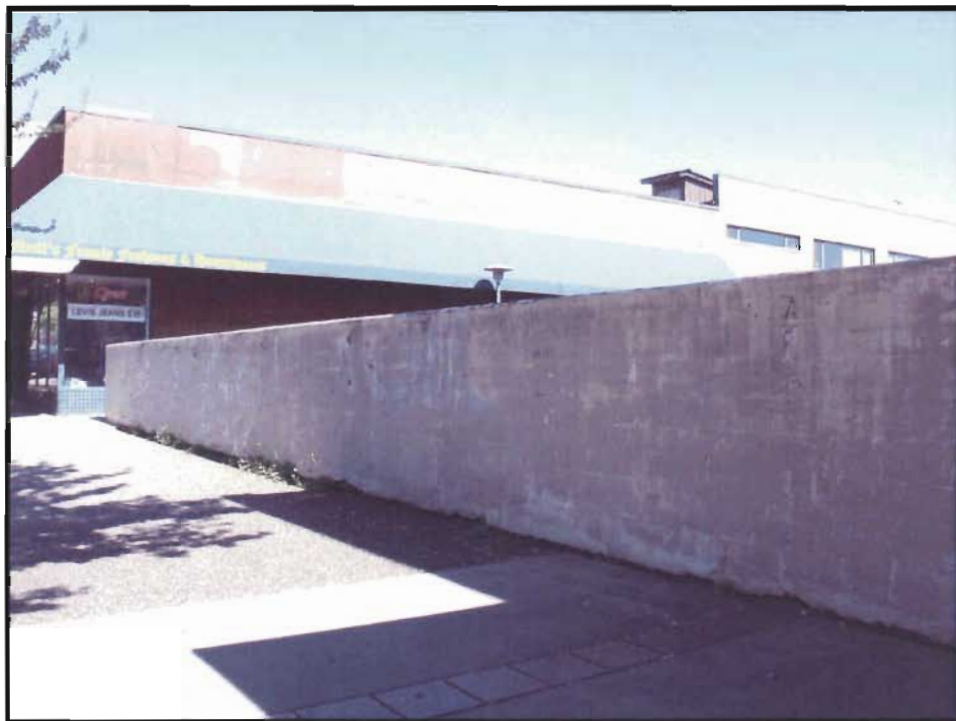
associated with the wedding industry however very few of these other businesses are present in the area. Pawn shops, cash-checking stores and skateboard shops may also serve the regional market.

The variety of uses to provide opportunities for activity throughout the day, evening and night. In addition to the many daytime uses, several uses generate activity at later hours. SkyTrain operates until approximately 1:00 a.m. Several restaurants provide opportunities for activity on the street later into the evening. The Police Station at the corner of Sixth Street operates 24 hours. Three pubs along the street encourage street presence into the night however they may also encourage nuisance activity as intoxicated patrons leave the establishments. Under use and subsequent closure of the Burr Theatre is a lost opportunity for legitimate evening activity.

The second criterion in this category asks whether street frontages are narrow and continuous with many doors increasing opportunities for interaction and thus activity. The study area scores average in this regard, receiving three points from the maximum of three. Street frontages range in width from approximately 5 metres (16 feet) at several locations to 70 metres (230 feet) at Army & Navy. Other wide street frontages include the Salvation Army at approximately 40 metres (131 feet), West Coast College of Massage Therapy at 30 metres (98 feet), and the Police Building and C2C Condominiums at 65 metres (213 feet). Currently closed, Burr Theatre also has a fairly wide frontage of 20 metres (66 feet). However if the theatre was active, it has potential to generate significant street activity at times when patrons queue along the sidewalk for shows.

Street frontages along Columbia Street are interrupted by inactive spaces. A surface parking lot at McNeely Street, the gated outdoor space at 611 Columbia Street and two sites currently undergoing redevelopment in the 400 and 700 blocks reduce opportunities for activity and interaction along the street. Likewise, the blank wall adjacent to Army & Navy is 15 metres (49 feet) wide and creates of activity along its stretch (see Figure 13).

Figure 14: Blank Wall



Blank wall along Columbia Street reduces opportunities for activity and social interaction (Photo: J. Natland)

In *Public Places, Urban Spaces*, Carmona *et al* cite a scale to “judge the performance of [building façade] designs according to the intensity of active frontage” (2003, p. 173). This scale assigns a grade of A to E, with A representing the best designed facades, based on a variety of characteristics including the numbers of frontages, doors and windows per 100 metres (328 feet) as well as the prevalence of blank space along a given street 2003, (p. 174). The top grade requires more than 15

premises every 100 metres with no blank facades and very few passive ones. According to this scale, Columbia Street would score a low B or high C. It has nearly 75 premises over a distance of approximately 600 metres (1,969 feet) however several of these are vacant and several more are passive.

The third criterion in this category asks whether activity occurs at just one level rather than being dispersed over multiple levels. In downtown Calgary, for example, activity is dispersed over multiple levels. An elevated walkway system connects office buildings so that it is possible for pedestrians to walk several city blocks without ever going outside. Similarly, downtown Montreal has a subsurface system of walkways that direct pedestrian traffic away from the sidewalks. While these alternate interior routes provide a practical function in these cities that experience severe cold during winter months, they also act to reduce concentrations of activity as pedestrians have a greater number of route options to travel between points.

Columbia Street receives the maximum score of five as all opportunities for activity are at the street level. Worth noting is that some activity is drawn into interior shops at 435 Columbia and 624 Columbia as well as interior courtyard patio at The Met Bar & Grill courtyard that could otherwise be on the sidewalk. A new development just outside of the study area at the New Westminster SkyTrain Station will provide shops and services above street level at the SkyTrain platform level. It remains to be seen what the impact of this development will be on the level of activity along Columbia Street.

Criterion V-4 asks whether activity generators and gathering points, such as food vendors, playgrounds, street entertainment and water features, are present and suggests

that highly active uses should be located at focal points such as corners and plazas. Las Ramblas in Barcelona provides an excellent example of a street that maximizes opportunities for activity generators. A central pedestrian boulevard separates the oncoming lanes of traffic and accommodates an informal linear market with stalls selling a wide variety of food, wares and even live animals. Plaza Catalunya, a large open space with monuments and fountains at the streets northern end provides a natural termination and focal point for gathering.

In contrast, Columbia Street does not fare well in this regard receiving just two points from the maximum of five. Opportunities to generate activity are poor. Vendors, street entertainment, water features, playgrounds and other activity generators are absent from Columbia Street. Activity generators are limited to retail sales on sidewalk that spill out from stores as well as sidewalk cafes and seating. During the observation periods, there were not any street entertainment or vendors. The City's Street Activity Program identifies three locations downtown where vendors or entertainers may operate with a permit (City of New Westminster, 2006). However, the regulations may deter such activity, as they do not allow the sale of perishable food including common street menu items such as hot dogs and ice cream. Street vendors must also carry \$2,000,000 in public liability insurance in order to obtain a permit.

Hyack Square does not fulfill the typical role of squares to function as gathering points. An absence of seating and other amenities provide little reason for people to congregate. While the Keg Restaurant has an outdoor patio on the square, it is separated by high hedges and too far removed from the pedestrian desire line through the square to provide opportunities for social interaction. The pedestrian overpass to the Quay provides

the only consistent source of activity for the plaza. However, as there are not any attractions in the plaza itself, there is little reason for pedestrians to do anything other than walk through.

There are 24 corner locations in the study area including the developments on either side of Hyack Square as well as buildings. Of these 24 corner locations, only two contain uses that generate substantial activity: the northwest corner at Sixth Street where Starbucks is located and the northeast corner at Church Street where the Heritage Grill is located. Both of these establishments have seemed busy during each of the observation periods evidenced by the nearly full occupancy of their sidewalk seating. Businesses at other corners include a bridal shop, a bank, St. John's Ambulance, a specialty shoe store, an office of a biotech company, and the lobby of an office building. Two corner locations are vacant and another corner location is occupied by the New Westminster Police Department. None of these uses is likely to generate significant volumes of traffic. Furthermore, several of these uses have limited operating hours, open only on weekdays during standard business hours and so are completely inactive in the evenings and on weekends and holidays.

The final criterion in the *vitality* category asks whether there is a range in building sizes, types and ages to accommodate different uses over time. In *Life and Death of Great American Cities*, Jacobs (1961) stressed the importance of such variation for attracting and maintaining diverse businesses. Not only do different business types have different space and building needs, but also those needs are likely to change over time. If an area hopes to retain these businesses, it needs to provide different types of space to accommodate those changing needs. Building age and condition is often a reflection of

lease rates. Jacobs (1961) stressed the importance of having a range of lease rates to accommodate small start up businesses as well as established ones. Columbia Street scores fairly well in this regard, receiving four points from a maximum of five.

There is a range of building sizes that could accommodate small to larger floorplate requirements particularly on upper floors of buildings that aren't divided into multiple storefronts. Building types also differ with residential and office buildings located amongst or above retail uses. Age and condition of buildings also varies however only a few buildings have been constructed in the past few decades. Presumably, well-maintained and/or newer buildings command a higher lease rate than older buildings in need of repair.

Meaning

The first criterion in the *meaning* category asks whether physical elements in the study area reference local traditions and coordinate with active features such as street entertainers and vendors to create characteristic visual expression and a consistent sense of place. The study area receives two points in this regard. This low score reflects an inconsistency of physical features and a distinct absence of active features.

Columbia Street seems to be struggling to retain and enhance a heritage character that is derived primarily from a collection of heritage buildings, several of which have been well maintained and restored to their original condition. Newer additions such as street furnishings have attempted to support this character by utilizing heritage styles. For example, the styles of lamp standards and street benches located along the street are inspired by a heritage theme. However, their designs are not consistent. Four different

lamp standard designs and two different bench designs are in use. The lamp standards are also treated differently. Some lamp standards support banners, while others support hanging flower baskets. Some are not adorned at all. There is no discernable pattern to the placement of these additions. The banner design itself is consistent along Columbia Street. However, just around the corner on Begbie Street, a different banner design is used although the area itself is not distinct from Columbia Street. The street's two bus shelter employ a design that is compatible with heritage character as is the use of brick in sidewalk detailing. As mentioned previously, there is an absence of active features along Columbia Street to contribute to a distinctive sense of place.

The second criteria asks whether newer developments respond to existing patterns of development and building forms in terms of architectural styling, massing, setbacks, materials colour palettes and textures. A newer building in Vancouver's Gastown provides an excellent example of a new development responding to existing patterns. A new interior space was created between two existing buildings by simply glassing in the vacant space. The exterior walls of the existing buildings became the interior walls of the new building between the two (see figure 14). The new building maintains the height and building line of the existing adjacent buildings. The use of glass as the primary building material provides an attractive contrast to the traditional brick of the adjacent buildings while allowing the interior brick walls to be visible through the transparency of the front façade.

Figure 15: New Development Responds to Existing



Exterior walls of heritage buildings in Gastown, Vancouver serve as interior walls of newer building (Photo: J. Natland)

Columbia Street receives just two points in this regard. Some newer developments have responded in such a manner but most have not. The oldest buildings on the street were constructed in the late 1800's and the early 1900's and include a range of architectural styles. Characteristics common to these developments are a continuous building line and zero side setbacks described previously as well as a predominant use of brick in the facades that lend a distinctive colour and texture. Arched windows are a feature found in a couple of the historic buildings and several employ massing that is taller (four to five storeys) than it is wide.

Most subsequent developments do not reflect or respond sufficiently to these established characteristics. Several buildings constructed from the 1940 through to the 1970's are not much more than square boxes. While they maintain the building line and zero side setback, their massing is often opposite of established patterns. Many of these newer buildings are just one or two storeys and are much wider than they are tall. They give the impression of low-cost construction for the sole purpose of providing commercial floor space with little regard to enhancing the visual esthetics of the street. More recently, an emphasis seems to be placed on new developments design fitting in with the heritage theme. The City's 1987 Community Plan for Downtown New Westminster recommends that new development and redevelopment "reinforce and preserve the buildings and areas of heritage significance" (p. 6). Likewise, the Downtown Action Plan, completed in 1996 recommends "new developments blend in with the heritage context" (p. 67). Two buildings have been constructed since the adoption of these policies. Columbia Station at 435 Columbia Street, built in 1987, utilizes brick coloured concrete blocks in much of its façade. The Clarkson at 681 Columbia Street, built in 1998, is a mixed-use building that incorporates design elements from adjacent heritage buildings in its design such as arches and a predominant use of brick (see Figure 15)

Figure 16: The Clarkson



The Clarkson at 681 Columbia Street was designed to incorporate architectural details from heritage buildings along Columbia Street such as arched windows and brick façade (Photo: J. Natland)

Criterion M-3 asks whether civic and community buildings are located around public spaces to provide symbols of community identity and a focus on civic life. The area scores poorly in this regard, receiving just one point. The police station and the Burr Theatre are the only city-operated developments on the street. The Burr Theatre is closed and its future undecided. The police station is likely not a civic building that is appropriate or desirable to serve as a symbol of community identity.

The fourth criterion in this category asks whether the study area is aesthetically pleasing, makes a good first impression and is well maintained, thus giving the impression of being cared for. The study area scores three points in this regard. While much of the area is well maintained and does utilize high quality materials, several building facades do not meet this criterion and disproportionately affect the overall impression.

I found two thirds of the street frontages to be aesthetically pleasing and making a good first impression. To consider them as such, they needed to well maintained, provide attractive window displays where appropriate and would fit in with successful high streets in other areas of the region such as Fourth Street and Main Street in Vancouver. I considered vacant street frontages to be visually unappealing, regardless of their physical condition, including two sites currently under construction at 738 and 424 Columbia Street.

Several occupied storefronts in the study area are not well maintained, particularly those between 410 and 416 Columbia Street. Unattractive signage, obtrusive bars on windows and unattractive signage and window displays detracted from the visual appeal of many other storefronts. On the positive side, the area is generally free of litter and graffiti and all public assets such as the sidewalk, street furniture and landscaping are well maintained.

Concrete, brick, glass, and tile are the dominant building materials in the study area and give the impression of quality and durability. Poorer quality and less durable

materials such as vinyl siding are not used to any noticeable extent along the street. Where stucco is used, it seems to be well maintained and not peeling.

The final criterion in the *meaning* category asks whether there is complementary landscaping year round that utilizes species found locally. The area scores fairly high in this regard, receiving four points. As observations were recorded both in the fall and the summer, this score provides a good reflection of the landscaping quality year-round.

Deciduous street trees planted at regular intervals along the street will lose their leaves in winter. However, evergreen shrubs along Columbia and in Hyack Square provide year-round greenery. A few shops along the street have planters at their front and one restaurant has hanging baskets and potted cedar hedges at edge of sidewalk seating. Hanging flower baskets adorn several of the lamps along the street however their placement is not consistent. Palm trees along the 600-block seem incongruous with the other species as they are obviously not local and have a strong tropical connotation. They do however provide year round greenery.

Comfort

The first criterion of this category asks whether awnings, trees, building heights, street orientation and other features provide shelter and shade while also providing opportunities to enjoy pleasant weather conditions. The area scores two out of three points in this regard. Regularly spaced trees along the street will provide shade in summer while permitting some sunlight to penetrate. General east-west orientation of street results in sunlight on north side of the street year-round and both sides during summer months. Low building heights, and wide sidewalks also enable sunlight to reach

pedestrians. The area did not experience winds or drafts during the periods of observation.

Despite these advantages, adequate weather protection is not provided along the street. Awnings are installed on only about 55 percent of the total length of street frontages. Shelters are provided at only two of the four bus stops along the street. Hyack Square is nearly completely exposed to the elements. Its only shelter comes from a few deciduous trees at its far end, adjacent to Front Street, that provide some shade in the summer.

The next criterion asks whether noise levels and quality are physically comfortable. The study area scores four points in this regard as the noise environment in the area is generally good. The main sources of noise along Columbia Street seem to be all transport related. Noise from vehicular traffic on Columbia Street is dominant with noise from high volumes of heavy duty truck transport along Front Street a close second. Truck noise was greater during the weekday observation than the weekend however levels did not seem to increase commensurate with traffic volumes. A doubling of truck traffic only moderately increased general truck traffic noise. Noise from trains traveling along the waterfront was infrequent but a significant contributor when it did occur. Towards Eighth Street, SkyTrain also contributes to the noise environment however much less so than noise from road and rail sources.

Loud intermittent noises were not masked and therefore noticeable when they did occur. They resulted primarily from occasional banging of container trucks as well as rail activity. Train whistles and engine brake noise from trucks may also occur at times

although were not observed during study. For the most part, sounds related to observable activity although some truck and rail noise are not readily visible as they occur to the south of buildings along Columbia Street. Overall, noise levels and quality suffer somewhat but still enable conversations to be held comfortably.

The third criterion in the comfort category asks whether the area provides amenities such as benches, trash bins, drinking fountains, bicycle racks, pay phones and newspaper boxes. The study area scores three points in this regard. While most amenities are provided, the uneven distribution of seating and an absence of phone booths contributes to a lower score.

Garbage receptacles, bike racks, newspaper boxes are available at regular intervals along the street. Two of the four bus stops provide weather protection in the form of a shelter. However, there are no drinking fountains in the area and only one public telephone along the entire strip. Empty phone booths suggest that there were more phones at one time but they have since been removed.

With respect to seating provision, Whyte suggests that benches should be provided at regular intervals along the street, ideally every 100 metres or less. Using this standard, public seating provision is irregular with benches oversupplied in some areas and under supplied in others. West of Begbie Street, supply is inadequate as there are no public benches with exception of one at the bus stop at 811 Columbia Street. Travelling eastward, the next bench is a distance of 244 metres occurring in front of building at 681 Columbia. On south side of street, there is a distance of 255 metres from the western boundary of the study area to the first bench. Distance between benches at 716 Columbia

and 630 Columbia is 140 metres. Elsewhere, distance between benches does not exceed 50 metres.

The fourth criterion in this category delves further into seating provision and asks whether there is a choice of seating options in terms of types of seating, comfort and configuration. The area scores three points in this regard. There is some choice in seating options but there is also room for improvement.

In *Life Between Buildings*, Gehl (1987) recommends maximizing secondary seating options in an area through inherent features such as ledges and stairs (p. 163). By doing so, ample seating opportunities are available when needed. However, when they are not needed, their vacancy does not signal oversupply and rejection or abandonment of a space that empty benches might. He cites Venice as a good example of employing this approach as all city furnishings and some buildings have been designed to accommodate sitting.

Along Columbia Street, there is a lack of secondary seating options. Ledges of planters in Hyack Square are too high for sitting although they are conducive to leaning. There is also an absence of stairs in the area except for those leading to the pedestrian overpass at the far end of Hyack Square. Along the street, bollards at intersections could provide seating opportunities however their tops are peaked and so are not conducive to sitting. Some ledges in front of buildings could provide secondary seating options however they are all quite low and so are not likely to be utilized.

In terms of comfort, public benches all have back supports and appropriate seat heights. However, several are constructed from metal and look cold and hard. Sidewalk

cafés provide standard patio chairs for seating and should be reasonably comfortable. With respect to social comfort, sidewalk seating can be arranged by user into preferred configuration enabling solitude or encouraging conversation. In contrast, public benches are fixed in place and cannot be moved by users. Single benches do not facilitate conversation nor do they preclude it although they may offer some solitude. The distance between pairs of street benches that face each is too far to facilitate face-to-face conversation (see Figure 16).

Figure 17: Seating Provision



Distance between benches is too far to facilitate conversation
(Photo: J. Natland)

The final criterion in the *comfort* category asks whether seating location is oriented towards activity, scenery, points of interest and whether it integrates with pedestrian circulation. The area scores three points in this regard. Public benches are located along the curb edge of sidewalks. Most of the benches have their backs to the

road and face the street frontages, integrating with pedestrian circulation. However at several locations these benches are facing a blank wall and so do not provide a view of scenery or activity in general. Some benches are oriented perpendicular to the street and face each other. This orientation provides opportunity for interaction between people sitting on facing seats although the distance between the benches is fairly wide and could deter conversations. Several cafes and restaurants provide sidewalk seating for their patrons. This seating has the benefit of being movable by the user to their preferred orientation.

Accessibility

The first criterion in the *accessibility* category asks whether the study area is well connected by a variety of transportation modes with outside areas. Overall, the study area scores low on this criterion, receiving just two points from the maximum of five. While the area does have strong road and transit connections and, cycling connections are less than ideal and local pedestrian connections are significantly challenged.

The study does area have strong regional connections provided by two SkyTrain stations located at either end as well as Columbia Street itself which connects to the regional road network. On-street parking as well as a multi-level parking garage at the foot of Fourth Street support road access to the area. The bus loop at New Westminster SkyTrain Station provides additional regional link with routes into Burnaby, Surrey and Vancouver. Four additional bus stops evenly spaced in the study area, two in each direction along Columbia, make this mode of transport more convenient to access the area.

Cycling is not as well supported as transit or vehicle modes. Bike lanes in both directions along Columbia Street are part of the Central Valley Greenway that links False Creek in Vancouver with the Fraser River in New Westminster. However, to continue westward into Burnaby and Vancouver, the greenway detours to the Quay to bypass the truck route along Stewardson Way. Other bike route connections similarly detour around heavy traffic areas signaling that priority is given to motorized traffic. Steep grades on the north of Columbia Street, absence of bike lockers at the two SkyTrain stations along Columbia and lack of cyclist actuated signals at intersections along Columbia also signal a lack of support for this mode. Recent changes to parking configuration along Columbia Street should improve safety for cyclists. Back-in angle parking has replaced parallel parking along much of the street's length. As a result, drivers pulling into traffic along Columbia will have a better view of approaching cyclists.

The quality of pedestrian connections is mixed. The study area is permeated by a regular street grid characterized by short and frequent blocks providing multiple links to Columbia Street from the surrounding area. A mid-block passage on the north side of Columbia between Begbie and McKenzie Streets provides even greater permeability. However, Columbia Street faces significant challenges with respect to connectivity to surrounding areas. To the south, the truck route along Front Street and the adjacent rail tracks create a physical and perceptual barrier, cutting off Columbia Street from residences and businesses along the waterfront Quay area. A pedestrian overpass at foot of Eight Street crosses over the truck route and rail tracks to connect Columbia Street with the Quay area (see Figure 17). However it is a tall structure with stairs, lacking a ramp alternative and so is not useable by people of all physical abilities.

The considerable effort required to use the overpass may even deter those who are physically capable. At-grade crossing of the truck route and rail tracks is possible at the foot of Begbie Street however the resulting distances between points of interest at the Quay and on Columbia Street are high and the quality of the pedestrian route in terms of interest and physical comfort is low (truck route is noisy, absence of weather protection, lack of interesting sites as must pass by surface parking lot). To the north of Columbia Street, the sharply rising grade weakens connections to multi-family residences, area businesses and destinations such as Douglas College and the Provincial Court House.

Figure 18: Pedestrian Overpass



Pedestrian overpass connects Hyack Square with waterfront but is not usable by people of all physical abilities (Photo: J. Natland)

The second criterion asks whether the area is concentrated and compact with short travel distances for pedestrians and a route that can be perceived in stages. The study area scores two out of three in this regard. It is reasonably compact with the distance from Fourth Street to Eighth Street traversable in under 15 minutes. While some segments along the length of the street are concentrated with shops and services, this concentration is not consistent along the street. Dead spaces such as vacant buildings and long, inactive streetfronts unnecessarily increase walking distances between shops and services. Frequent intersections enable the route to be perceived in stages however the area lacks memorable landmarks and features that would more effectively define route segments.

The next criterion in the Access category asks whether pedestrian routes within the study area are easily traversable. Overall, the quality of pedestrian routes along Columbia Street is good and the area scores four points. Wide sidewalks are in good physical condition, providing an easy route to travel the length of the street. There is little or no grade change along Columbia to deter pedestrians. Heavy traffic volumes along Columbia Street may deter some pedestrians from crossing the street however controlled intersections provide opportunities to cross and curb bulges at these intersections shorten distance pedestrian must traverse across roadway. Parked cars and bicycle lanes on either side of the street provide buffer between pedestrian and vehicular traffic.

The fourth criterion in the Access category asks whether the study area is equally accessible for people of all physical abilities. The area scores four points as access in this regard is generally pretty good. Curb cuts at all intersections allow for wheelchair usage. Pedestrian signal buttons at crosswalks are at wheelchair height and are activated by a slight touch. Crosswalks utilize both visual and audible signals to notify pedestrians that

it is safe to cross the street. Almost all doorways into stores are at grade; where doorways are above grade and accessed by stairs, a ramp alternative is always provided close by. However, as previously mentioned, the pedestrian overpass at the foot of Eighth Street is not useable by people of all physical abilities. As this overpass is a significant link between Columbia Street and the Quay area, its inability to accommodate all people has prevented a maximum score for this criterion.

This criterion in the Access category asks whether pedestrian paths in the study area are linked both visually and physically to adjacent interior spaces. The study area receives three points for this criterion. Most occupied spaces along Columbia Street are physically accessible directly from the sidewalk. Only about 4 percent of active street frontages are not physically accessible to passerby. These include a private outdoor space at 611 Columbia Street, visible from the sidewalk, but restricted access to students and faculty of West Coast College of Massage Therapy as noted by a sign on the gate (see Figure 18). As WCCMT does not have direct access to the site from their building, they need to access it through the locked gate at the sidewalk. To do so must be awkward, as users would need to relock the gate behind them or allow use of the space by the general public. Also, the C2C Condominiums building, occupying a considerable portion of the street front, is accessible only by its residents.

Figure 19: Private Open Space



Private open space at 611 Columbia Street is not accessible to general public despite fronting onto main commercial street (Photo: J. Natland)

In addition to the four percent of physically inaccessible spaces, the design of other street frontages somewhat inhibit direct access. Two buildings along Columbia Street have interior shops and services, open to the public, but accessed only from an interior foyer and not directly from the sidewalk. Deeply recessed doors at several locations make transition from sidewalk to interiors of retail spaces less smooth as they require passersby to deliberately go out of their way to enter store. However several locations incorporate sidewalk retail sales in wider recessed spaces that facilitate transition to interior spaces as they naturally draw passerby towards shop door.

Some uses along the street, while physically accessible to all passers-by, are intended for use by select groups. The West Coast College of Massage Therapy, St. John's Ambulance, and the Community Economic Development offices serve a

limited population. While the general public may be able to physically enter these establishments, they likely will have no need or desire to. Other street level offices at 600 and 635 Columbia Street and have even less public appeal. The several bridal shops in the area are also accessible to anyone however their appeal will be limited to a very specialized group.

Approximately three quarters of occupied building frontages along Columbia Street have windows at street level that provide some visual access from the sidewalk. Window displays, signs, security bars somewhat obstruct sightlines at several locations but do not obliterate them entirely. For the other quarter of occupied buildings, an absence of windows or full covering of windows cuts off visual access to building interiors. An additional eight percent of building frontages along Columbia are vacant and may either be boarded up, thus not visually accessible, or simply not have anything inside worth looking at.

Security

The first criterion in the *security* category asks whether all spaces are well defined, demonstrating a clearly intended with ownership and control readily apparent. The study area scores three points in this regard. Most spaces are well defined however their ownership and intended use is not always readily apparent. Areas where the intended use is clear include the sidewalks where grade separation from the street makes it clear that they are intended as a pedestrian route. Their adjacency to storefronts makes it clear that they provide access to adjacent developments. Sidewalk cafes and benches send a signal that they are places for staying with larger sidewalk patios well defined by low fences and cedar hedging.

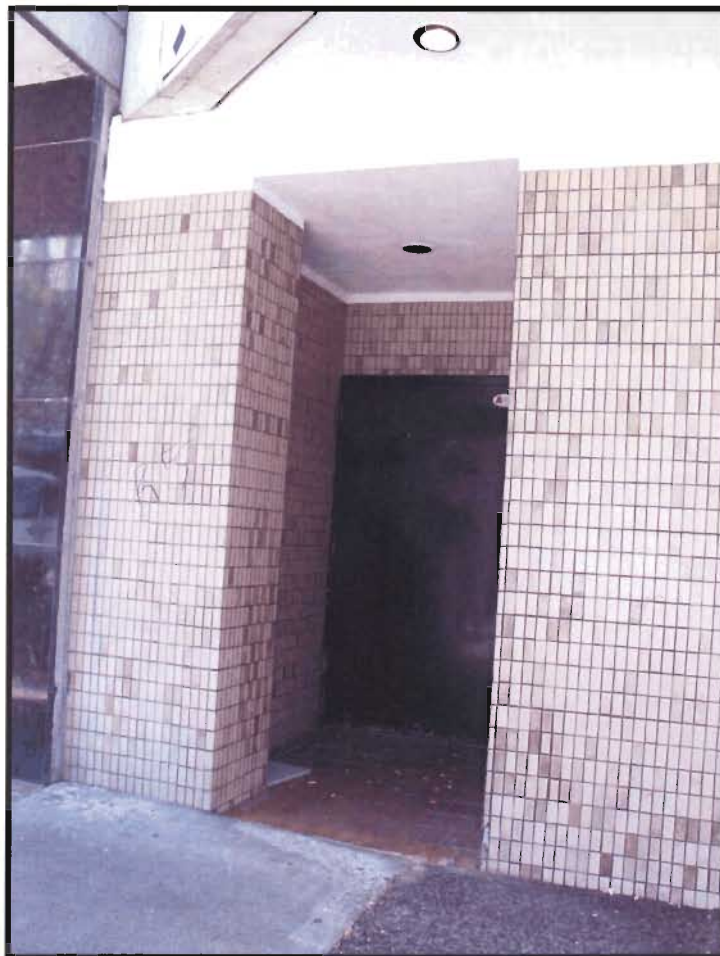
The intended use is not clear in most unoccupied areas. Vacant buildings are clearly not in use and the derelict condition of many send a signal that there are no plans to use them in the near future. Their ownership is not readily apparent and they give the impression of being abandoned. The intended use of the open space next to Starbucks is clear but seemingly contradictory for a public high street. The space itself is well defined by adjacent building walls and a gate at its frontage. A posted sign indicates the area is property of West Coast College of Massage Therapy. A barbeque as well as several patio chairs and tables distributed around the space that indicate its intended use as a private plaza. However, its actual use as such would be inappropriate given the surrounding context of a public thoroughfare.

While the general upkeep of Hyack Square gives the impression that the City is responsible for it, its intended use is also not clear. Squares in general are intended for public uses and it would be common place to observe people sitting while reading a book, drinking a coffee, people-watching and other similar activities in squares. They may also be the sites of planned gatherings such as rallies and speeches. Typically, a square will contain features conducive to such uses such as benches and other sitting options, landscaping, a focal point such as a fountain or monument. However, Hyack Square lacks such physical amenities to attract users. The only furnishings are a series of four planters placed towards the centre the square. A sign in one corner of the square prohibits loitering from dusk until dawn. I am left with the impression that visitors are intentionally deterred from lingering in the square and thus its very existence seems contradictory.

The second criterion asks whether pedestrians can view all spaces upon approach. Spaces that pedestrians will walk by or through should be visibly accessible before they

get to them with clear sightlines and no hidden or recessed spaces. For the most part, the study area meets this criterion and so receives a score of four points. Hyack Square is wide open, visible from all approaches with entrance points readily apparent. The straight alignment of Columbia Street allows for clear sight line down its entire length. However, some exceptions exist in the form of recessed doorways along the front facades of some buildings that are not visible upon approach (see Figure 19). These spaces are not lit and so are shaded and dark even during daylight hours.

Figure 20: Recessed Space



Recessed doorway is not visible to pedestrians upon approach (Photo: J. Natland)

The third criterion in the *security* category asks whether warm lighting illuminates routes, building facades and other features as well as socially relevant subjects such as people and activities during dark hours. The study area scores high in this regard, receiving the maximum score of five points. Warm and ample street lighting appropriately illuminates most areas and enables visibility and recognition over distance. Likewise, Hyack Square is amply lit. Again, the only exceptions are the recessed doorways that are not lit so a dark during both the day and night.

Criterion S-4 asks whether the area is conducive to natural surveillance by pedestrians and building occupants, providing opportunities for them to casually observe street activity. The area scores four points in this regard. Upper residential and office floors of occupied buildings provide overlook onto the street. Residential buildings provide the possibility of this natural surveillance at all hours. However, at the street level, window displays of many shops prevent outlook onto the street. As well, closed blinds at street level office spaces such as St. Johns Ambulance and WCCMT detract from natural surveillance opportunities.

The final criterion of this category and of the entire checklist asks whether security presence provides a sense of safety and care but is not obtrusive. If physical installations are necessary to deter crime and protect property, their design should fit with the character of the area. Figure 20 illustrates a creative approach to the design of a security door that fits with its local context. While the graphic stylizing of this feature would not be appropriate in many public spaces, it worked well in a square in Barcelona where adjacent shops, cafes and bars catered to a younger, alternative crowd evident by the mix of businesses, the music emanating from them and the clientele frequenting them.

Figure 21: Attractive Mural



The mural on this security door fronting onto a plaza in Barcelona, Spain fits with context of the area and minimizes intrusion of security presence (Photo: J. Natland)

Columbia Street scores two points for this criterion. The Police Station at corner of Sixth provides visible security presence that is not overbearing due to discreet signage and rear parking for police vehicles. Stickers indicating premises are alarmed are visible on several storefronts. However, physical installations to deter crime are obvious at a number of locations. Several stores have unattractive bars on windows and also across doors when they are closed (see Figure 21). Some of the vacant buildings are boarded up. Chain-link fence and barbed wire are not used in the study area.

Figure 22: Unattractive Security Bars



Unattractive security bars across a shop's windows and door on Columbia Street send a message that the area is not safe (Photo: J. Natland)

CONCLUSION

Totaling the points for each individual criterion results in an overall score of 105 points out of a possible maximum of 175. Expressed another way, the study area satisfies the evaluation criteria about sixty percent of the time. These results suggest that the quality of the public realm along Columbia Street is not sufficient to support a successful commercial core of a regional town centre. Public spaces along Columbia Street may be adequate to support existing levels of activity. However, they are not likely to attract an increasing number of residents, businesses and visitors as envisioned for regional town centres in Metro Vancouver's growth management strategy. Improvements to Columbia Street's public realm are necessary for this vision to be realized.

The results for the individual criterion suggest areas where improvements could be made to Columbia Street's public realm. In general, lower scores for an individual criterion reflect a need for greater improvement. However, the evaluation results do not represent the only areas where improvements could be made. The list of criteria itself is not exhaustive and other observers may identify areas that would benefit from improvements that were not addressed in this evaluation. While conducting the evaluation, I found that many criteria could involve a more substantial response than the one I provided. In addition, I found that my observations could have led to relevant tangents of exploration outside the scope of my criteria. However, my interest was to provide a reasonable level of detail for all 35 criteria I had identified and so I limited my

investigations accordingly. Consequently, the research results provide a solid overview of the quality of Columbia Street's public realm and suggest where improvements can be made and where further investigations should be directed. Recurring themes throughout the evaluation results point to several areas where priority should be given when considering improvements.

One area of priority emerges through the results of criteria in both the *legibility* and *good form* categories. Results in these categories imply that Columbia Street would benefit from at least one distinct landmark structure, located in a visible area at a termination point or similar location of significance. Such a structure would serve to orient people, provide a focal point for viewing from a distance or for gathering and could provide a much-needed destination along the street. It could take the form of public art, a fountain, or a monument located within a plaza. Or it could take the form of a distinctive building, prominently located, with ample open space out front for people to congregate. Whatever form a landmark feature takes, it should be well integrated with adjacent developments so that, although distinctive, it fits with the surrounding context.

Another priority area emerges from results in the *vitality*, *accessibility* and *security* categories. These results suggest that underused and inactive street frontages, as well as those that have limited appeal or access to the general public, significantly detract from the quality of the public realm. The scores of several criteria were all affected by this deficiency. Unfortunately, the relationship between vacant storefronts and quality of adjacent public spaces becomes a bit of a vicious circle. High vacancy rates contribute to the low quality of adjacent public spaces. In turn, the low quality of those public spaces likely make it more difficult for building owners to lease their vacant retail spaces. A

similar phenomenon is likely responsible for the presence of office uses that do not serve the general public at the street level along Columbia Street. It is rare to see such uses on a successful high street as high rents would effectively prohibit offices. However, along Columbia Street, lower quality public spaces may be deterring shoppers and thus keeping retail rents low enough for office uses. In turn, these office uses further contribute to the reduced appeal of the area to potential shoppers.

Hyack Square is another area of Columbia Street's public realm that requires priority attention. It occupies a fairly large space at an important intersection that should be developed as a strong anchor for the street. Instead, the square creates a void of activity by functioning ineffectively as a public gathering place. It suffers from several design flaws: its enclosure is weak and not well defined; it does not provide amenities to entice people to stay; it is too large an expanse for everyday use; it lacks a focal point such as public art, a monument or a fountain; and, it also lacks activity generators along its edges and within it. Some of these flaws would be easier to resolve than others. Providing amenities and a feature to serve as a focal point are fairly simple tasks. However, improving edge conditions and scaling the square appropriately will require structural changes not only to the square itself but also to adjacent developments that currently do not provide active frontages onto the square. Given the level of commitment required, it may be worthwhile to consider whether a square at that location is the best fit. There may be more appropriate locations for a square elsewhere along Columbia Street. Furthermore, the space currently occupied by Hyack Square may be better used for another purpose such as improving connections between Columbia Street and the waterfront.

Arguably the most significant constraint to the street's success is the quality of local connections between Columbia Street and surrounding areas. The steep grades to the north and the established rail and truck routes to the south severely constrain access to Columbia Street. For a resident living at the Quay or upslope from Columbia Street, it may be easier to drive to a shopping complex that provides ample parking than to walk to and from Columbia Street. This scenario is exactly the opposite of what the regional town centre concept is trying to encourage. Unfortunately there is no obvious and easy fix to these constraints. Resolving local accessibility issues is a significant challenge that must be overcome in order for Columbia Street to serve as a successful commercial core of a regional town centre.

These areas of priority can provide guidance to future urban designers and policy makers tasked with improving the quality of public spaces along Columbia Street. However, the checklist criteria and the evaluation results are not intended to be prescriptive. It is the urban designer and policy maker's roles to apply these principles and any others they may think important in a judicious manner based on their intimate knowledge and expertise of the local context. As Carmona *et al* explain, "urban design should not be reduced to a formula. Application of a formula negates the active process of design that relates general principles to specific situations" (2003, p. 11). In striving to achieve excellence, the designer may consciously decide to favour one of the integrative principles over another. Of course, their ultimate goal should be to ensure that public spaces along Columbia Street integrate well across property boundaries. The individual constituents of these public spaces, whether they are a street bench, a building façade or

an intersection, should interrelate to form a cohesive whole that anticipates and satisfies the observers' aspirations for their surroundings.

This research focused primarily on the physical characteristics of the public realm along Columbia Street. However, other factors can also contribute significantly to the overall quality of the area. For example, Project for Public Spaces advocates their "power of ten" concept that emphasizes the importance of providing a series of ten destinations or focal points, each with ten different things to do or see, in creating a "great place" (Kent, 2004). The actual number is somewhat arbitrary however the underlying principle is that great places offer a "variety of things to do in one spot" (Kent, 2004). With increased variety and choice, a place will "become more than the sum of its parts" (Kent, 2004) with people's enjoyment of the place growing exponentially. Project for Public Spaces (2004) believes Vancouver's Granville Island "perfectly illustrates" the "power of ten" concept in creating a vibrant, engaging place that attracts people and generates activity (Figure 23). There are at least ten destinations at Granville Island - public market with adjacent outdoor patio, community centre, tennis courts, art college, hotel, several restaurants, water park, lagoon, marina - each with their own host of sights and activities to enjoy. Each of these destinations are "bolstered by the others" (Project for Public Spaces, 2004) to create an experience for visitors vastly exceeding that of what any one destination could provide on its own.

Figure 23: Power of Ten



Busker at Granville Island just one example of why the area “perfectly illustrates” the Power of Ten concept
(Photo courtesy of CMHC Granville Island)

The Power of Ten approach is complementary to the research presented here. Just as Sternberg’s integrative principles of urban design work together to create and protect the integrity of the urban landscape, so too can urban design work together with the Power of Ten concept in order to provide a physical setting conducive to supporting a series of ten successful destinations. Even the best designed commercial corridor would not be successful if it did not provide variation in products, services and opportunities for activity. Likewise, a series of ten destinations are not likely to succeed unless they are well connected with one another, aesthetically pleasing and safe to visit. Other considerations beyond the scope of this research will also affect the success of Columbia Street such as land use planning, environmental sustainability and economic feasibility.

To achieve Metro Vancouver and the City of New Westminster's vision for downtown New Westminster as a thriving regional town centre, it will be critical to address urban design deficiencies, such as those identified through this research, while also paying attention to those other factors that may influence Columbia Street's destiny.

REFERENCE LIST

- Carmona et al (2003). *Public places, urban spaces*. Oxford: Architectural Press
- City of New Westminster (1987). *Community plan for downtown New Westminster*. New Westminster, BC: Author
- City of New Westminster (1990). *New Westminster heritage resource inventory, Volume 1: Downtown*. New Westminster, BC: Author
- City of New Westminster (1999). *Crime prevention through environmental design: Guidelines for safe urban design*. New Westminster, BC: Author
- City of New Westminster (1999). *Downtown action plan*. New Westminster, BC: Author
- City of New Westminster (2007). *Street activity program: Principles and guidelines*. New Westminster, BC: Author
- City of New Westminster. (n.d.). *Frontcounter GIS/Maps*. Retrieved October 1, 2007, from www.newwestcity.ca/maps.htm.
- Commission for Architecture and the Built Environment and Department of the Environment, Transport and the Regions (United Kingdom). (2000). *By design, urban design in the planning system: Towards better practice*. London: Author.
- Commission for Architecture and the Built Environment (CABE) (United Kingdom). (2001). *The value of urban design*. London: Author.
- Gehl, J. (1987). *Life between buildings*. (English Translation by Jo Koch). New York: Van Nostrand Rienhold
- Greater Vancouver Regional District (GVRD) (2003). *Regional town centres and office development: Promoting employment in accessible locations*. Burnaby, BC: Author.
- Jacobs, J. (1961). *Death and life of great American cities*. New York; Random House.

- Kent, F (November 2004). *The power of ten: Why great places are more than the sum of their parts*. Retrieved November 25, 2007 from Project for Public Spaces website: www.pps.org/great_cities/info/great_cities/articles/november2004_ten
- Lynch, K. (1960). *The image of the city*. Cambridge; MIT Press.
- Mitham, P. (2007). Real Estate Roundup. *Business in Vancouver*, 924, 12.
- Newman, O. (1972). *Defensible space: Crime prevention through urban design*. New York; Macmillan.
- New Westminster Tourism and Convention Development Association (no date). *A Walking tour through history*. New Westminster, BC: Author.
- Project for Public Spaces. (n.d.). *What makes a successful place?* Retrieved October 1, 2007 from www.pps.org/topics/gps/gr_place_feat.
- Project for Public Spaces. (2004, November). Granville Island: One of the world's great places. Retrieved November 25, 2007 from www.pps.org/info/newsletter/november2004/november2004_granville.
- Statistics Canada. (n.d.). *Census tract (CT) Profiles, 2006 census*. Retrieved October 1, 2007 from www12.statcan.ca/english/census06/data/profiles/ct/Index.cfm?Lang=E
- Sternberg, E. (2000). An integrative theory of urban design. *Journal of the American Planning Association*, 66, 265-278.
- Thomas Consultants Inc. (September 13, 2004). *Columbia Street retail impact assessment*. Prepared for the City of New Westminster.
- Whyte, W. H. (1980). *The social life of small urban spaces*. Washington: The Conservation Foundation
- Yang, W. and Kang, J. (2004). Acoustic comfort evaluation in urban open public spaces. *Applied Acoustics*, 66, 211-229.