EVALUATING PEDESTRIAN PRIORITY STREET POTENTIAL IN YALETOWN, VANCOUVER, B.C.

by

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ABSTRACT

This capstone project evaluates the potential for a pedestrian priority street in Yaletown through the analysis of two case studies – New Road (Brighton, England) and Strædet (Copenhagen, Denmark). Interviews with members of the Yaletown Business Improvement Association (BIA) were conducted to determine concerns with both the current state of the 1100 block of Mainland St. as well as with a possible pedestrian priority scheme for the block. Five concerns were identified and subsequently used to guide the case study investigations. Each case study involved a combination of direct field observations and interviews with local planning experts and business people. The case studies addressed all five concerns of the BIA and supported the potential for a pedestrian priority scheme to improve Mainland St. This research concludes by suggesting ways in which a pedestrian priority scheme for Yaletown could be successful including the discussion of a suitable implementation process.

Keywords: pedestrian priority; shared space; shared surface; woonerf, sivegader
DEDICATION

This research project is dedicated to the memory of my mother. She always encouraged me to continue learning whether through formal education or experiences. She supported the difficult decision I made to change careers and enrol in the Urban Studies program. For this, I am thankful.
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1. INTRODUCTION

This capstone project will attempt to evaluate the possibility of a pedestrian priority scheme for the 1100 block of Mainland St. in Vancouver, British Columbia. Mainland St. is located in Vancouver’s Yaletown neighbourhood, famous for its industrial history, converted heritage warehouses and unique loading docks. For the purposes of this paper, I will define pedestrian priority streets as all streets that mix pedestrians, bicycles and regular vehicle traffic on a single shared surface with priority granted to pedestrians (i.e. woonerven, some “shared space” streets, sivegader).

I have assumed a post-positivist approach throughout this project. The successes of pedestrian priority streets have been widely reported in both academic and non-academic media (Ben-Joseph, 1995; Whitby, 2002; McNichol, 2004; Hamilton-Baillie and Jones, 2005; Shared Space, 2005a, 2005b, 2006, 2008; Casselman, 2007; Brunton, 2008). I believe in the ability of pedestrian priority schemes to improve many of Vancouver’s streets. I believe that pedestrian priority streets should be one of many tools that city engineers and planners use when designing or redesigning streets. I do not believe that pedestrian priority streets are the solution to all traffic problems on all streets.

Prior to beginning this project, I believed that a pedestrian priority scheme could offer many improvements to the 1100 block of Mainland St. For example, a pedestrian priority scheme could improve the accessibility for pedestrians (particularly for people with mobility challenges), make better use of a nearby public space, allow for more flexible use of the space between buildings to hold public events like markets and festivals, enhance the sense of community cohesion, and ensure better integration with the rapid transit station due to open in 2009. My belief in the potential of a pedestrian priority scheme to improve Mainland St. was the motivation behind this project. While my own belief in
pedestrian priority streets may colour my research, I have made every effort to remain neutral in my approach and to remain open to any results that came out of my interviews and field observations.

This project will begin by describing the theoretical and local context of this study, including the justification for choosing Mainland St. My methodology will then be outlined along with specific methods that I used to gather the data. The results of my observations and interviews will be presented and applied to the concerns of a local stakeholder group in Vancouver. This project will conclude with a series of recommendations based on my findings that have the potential to improve both the 1100 block of Mainland St. and Yaletown as a whole.
2. THE IMPORTANCE OF PUBLIC SPACES

Much has been written about the importance of streets and other public spaces (Engwicht, 1999; Gehl, 2001; Jacobs, 2002). In her seminal critique of modernist planning, *The Death and Life of Great American Cities*, Jane Jacobs (2002) makes a convincing argument about the importance of the street to community cohesion, safety and vitality. David Engwicht (1999), an Australian traffic-calming advocate, outlines the important functions of streets in his book *Street Reclaiming: Creating livable streets and vibrant communities*. According to Engwicht, streets are places of exchange (of goods, knowledge, wisdom, friendship, support), spontaneity and creativity and are an integral part of people's home territory.

Jan Gehl (2001) believes that outdoor activities in public spaces can be grouped into three types – necessary activities, optional activities and social activities. Necessary activities are those activities that are essential to daily life (e.g. shopping, going to work or school). Optional activities are those that take place if an individual has the time and if the conditions in the public space are suitable for these activities (e.g. going for a walk, sitting on a park bench, sunbathing). Finally, social activities are those activities that “occur spontaneously, as a direct consequence of people moving about and being in the same spaces” (Gehl, 2001, p. 14). Therefore, social activities depend heavily on the number of necessary and optional activities that are taking place in a public space. Social activities – no matter how superficial – are important as they are “… the seed[s] for other, more comprehensive forms of social activity” (Gehl, 2001, p. 13). Gehl believes that necessary activities take place regardless of urban form or climatic conditions. However, for optional and social activities to take place, both climate and urban form must be agreeable to pedestrians.
While none of these authors believe that planning professionals can create community through design, they all believe that they can create environments that make community interactions more likely. A better quality public realm is one in which people are more likely to spend time and participate in optional and social activities. As people make better use of public spaces, the benefits of these places become evident.

2.1. MODERNIST PLANNING AND THE AUTOMOBILE

Since its invention and mass production, the automobile has had a dramatic impact on urban form and function. Under ideal conditions, automobiles provide a rapid form of transportation and allow for superior independence of movement than public transport. However, the convenience and popularity of automobile transportation has resulted in catastrophic impacts on the environment (air pollution, loss of valuable wild lands to vehicle infrastructure, damage due to the extraction of oil), on the economic sustainability of many of our communities (after reaching peak oil production), on public health (obesity, cardiovascular disease, hypertension, type two diabetes,), and on public spaces (Rees, 2003; Cavill, 2003; Kunstler, 2005; Gehl, 2001).

Largely unaware of the long-term negative consequences of the automobile, early modernist planning theorists recognized the utility that automobiles provided and embraced this new transportation revolution in their visions of the future city (Le Corbusier, 1967; Wright, 1958; Perry, 1939; Hall, 2002). Perhaps the most famous of these modernist visions is Le Corbusier’s Radiant City, which recognized both the convenience of the automobile and the potential threat to pedestrians that automobiles pose (Le Corbusier, 1967). To protect citizens from the dangers of automobiles, the Radiant City was based on the complete removal of pedestrians from streets. Streets became the domain of the automobile with the ability to move citizens quickly from their high-density residential zones (the famous “towers in a park”) to their places of work.
Like the Radiant City, Frank Lloyd Wright’s Broadacre City saw the streets turned into highways and given over to the automobile (Wright, 1958). Wright’s vision differed from that of Le Corbusier in that Broadacre City was distinctly rural in nature with detached housing surrounded by acres of arable land. Clarence Perry’s neighbourhood unit sought to create islands of residential zones surrounded by highways (Perry, 1939). The neighbourhood unit was to have basic services at its core (schools, churches) with all commercial activity relegated to the fringes of the community along the highways.

While these modernist visions differed in housing density and type, there are a number of similarities. Each of these visions called for the segregation of land uses to avoid conflicts between potentially incompatible uses. Industry and other places of work were placed far away from residences to protect citizens from noise, pollution, and the filth, disease and crime associated with Victorian city centres. Each of these visions shared a common faith in the ability of automobiles to efficiently move people between these segregated land uses in the most efficient manner. Finally, despite the enthusiastic embrace of the automobile by the modernists, each of these visions recognized the dangers and unpleasantness that automobiles can bring to pedestrian life.

2.2. TRAFFIC SEGREGATION AND THE EROSION OF PUBLIC SPACE

The influence of modernist planning theories has been widespread, despite the fact that the visions of Le Corbusier and Wright were never fully realized. The grim conditions of the Victorian city were the impetus behind the modernist planners’ tendency to segregate land uses. The Victorian city also marked the beginning of the flight to the suburbs (Hall, 2002). Most citizens who could afford to leave the squalor of the inner city did just that. As land uses were increasingly segregated and residents fled the inner city, residential areas were located further and further from workplaces.

Car ownership began to rise dramatically in 1909 with the mass production of the Ford Model T – particularly in the USA (Hass-Klau, 1990).
Automobiles enhanced people’s freedom of movement and increased the number of places people could choose to live. People increasingly chose to live in single-family detached homes on relatively cheap (compared to inner city prices) suburban land. Accompanying and exacerbating this dispersed urban form was the necessity for infrastructure (highways, arterial roads, parking) that would allow automobiles to move as quickly as possible between destinations. Since automobiles – particularly single-occupancy vehicles – require more space to move people than any other form of transportation (public transit, cycling and walking) large amounts of land were handed over to accommodate automobile infrastructure.

As automobile use increased, the number of collisions followed suit. By 1925, 24,000 people had been killed and 600,000 injured by motor vehicles every year in the USA (Hass-Klau, 1990). As roads became congested and dangerous, planners began to search for safer and more efficient street layout systems. The modernist tendency to segregate was once again the preferred solution to these problems. While not the first town to be developed with segregated networks for pedestrians and other forms of traffic, Radburn, New Jersey is arguably the most famous. Radburn is characterized by the complete separation of the pedestrian footpath network and the street network (Hass-Klau, 1990). The street network in Radburn broke the gridiron pattern by limiting the number of through streets within neighbourhoods. Ever since the development of Radburn, the foundation of strategies to protect pedestrians from automobiles has been to segregate pedestrians and vehicular traffic.

Another important influence in traffic planning and segregation is the Buchanan Report of 1961 – also known as Traffic in Towns. Colin Buchanan was an Urban Road Planning Advisor for the British Ministry of Transportation who believed that the increase in traffic related fatalities were due to a combination of driver’s misjudgements and the mixture of transportation modes (Hass-Klau, 1990). Buchanan saw the necessity of accommodating automobiles in cities but also saw the detrimental effects they had on urban architecture, noise, air pollution and their ability to encourage sprawling land use patterns.
(Hass-Klau, 1990). By the time he wrote his famous report, Buchanan had become very critical of the automobile’s use in cities, leading to his belief in the emancipation of the pedestrian through segregation (Hass-Klau, 1990).

A key element of the Buchanan Report was the creation of “environmental areas” in residential zones to protect residents from automobiles. Roads would be designed in environmental areas based on environmental capacity (the amount and type of traffic acceptable on a street without impacting the social and environmental functions of the street) as much as traffic flows (Hass-Klau, 1990). Furthermore, the report believed that under high-density conditions, pedestrians and traffic must be completely segregated while in lower density situations, mixing could take place if vehicle speed could be kept low (Hass-Klau, 1990).

The Buchanan Report has been misinterpreted over the years. For example, the report claimed that cities had to balance accessibility, the environment and financial resources (Hass-Klau, 1990). Specifically, the report warned planners that large amounts of money would be needed to modify cities to better suit automobiles (Hass-Klau, 1990). However, in the road-mad 1960s, many people misinterpreted this warning as a call to arms.

Accompanying the segregation of pedestrian and vehicular traffic, both “hard” and “soft” traffic control devices have been used (Appleyard, Gerson and Lintell, 1981). Hard traffic control devices are physical barriers that prevent the free flow of traffic like cul-de-sacs and speed bumps. Soft traffic control devices – like speed limits, stoplights and crosswalks – are psychological control devices that work by affecting the behaviour of drivers. Despite the segregation of pedestrians and traffic and the implementation of traffic control devices, collisions have continued to take place between pedestrians and automobiles, often with terrible consequences.

On a global scale, roughly half of all traffic accident victims are vulnerable road users (pedestrians, cyclists and motorcyclists) (World Health Organization, 2008). This is particularly true for developing countries. Despite the gradual decline in pedestrian fatalities experienced by industrialized nations since the
1960s, the risks for pedestrians continue to be many times higher than the risks for people in automobiles (Allsop, 1999). In the U.S.A., almost 175,000 pedestrians were killed by motor vehicles between 1976 and 2001 (National Center for Statistics and Analysis, 2003). In Canada, an average of 416 pedestrians were killed each year by motor vehicles between 1991 and 2001 (Transport Canada, 2004). Injuries to Canadian pedestrians due to motor vehicles averaged 14,252 per year over the same time period (Transport Canada, 2004). Canada’s urban pedestrians are most affected by automobiles with almost 70% of all pedestrian fatalities and 95% of all pedestrian injuries taking place in urban areas (Transport Canada, 2004). Pedestrians over the age of 65 were the most likely age group to be injured or killed by motor vehicles in Canada (Transport Canada, 2004).

In 2005, pedestrians made up 14.8% (68 in total) of all road injury fatalities and 6.8% (1857 in total) of all road injuries in British Columbia (ICBC, 2005). Similar to national trends, pedestrian fatalities in B.C. were most common in elderly individuals (over 50 years of age) (ICBC, 2005). Alarmingly, the number of pedestrian collisions has increased in B.C. from 1793 (in 2001) to 1919 (in 2005) (ICBC, 2005). Over half of these collisions occurred at intersections (51%) and many due – at least in part – to driver inattentiveness (30.63%), to drivers failing to yield the right of way (18.58%) and to driver error and confusion (12.77%) (ICBC, 2005). In Vancouver, pedestrian fatalities have been relatively constant over the past few years. Six pedestrians were killed on Vancouver streets in 2005, while eight were killed in both 2006 and 2007 (CBC, 2008). As of September 10, seven pedestrians had been killed in Vancouver in 2008 (accounting for half of the 14 traffic deaths this year) (CBC, 2008).

The segregation of pedestrians and motor vehicles in Canada – and many other countries – has helped to reduce the number of pedestrian injuries and fatalities. However, as the number of automobiles increased, the priority on our city streets has typically been given to the automobile – usually at the expense of the pedestrian realm (Muhlrad, 2000).
After the Second World War in particular, car traffic in the city developed by leaps and bounds and the use of public space changed accordingly. Heavy car traffic does not coexist peacefully alongside the uses of the city as a meeting place and marketplace. Uses that had been in balance for centuries were now in open conflict” (Gehl and Gemzøe, 2001, p. 13)

The priority given to automobiles on modern streets has resulted in an erosion of public space for citizens. The traditional role of the street as a place of spontaneity, exchange and children’s play space has been replaced by a single function – the movement of automobiles (Engwicht, 1999).

Donald Appleyard’s classic study of traffic volumes and neighbourhoods in San Francisco helps to illuminate the impacts that traffic has on communities (Appleyard et al, 1981). Appleyard found that the higher the traffic volume on any given street, the less sense of community that would be found there. Residents living along heavy traffic streets were much less likely to have local friends and acquaintances than residents living on light traffic streets. Additionally, residents of heavy traffic streets felt less stewardship over their street than residents on light traffic streets. Finally, residents of heavy traffic streets were less able to identify physical elements of their street than residents of light traffic streets. Through this study, Appleyard demonstrated the impact that automobiles – and the resulting erosion of public space – can have on communities.

While the justification to segregate traffic from pedestrians was sound (to protect people and encourage the smooth flow of traffic), it hasn’t produced the desired results. “All we have achieved is the illusion of safety and, come to that, the illusion of speed – average car speeds in London are now back to horse-and-carriage rates” (Whitby, 2002, p. 98). As automobiles were given increasing priority on our roads, their use increased to the point of congestion. Additionally, as cities have given more space to the automobile, it has meant more of the public space is under the control of traffic engineers who often have little or no training in urban design and whose job tends to prioritize traffic capacity and safety over quality of public space (Hamilton-Baillie and Jones, 2005).
Radburn-style developments in Britain have had reasonably sound accident records, but with pedestrians preferring the streets to the footpaths, they can hardly be considered a success (Baker, Thomson and Bowers, 1983). While few Radburn-type developments were ever built, their superblocks and cul-de-sacs were used widely (Muhlrad, 2000). In the 1960s, many Northern European countries followed the lead of the Swedish SCAFT (Stadsbyggnad, Chalmers, Arbetsgruppen för Trafiksäkerhet or translated as the Chalmers Urban Planning Workgroup for Traffic Security) Guidelines with its neighbourhoods surrounded by ring roads with cul-de-sacs preventing through traffic through the neighbourhood (Muhlrad, 2000). While Radburn-style developments, SCAF...
children, the avoidance of segregating features (curbs, separate roadways and sidewalks), full access to pedestrians (with partial access to vehicles) and features that limit automobile speed (speed bumps, narrow sections, sharp bends, avoiding long sightlines) (Royal Dutch Touring Club, 1978).

Figure 1. Woonerf in the Netherlands. (Used with permission of Ben Hamilton-Baillie)

In the early 1970s, the town of Delft applied De Boer’s woonerf concept to streets in low-income areas with little space for children to play and little land available to develop as play space (Ben-Joseph, 1995). As word of the woonerf’s success spread, other Dutch cities began to take an interest. In 1976, the government of the Netherlands approved the woonerf concept and the Ministry of Transport and Public Works laid out national standards for woonerven (RDTC, 1978). Since this time, the woonerf concept has spread to other countries like England, Germany, Sweden, Denmark, Japan, Israel and the U.S.A. (Ben-Joseph, 1995).
Despite their success, woonerven have their critics and shortcomings. The criticisms are largely due to the regulatory nature of its enabling legislation.

Urban developers were required to comply with tight guidelines and all these came down to introducing traffic restraining measures every fifty metres, limiting urban design options to prescribed obligatory traffic engineering solutions. Thus the woonerf became a traffic engineering measure that entailed preciously little more than signs and uniform standards. (Shared Space, 2006, p 1)

Furthermore, the woonerf approach only applied to relatively quiet residential streets rather than heavy volume or mixed-use streets. Another criticism of the woonerf movement has to do with the high cost of redeveloping roads along woonerf principles (Hass-Klau, 1990). The high cost of woonerven has led to the use of many of the principles in isolation and gave birth to many of the modern “traffic calming” measures (e.g. speed bumps, chicanes, roundabouts) (Hass-Klau, 1990).

2.4. BEYOND THE WOONERF: THE REINTEGRATION OF PEDESTRIANS AND TRAFFIC

Since the 1970s, woonerf principles have begun to be applied to non-residential streets. In the mid 1980s a new concept in traffic and pedestrian integration was conceived in the Netherlands – the concept that would later become known as “shared space”. Hans Monderman, a Dutch civil engineer, road safety inspector and traffic planner was responsible for much of the early work on this new concept in various cities in the Dutch province of Fryslân. In 2004, transportation planners in five European countries (the Netherlands, Denmark, Belgium, the United Kingdom and Germany) began a cooperative project to test “shared space” streets (Shared Space, 2008). The term “shared space” was first used at the outset of this project.

Like woonerven, some “shared space” projects have a single shared surface that is used by both pedestrians and automobiles. Because of this, the term “shared space” has often been improperly equated with a shared surface. It is important to note that many “shared space” streets do not have a shared
surface and continue to provide separate spaces for the movement of pedestrians, cyclists and vehicular traffic.

Apart from the misuse of the term “shared space”, some people still have reservations about using this term for streets with a shared surface. Some feel that the term “shared space” implies that more vulnerable road users – pedestrians and cyclists – are on equal terms with vehicles (Gehl, 2008). Jan Gehl (2008) feels that this does not adequately protect vulnerable road users and prefers the Danish definition of such streets – sivegader, or “seep street”.

In the late 1980s, traffic engineers in Denmark conceived the sivegader, which granted pedestrians priority, leaving cars to “seep” slowly through the pedestrians. In contrast to the “shared space” streets with a shared surface, sivegader are classified as “pedestrian streets with all traffic allowed”. This designation emphasizes a focus on the pedestrian while allowing automobiles access on pedestrian terms. Despite the difference in terminology, the underlying principles behind these two concepts remain the same. For the purposes of this paper, I will refer to both sivegader and “shared space” streets with a shared surface for both pedestrians and vehicles as “pedestrian priority” streets.

The philosophy behind “shared space” and pedestrian priority streets “aims at planning and designing space in such a manner that it does justice to the different meanings that this space has” (Shared Space, 2005a, p. 2). In other words, highways should be designed for the purpose of transporting automobiles and other motor vehicles at high speed and the exclusion of pedestrians is perfectly acceptable. On the other hand, residential and commercial streets should be designed primarily for the pedestrian experience rather than the accommodation of automobiles.

The most recognized feature of “shared space” and pedestrian priority streets is the minimization or complete removal of conventional traffic segregation and control devices like traffic signals, signs, road markings, humps, barriers, sidewalks and curbs. In some cases, features like water fountains are
placed within an intersection, encouraging the use of the space by pedestrians and especially children. With pedestrians, cyclists and automobile traffic sharing space on the street, cars are forced to slow down, to make eye contact with other users of the road and to drive more cautiously.

Initially, “shared space” and pedestrian priority streets were more commonly implemented in smaller towns and villages. These lower traffic volume situations are where you are more likely to find the “pure” expression of these streets – the mixing of pedestrians and vehicles on a shared surface with little or no traffic control devices present. However, “shared space” theory has recently been applied to major arterial roads (Kensington High Street in London) and major intersections (the Laweiplein in Drachten, the Netherlands) to great effect (Figure 2). In these schemes pedestrians keep to the side of the road, but the minimization of a distinguishable boundary between the roadway and sidewalk and the lack of signs, barriers, road markings and signals result in drivers taking more caution.
The results of pedestrian priority and “shared space” streets have been very favourable with reductions in both the severity and number of collisions. Studies in Europe, Japan and Israel have shown reductions in minor accidents of 20% and reductions in severe accidents of more than 50% on shared surfaces (Ben-Joseph, 1995). Drachten’s main intersection (the Laweiplein) sees 20,000 cars a day in addition to thousands of cyclists and pedestrians. Since being redeveloped along “shared space” principles, only four accidents (no human injuries) have occurred in two years compared to thirty accidents (including four injuries) in the previous seven years (Hamilton-Baillie and Jones, 2005). The removal of many of Kensington High Street’s pedestrian barriers, signs, and signals has led to a 43% decrease in pedestrian casualties (Casselman, 2007). No increases in pedestrian accidents have occurred on Seven Dials in London.
Despite the removal of the signs and markings and the increase in pedestrian activity taking place in the street (Shared Space, 2005b). When the Danish town of Christiansfeld, Denmark removed the traffic signals and signs from its major intersection, the number of people killed or seriously injured there fell from an average of three per year to zero for the first three years (Hamilton-Baillie and Jones, 2005). Furthermore, the new layout saw a reduction in bumper-to-bumper traffic during peak periods (Hamilton-Baillie and Jones, 2005).

Additionally, while traffic speeds have been reduced on pedestrian priority and “shared space” streets, the road capacity has remained relatively stable (and in some cases, has improved). For example, after the redevelopment of the Laweiplein – a major intersection in Drachten – Arriva (the regional bus company) reported a reduction in delay at the intersection from an average of 55 seconds to 9 seconds (Shared Space, 2008). Impressively, the removal of all traffic signals from Drachten has cut the time it takes to cross the town in half (Clarke, 2006). While the mean journey speed on “shared space” and pedestrian priority streets tends to be lower, the mean journey time stays constant (Whitby, 2002).

Evidence supporting the success of the pedestrian priority movements (“shared space”, sivegader, woonerven) seems clear. What is less clear is how to explain the apparent paradox of pedestrian safety though traffic integration and removal of traffic control devices. The Shared Space project has incorporated the risk compensation theory to help explain the success of pedestrian priority streets. Put briefly, the risk compensation theory states that the more individuals perceive risk, the more cautiously they behave (Adams, 1995). When applied to traffic psychology, the risk compensation theory suggests that drivers behave more cautiously when they perceive greater risk on the road, resulting in a decrease in both frequency and severity of accidents. By making the likelihood of a collision with a pedestrian or with another vehicle seem more possible, drivers take more care, resulting in an actual decrease in collisions. Conversely, by completely segregating pedestrians from traffic, and separating the roadway into individual lanes of traffic, drivers perceive a low risk
of collisions with either pedestrians or other vehicles and drive with less care. The theory of risk compensation postulates that this lower *perceived* risk may increase the *actual* risk and the likelihood of collisions.

The philosophies behind the risk compensation theory, the Shared Space project and pedestrian priority streets offer a variety of solutions for a variety of transportation problems. Cities from West Palm Beach, Portland, London, Copenhagen, and Tokyo have all used elements of these philosophies in improving their streets. Vancouver, B.C. is famous for its progressive land use planning policies that are emulated around the world. Pedestrian priority and “shared space” streets could help to make Vancouver’s transportation planning policies equally renowned as well as to further improve the livability of both the downtown peninsula and the inner suburbs.
3. SETTING THE LOCAL CONTEXT

3.1. THE VANCOUVER CONTEXT

As mentioned in the previous section, an important “shared space” and pedestrian priority principle is that streets are designed to best suit their primary function. Based on this principle, there are a number of streets in Vancouver that are poorly designed. Many of Vancouver's residential streets are wide, straight and capable of moving traffic at high speeds. Pedestrian activities (e.g. children's play) are dangerous on these streets, even when traffic-calming devices are implemented. With the densification of Downtown and many other neighbourhoods in Vancouver (as a part of the Ecodensity initiative), a number of arterial roads will take on increasingly residential and/or commercial functions (e.g. Seymour St., Richards St., Kingsway). Furthermore, a number of Vancouver’s shopping streets (e.g. Robson St., Main St., Cambie St., Commercial Drive.) have been designed with more focus on automobile movement than the pedestrian experience. To encourage optional and social activities on Vancouver’s streets, it is important to ensure that the pedestrian experience is as enjoyable as possible by designing streets to best serve their most important function.

Traditional hard traffic-calming measures such as barriers, diversions, mini-parks, roundabouts, and speed bumps have been successful at discouraging traffic in Vancouver’s neighbourhoods (e.g. the West End) and have improved the quality of existing public spaces. “There are roughly ten times as many pedestrians as moving vehicles on the [West End] residential streets. The car has become the alternative form of transportation” (The City Program of Simon Fraser University, 2006, p. 9). With lower traffic volumes and increased pedestrian activity in the West End, sidewalks have become more amenable to optional and social activities. However, with the exception of the six
pedestrianized mini-parks (each created by converting half a block of normal road) these traffic-calming measures have done little to add to the *quantity* of public space (Figure 3). I believe that pedestrian priority streets have the potential to improve both the quality (traffic-calming) and quantity of public space in Vancouver’s streets without restricting access to vehicles.

Figure 3. West End mini-parks. Clockwise from top-left: Broughton St. (south of Nelson St.), Gilford St. (north of Haro St.), Gilford St. (south of Haro St.), Bute St. (south of Haro St.). (Used with permission of Ian MacPhee)

Lance Berelowitz, a local architect, planner and author, notes that one of Vancouver’s greatest assets – the Seawall – tends to detract from the vibrancy of the Downtown peninsula (Berelowitz, 2005). The Seawall is a pleasant pedestrian promenade over 20 km long that virtually surrounds the Downtown peninsula. Berelowitz believes that the “centrifugal pull” of the Seawall draws pedestrian activity to the edges of the Downtown peninsula at the expense of its inland public spaces. John Punter, professor of Urban Design and author of *The Vancouver Achievement* believes that “the city’s principal streets and spaces
need a coordinated strategy if their appeal is to be assured and their urbanity enhanced” (Punter, 2003, p. 286). Pedestrian priority design principles could be a part of this strategy as they may help to enhance some of Downtown Vancouver’s streets and make them more able to compete with the Seawall for optional and social activities. With its proximity to the Seawall, Vancouver’s historical Yaletown neighbourhood is particularly susceptible to the Seawall’s centrifugal pull of public life.

3.2. THE 1100 BLOCK OF MAINLAND ST

My study will focus on the possibility of a pedestrian priority scheme for the 1100 block of Mainland St. (Figure 4). Mainland St. is a relatively narrow one-way street (southbound) that works in tandem with its twin immediately to the west, Hamilton St. (northbound). Unlike most Vancouver streets, Mainland St. has no laneway for service vehicles so all deliveries and services for the buildings must be done from the street-front.

1100 Mainland St. Fast Facts

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>148 m</td>
</tr>
<tr>
<td>Width</td>
<td>17.9 m (7.4 m loading docks)</td>
</tr>
<tr>
<td>Area of New Road</td>
<td>2649.2 m²</td>
</tr>
<tr>
<td>Land Use at street level:</td>
<td></td>
</tr>
<tr>
<td>Shops</td>
<td>4</td>
</tr>
<tr>
<td>Food/Drink</td>
<td>8</td>
</tr>
<tr>
<td>Office</td>
<td>5</td>
</tr>
<tr>
<td>Services</td>
<td>3</td>
</tr>
<tr>
<td>Cultural</td>
<td>0</td>
</tr>
<tr>
<td>Vacant</td>
<td>0</td>
</tr>
<tr>
<td>Public Seating (linear metres)</td>
<td>4.2</td>
</tr>
<tr>
<td>Café Seating</td>
<td>135</td>
</tr>
</tbody>
</table>
Mainland St. is located in the Yaletown neighbourhood composed of converted, three to six storey, brick warehouses from the late 19th century and early 20th century (Figure 5). A diversity of residential, commercial and office uses characterize Mainland St. Restaurants, pubs, cafés, services (salons, tailors), shops (wine, eyewear, clothing, cigars, furniture, bakery, cellular phones), a car dealership, a mortgage broker, and a yoga studio can be found at ground level. The upper floors of the buildings contain a range of offices (lawyers, doctors, accountants, film, landscape architects, media and entertainment) and residential condominiums. A unique remnant of Mainland
St.’s (and Hamilton St.’s) industrial past is the elevated loading docks (height of roughly 1 m) that constitute the western sidewalk. There are two rows of on-street parking with parallel parking on the east side and angled parking on the west. Perhaps because of the parking configuration, narrow roadway and presence of pedestrians in the road, traffic tends to be light and to move no faster than an average human running speed along Mainland St.

At the south-eastern end of the 1100 block of Mainland St. lies Bill Curtis Square (Figure 6). Prior to the disruptions caused by the Yaletown-Roundhouse Station construction (part of the Canada Line – a mostly underground rapid transit line scheduled for completion in 2009), this small public space was the location for small weekend markets in the summer months. When compared to the number of people along the Seawall and the local waterfront parks, Bill Curtis Square was a poorly used public space. The future station will open up into Bill Curtis Square, and is expected to increase pedestrian activity in the neighbourhood. Ridership projections for 2010 predict 680 people will be using the Yaletown-Roundhouse Station in the morning peak period (270 boardings, 410 alightings) and 280 people at midday (130 boardings, 150 alightings) (Halcrow Group Limited, 2003). By 2021, the numbers of people using this station are predicted to increase to 820 in the morning peak period (310 boardings, 510 alightings) and 340 at midday (160 boardings, 180 alightings) (Halcrow Group Limited, 2003).
Figure 5. Yaletown features. Buildings along Mainland St. (top) and Hamilton St. (bottom) are typically three to six storeys, have narrow eastern sidewalks, raised loading docks and two rows of on-street parking (parallel on the east side and angled on the west). (Used with permission of Ian MacPhee)
Pedestrian priority streets have been used in the past to calm traffic, to improve public space or to achieve both goals. Since traffic is already used to driving with caution along Mainland St., the suggestion of a pedestrian priority scheme for Mainland St. has more to do with enhancing public space rather than calming traffic. Furthermore, the cautious driving behaviour seen along Mainland St. (and Yaletown in general) could mean a relatively smooth transition to a pedestrian priority scheme.

The current design for Mainland St. does not adequately represent its function. Mainland St. is a mixed-use commercial and residential area, with the majority of the space between buildings given over to automobiles. The narrow eastern sidewalk (roughly 1.2 m) can be difficult to negotiate due to the presence of hydro poles, guy-wires, parking meters, sandwich boards and mailboxes (Figure 7). Passage along the east side of Mainland St. is even more difficult for people with mobility challenges (wheelchairs, visually impaired, strollers, elderly).
The wider western sidewalk (on the loading docks) offers little help to those with mobility challenges as it is elevated above street level and there are only two ramp access points on either end of the block. The mid-block stair access points to the loading docks is of little use to people with mobility challenges (Figure 8).

Figure 7. Eastern sidewalk of Mainland St. (Used with permission of Ian MacPhee)
Figure 8. Access to the western sidewalk of Mainland St. The top photos show the ramp access points at Davie St. (top left) and Helmcken St. (top right). Note that to access the loading docks at Helmcken St., you must walk the whole block between Mainland St. and Hamilton St. The bottom photos show two mid-block stair access points along Mainland St. (Used with permission of Ian MacPhee)

When the Yaletown-Roundhouse Station is completed, more sidewalk space will likely be required to allow for the increase in pedestrian activity to and from the station (Figure 9). Since the station will be on the east side of the street, this will increase the pressure on the eastern sidewalk, forcing many pedestrians onto the street or across to the elevated western sidewalk. Pedestrians unable to gain easy access to the western sidewalk will likely have to deal with an even busier and more difficult to negotiate eastern sidewalk.
A pedestrian priority scheme for Mainland St. could help to improve the street. It has the potential to improve the public realm and create a place that is more suited to pedestrian movement rather than automobiles. It could also improve the access along Mainland St. for people with mobility difficulties. Finally, it could help the street cope with any increases in pedestrian activity associated with the future Canada Line station.
4. METHODOLOGY

I have used a case study methodology to assess the validity of local stakeholder concerns with a pedestrian priority on Mainland St. More specifically, I have taken an embedded multiple case study approach. Embedded case studies use multiple methods in the assessment of each case (Yin, 2003). Each case study will include qualitative interviews, survey interviews, and direct field observations. I have undertaken two case studies as this provides more compelling evidence and proves the replicability of the methods better than a single case study (Yin, 2003). While more cases would further strengthen my conclusions, I have limited the number of cases that could be studied to maintain a reasonable scope for this project.

Preliminary studies of possible case studies involved determining streets that have similarities in either form or function to Mainland St. Through a combination of email correspondence, Internet and literature searches, I identified Strædet (Copenhagen) and New Road (Brighton) as my two case studies. Mainland St., Strædet and New Road are all mixed-use, urban streets. While Strædet is referred to as a sivegader (“seep” street) and New Road is considered “shared space”, they both fit my definition of pedestrian priority streets that allow for the mixing of pedestrians and vehicle traffic on a shared surface. Since Bill Curtis Square lies alongside Mainland St., New Road was of particular interest due to the presence of a public space – the Royal Pavilion Gardens – along its eastern edge.

4.1. INTERVIEWS WITH THE YALETOWN BIA

My research was conducted in three stages (Figure 10). The first stage involved conducting qualitative interviews with a local stakeholder group to determine their concerns with the 1100 block of Mainland St. as it stands today
as well as their perspectives of the street under a pedestrian priority scheme. I chose to interview members of the Yaletown Business Improvement Association (BIA). The Yaletown BIA was chosen as it is a prominent stakeholder group that is actively involved in the operations of Mainland St. (including the Downtown Ambassador program, marketing, lobbying, street beautification, and the initiation of a successful dumpster free movement for Vancouver). I interviewed three members of the BIA to identify some of the perspectives and concerns that may exist within the group. The interviewees were selected to best represent a cross section of business interests in the community.

Since the intention of these interviews is to collect a range of opinions – rather than facts – on pedestrian priority streets, the identities of the BIA respondents need not be revealed. The interviews aimed to determine the perspectives of the BIA members on the current state of Mainland St., to gauge their understanding of pedestrian priority streets and to determine how compatible they feel Mainland St. is with a pedestrian priority scheme. Pictures of pedestrian priority and pedestrian only streets were shown to the respondents to give them an idea of what these streets look like (Appendix A). Pictures were shown to minimize the need for explanation and reduce the risk of colouring their opinion with my own biases.
4.2. INTERVIEWS WITH LOCAL EXPERTS

The second stage of my research involved collecting information on my two case study streets in situ. Two different interview techniques and two different observation methods were used for each case (Figure 10). The first set of interviews conducted were in-depth qualitative interviews with an expert who played a key role in the implementation, design or maintenance of Strædet or New Road. Jens Rørbech, then Technical Director at the City of Copenhagen (responsible for roads and traffic amongst other things) was interviewed about Strædet. Jim Mayor, the Project Manager for the redesign of New Road, was interviewed about New Road. I have attempted to determine their perspectives on their case study street – including the development, successes, failures, challenges, limitations, modifications and lessons learned. The responses of Jim Mayor and Jens Rørbech reflect their own opinion and not necessarily the opinion of their past or present employers.
4.3. INTERVIEWS WITH LOCAL BUSINESSES

The second set of interviews was a series of short survey-style interviews conducted with business people (merchants, owners, office employees) on each case study street. An important purpose of these interviews is to try to balance out the perspectives of the experts whose responses may reflect their vested interest in the case study streets. Furthermore, these interviews were conducted to better understand the challenges and opportunities provided by the redesign of their street to businesses and hopefully address some of the issues raised by the Yaletown BIA. I interviewed eight business people in New Road and six in Strædet. I made an attempt to interview as broad a range of business people as possible, from boutiques, shops and offices to restaurants and cafés. A difficulty came about in Strædet due to the small number of original businesses (those that existed prior to the redevelopment) remaining and an even smaller number of these business people willing to participate in this study. While more recent business people could offer opinions on Strædet today, I wanted to determine how the street has changed over time – particularly since the redevelopment. For this reason, most of the business people interviewed were either in business prior to redevelopment or familiar with the street before and after the development.

4.4. FIELD OBSERVATIONS

The field observations took place over three days for each street. Weekdays were selected to determine the level of use of these streets under ‘normal’ circumstances. A greater number of observations would have improved the reliability of my results but financial resources limited the time I could spend in each location.

The observations of New Road took place on Wednesday, May 28, Thursday, May 29 and Friday, May 30. Since the length of New Road (160 m) is comparable to the length of the 1100 block of Mainland St. (151 m), the whole street was studied (Figure 12). The weather was mixed for each of the three
days. Wednesday, May 28 (low 12 C, high 15 C, 3 mm precip.) and Thursday, May 29 (low 9 C, high 20 C, 1 mm precip.) saw cloudy but dry mornings with rain setting in by 13:00 and 15:00 respectively. Friday, May 30 (low 12 C, high 18 C, 0 mm precip.) began as a mix of sun and cloud with pleasant sunny weather from 15:00 onwards. Unfortunately, the weather during my time in Brighton did not provide me with a full day of pleasant weather (sunny, warm and with dry surfaces for sitting).

The observations of Strædet took place on Wednesday, June 4, Friday, June 6, and Tuesday, June 10. The weather on Wednesday, June 4 (low 12 C, high 22 C, 0 mm precip.) and Friday, June 6 (low 11 C, high 22 C, 0 mm precip.) was sunny and warm all day. The weather on Tuesday, June 10 (low 12 C, high 22 C, 0 mm precip.) was mostly sunny and warm, but gusty winds made it less pleasant than the other days. Since Strædet is longer than both New Road and the 1100 block of Mainland St., only a portion of the street that was most similar in composition to the 1100 block of Mainland St. was sampled (167 m consisting of Kompagniestræde between Knabrostræde and Hyskenstræde and the easternmost 16m of Laederstræde) (Figure 23). Sampling the same consecutive weekdays as New Road was not possible due to a holiday on Grundlovsdag (Constitution Day) Thursday, June 5. Further to this, Tuesday, June 10 was selected as it was the only day during my time in Copenhagen when the weather report was unfavourable. Having an unfavourable day for Strædet would have provided me with a better comparison with my observations of New Road.

The first set of field observations included counts of traffic and pedestrian movements. Based on previous pedestrian studies, I counted between the hours of 10:00 a.m. and 6:00 p.m. to observe normal weekday situations (City of Vancouver, 2002; Gehl and Gemzøe, 1996). A break was taken between 2:00 and 3:00 p.m. This is an ideal time as any lunchtime activity will be largely over and people will not yet be returning home from work. For the first 15 minutes of every hour, I counted the number of pedestrians, cyclists, service vehicles (garbage removal, trades, deliveries (including trucks, vans and cars)), automobiles (including taxis), and motorcycles. Public transit vehicles do not use
Strædet or New Road and therefore were not counted. This data was then used to estimate the traffic and pedestrian counts for each hour.

The second set of field observations collected counts of stationary activities taking place on the street. At 15 and 45 minutes past each hour, I walked along the study area from end to end, counting how many people were using public seating, using secondary seating (e.g. stairs, doorsteps, low walls), seated at a café or restaurant patio, standing, involved in a cultural activity (e.g. buskers, watching buskers) and involved in a commercial activity (e.g. window shopping, street vendors). The two hourly counts were then used to find an average number of stationary activities taking place for each hour.

The time between the two activity counts was used to either conduct the survey interviews with business people or to collect the third set of field observations. These direct observations were intended to observe how people use the street as well as how people using different transport modes (pedestrians, cyclists, drivers) negotiate right-of-way. These observations are meant to provide some concrete examples of how people are using the case study streets to help support the data collected by the first two sets of observations.
5. RESULTS OF THE YALETOWN BIA INTERVIEWS

The purpose of the Yaletown BIA interviews was to determine what concerns exist with either the current state of Mainland St. or with a pedestrian priority scheme for the street. This section contains the results of the BIA interviews with minimal interpretation on my part. I have reserved my own interpretations of these concerns for the final section of this paper (Section 9: Conclusions and Recommendations).

5.1. YALETOWN BIA PERSPECTIVES OF MAINLAND ST

The interviews with the Yaletown BIA members drew attention to some general opinions about Mainland St. A few features of the street stood out to these members as being particularly important to the character of the 1100 block of Mainland St. The unique raised loading docks that compose the western sidewalk were unanimously perceived to be an important feature that provides street level activity in the form of public events and patios. One BIA member felt that Bill Curtis Square helped to differentiate Mainland St. from other streets in the city. Two members felt that the architecture of Mainland St. was an important element in the street’s character. In particular, one respondent liked the human scale of the buildings along the 1100 block of Mainland St. (3-4 floors) that effectively encloses the street without making people “feel dwarfed.”

The members of the Yaletown BIA highlighted a variety of functions served by the 1100 block of Mainland St. The respondents all believed that the 1100 block of Mainland St. is seen by most people as a mixed use street with restaurants and cafés sharing the spotlight with independent boutiques, shops, offices and residences. Because there are no back alleys, two of the members interviewed believed that a critical function of Mainland St. is to provide access for delivery and service vehicles. Two members also see Mainland St. as an
important pedestrian thoroughfare connecting destinations to the south (the Roundhouse Community Centre, David Lam Park and the Seawall) with the new high-rise developments and the rest of Downtown to the north. Due to the presence of Olympic venues nearby, one member feels that this connection will be especially important during the 2010 Winter Olympic Games.

5.2. CONCERNS OF THE YALETOWN BIA

Throughout the interviews, a number of concerns were raised with the 1100 block of Mainland St. All concerns that were addressed by the examples of the case studies have been included in this project. Some of these concerns are related to the current state of Mainland St. while others directly address the possibility of a pedestrian priority scheme for the street.

The BIA members interviewed were varied in their receptiveness to a pedestrian priority scheme for Mainland St. One member was sceptical that a pedestrian priority scheme would work for Mainland St. Another member liked the idea but felt that as a businessperson, there would be too many challenging impacts on the operations of their business (i.e. deliveries, parking, access). Finally, one member felt confident that a pedestrian priority scheme could improve Mainland St. The variation of opinions within the BIA towards pedestrian priority streets seemed to depend on the nature of their businesses. Business people that were more dependent on timely deliveries (e.g. restaurant owners) seemed more apprehensive about a pedestrian priority scheme than business people who aren’t as affected by late deliveries (e.g. shops and boutiques).

Despite varying opinions on the potential for a pedestrian priority scheme for Mainland St., all three members agreed that a pedestrian priority scheme for Mainland St. would be preferable to a fully pedestrianized street. The issues raised by the Yaletown BIA members have been categorized into five areas of concern – parking, deliveries and service vehicle access, visual clutter, an adjacent public space (i.e. Bill Curtis Square), and finally, an inherent incompatibility of a pedestrian priority street with this location.
5.2.1. PARKING

All three respondents believed that parking is currently an issue to many Yaletown businesses. None of the members would support the complete removal of on-street parking along Mainland St. to accommodate a pedestrian priority scheme. One member felt that as a businessperson, they could not support the removal of any parking due to the loss of access to both customers and deliveries to their business. Another member would be supportive of some on-street parking removal if – and only if – any parking spaces lost along Mainland St. were created in the immediate vicinity. This member believed that Yaletown visitors would be willing to walk a few minutes from a nearby parking lot to Mainland St.

While two BIA members felt that a pedestrian priority scheme for Mainland St. would mean more difficulties for parking in Yaletown, one member was more optimistic. This member felt that one row of parking could be removed with little impact on the businesses of Yaletown. This member felt that due to the greater number of parking spots provided by an angled parking layout, the removal of the parallel parking on the eastern side of the road would be a more prudent decision. This member shared the belief that people were willing to park elsewhere and walk a few blocks to get to Yaletown. Just as drivers and pedestrians adapted to the Canada Line related road closures, this member believed that they would learn to adapt to the loss of some parking along Mainland St.

Finally, two members were unsure of whether the new Canada Line would be able to offset any loss of parking. While one member admitted that the Canada Line has the potential to bring a much greater volume of people to Yaletown than the available parking spaces, they are not sure if the new station will replace the need for parking spaces. All three members felt that some existing customers will always choose to drive. While acknowledging the potential of the Canada Line to bring in new customers, two of the three members couldn’t confidently predict this outcome.
5.2.2. ACCESS TO DELIVERIES AND SERVICE VEHICLES

Access for delivery and service vehicles were a concern for two of the three members. Since Mainland St (and Hamilton St.) has no lanes, the streetfront is of critical importance for deliveries and service access. As one member noted, the 1000 and 1100 blocks of Mainland St. have over 30 restaurants, bars and cafés with each getting at least three deliveries by 11 a.m. each morning – and that the Canada Line will not be able to replace a single delivery truck. Furthermore, this member raised the concern that delivery drivers – some in very large vehicles and on a schedule – would not drive with adequate caution along a pedestrian priority Mainland St. The other member who raised a concern with service vehicles believed that while a pedestrian priority design for the 1100 block of Mainland St. would create more difficulties for delivery people, “how [the deliveries] get there is to a certain extent, not my concern.”

However, one member felt that deliveries on Mainland St. were only a problem for certain businesses like restaurants. This member felt that adequate commercial loading zones and informal stopping areas were provided to accommodate most types of businesses. Whether or not, the individual BIA members are personally concerned with problems associated with delivery access, they all believed that deliveries would likely be more problematic under a pedestrian priority design.

5.2.3. VISUAL CLUTTER

Another concern raised by the BIA members was the cluttered appearance of Yaletown – including Mainland St. One member believed that the hydro poles and associated wires – particularly along the eastern sidewalk – posed a problem for accessibility, building maintenance (e.g. window washing) and occupied too much space. Another member felt that what little street furniture exists in Yaletown looks “piecemeal” and is in a state of disrepair (Figure 11). The third member felt that the sandwich boards placed along the narrow eastern sidewalk made movement for strollers and people with mobility

issues difficult. While each member had differing concerns with the appearance of Yaletown, these concerns combine to give Mainland St. a cluttered appearance that detracts from its potential visual appeal.

Figure 11. Public seating along Mainland St. Five different types of public seating can be found in the 1000 and 1100 blocks of Mainland St. (Used with permission of Ian MacPhee)

5.2.4. AN ADJACENT PUBLIC SPACE

All three members raised concerns about the future of Bill Curtis Square. Two of these members described the square as a “respite” from the busy city around it and well used prior to the Canada Line construction. One of these members saw Bill Curtis Square as a gathering point for the community and an important public space used for farmer’s markets prior to construction. The other of these members raised the concern – not unique to Bill Curtis Square – of the presence of homeless people sleeping in the square. There was uncertainty on the part of these two respondents whether the square will be adequately returned to its former state after construction of the Canada Line station.

The other member felt that Bill Curtis Square was not well used prior to the construction. This member felt that the square lacked any inherent ability to attract people and would benefit from a number of attractions including food
vendors, public art, more public seating and wayfinding maps. The members expressed some improvements that they were wishful for during the post-Canada Line reconstruction. One member stated a desire to see better street furniture installed in Bill Curtis Square upon completion of the Canada Line station. Another member wanted to see features like electrical outlets and water supply installed to add to the functionality of the space – particularly with respect to the farmer’s market.

5.2.5. AN INHERENT INCOMPATIBILITY

Finally, there were a number of concerns that could be best categorized as an inherent incompatibility between pedestrian priority streets and Vancouver. Perhaps surprisingly, no concerns were raised with regards to the safety of a pedestrian priority design for Mainland St. One respondent believed that since there are numerous mid-block staircases along the raised loading docks, people walk across Yaletown’s streets regularly and vehicles have learned to expect this behaviour and drive accordingly. One member felt that the level of respect for pedestrians in Vancouver – especially in comparison to Toronto and Montreal – would make it an ideal place for pedestrian priority streets and was confident Mainland St. would be improved through such a scheme.

However, two of the three members interviewed felt that a pedestrian priority street wouldn’t work in Vancouver. One member raised a concern with the minimization – or removal of – signs that tend to characterize pedestrian priority streets and felt that a pedestrian priority street would only work in Vancouver with “extremely good signage.” Another member believed that since Hamilton St. and Mainland St. work in tandem as parallel one-way streets and share a very similar character, a pedestrian priority scheme for the 1100 block of Mainland St. would only work if the same treatment was done for Hamilton St. (and indeed for all blocks of Hamilton St. and Mainland St. in the whole of the historic Yaletown neighbourhood). One member felt that the patio seating seen in the photos of Strædet and New Road would not be possible due to the strict rules on patio enclosure for alcohol serving establishments in Vancouver.
Finally, one member believed that Vancouver drivers were just not capable of adapting to such a road arrangement.

While there were a variety of concerns raised with Mainland St. in its current form and as it would be under a pedestrian priority scheme, the overall sentiment of the Yaletown BIA is that they are open to new ideas for Mainland St. While two of the respondents had their reservations with pedestrian priority streets, all three members appreciated the benefits of such streets and – based on the photos – believed that they were attractive public spaces. Despite their reservations, none of the respondents were categorically opposed to a pedestrian priority Mainland St. – or Yaletown for that matter.
6. CASE STUDY: NEW ROAD, BRIGHTON

New Road is a short street located in central Brighton, England (Figure 12). It is composed of buildings between three and five storeys high with a mixture of restaurants, shops, services, offices and a church at street level (Figure 13). Residences occupy the upper floors of some of the buildings. New Road is home to two of Brighton’s most important cultural institutions. The Theatre Royal is an important venue for plays, musicals, operas, ballet and other events. The Brighton Dome contains multiple venues (Pavilion Theatre, Corn Exchange, Concert Hall) hosting a range of events including plays, concerts, comedy and workshops. Immediately adjacent to the south-eastern flank of New Road lies the Royal Pavilion Gardens. The Gardens are an important green space in central Brighton that along with grassy fields, manicured gardens and an outdoor café, contains the Royal Pavilion (former royal residence of then prince Regent, King George IV) and the Brighton Museum and Art Gallery.

**New Road Fast Facts**

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Figure 12. Map of New Road, Brighton and surroundings. New Road is circled in orange. (A) Royal Pavilion Gardens, (B) The Lanes, (C) North Laine, (D) Train station, (E) Brighton Pier. (Used with permission of Google Maps)
Many of Brighton’s key destinations are located a short walk from New Road. The pedestrian alleyways of the Lanes (shopping, restaurants, pubs) lie immediately across North St to the south. Beyond the Lanes lie the beach and its famous pier. Immediately across Church St to the north of New Road is the newly built Jubilee Library. New Road lies in the southeast corner of the North Laine shopping district with most of the shops to be found immediately west and north of New Road. Beyond the North Laine district lies the main train station for intercity travel.

Prior to redevelopment, New Road was a rather non-descript location that was kindly referred to by Jim Mayor - project manager for the redevelopment of New Road with Brighton and Hove City Council – as “utilitarian” (personal communication, May 28, 2008) (Figure 14). The diversity of commercial activities that took place on the street meant that New Road meant different things to different people (Jim Mayor, personal communication, May 28, 2008). It was a
fairly wide one-lane, one-way street with traffic moving from Church St in the north to North St in the south. Parking was limited to a few disabled parking bays, a motorcycle parking zone and a few residential spaces. Additionally, New Road contained loading zones, a taxi rank and an area reserved for bus loading and unloading. A cycling counter-flow lane on the west side of the street allowed for two-way bicycle movements.

Figure 14. New Road before redevelopment. (Used with permission of Gehl Architects (top left, top right, bottom left) and Jim Mayor (bottom right)).

6.1. HISTORY OF THE REDEVELOPMENT OF NEW ROAD

In June 2005, the process to redevelop New Road began. The Theatre Royal and the Chief Executive of the City Council initiated the process. The theatre was concerned with the state of New Road and felt that its rather shabby appearance dissuaded potential clients from attending theatre events (J. Mayor,
personal communication, May 28, 2008). The Council on the other hand, wanted to enhance New Road as a cultural destination. Additionally, according to Jim Mayor (personal communication, May 28, 2008), Council wanted to make New Road a link between the surrounding destinations to create a place rather than “individual locations that just happened to be next to one another.” Council felt that by improving the public realm along New Road, it would become an important link between the surrounding destinations and bring a greater sense of cohesion to the area.

To help with the redesign of New Road, Council hired Gehl Architects – a Danish design firm specializing in the improvement of public spaces. Council had originally believed that a pedestrian street would be the best solution. Gehl Architects felt that a variety of factors made full pedestrianization problematic for many users of New Road. Some of the reasons why full pedestrianization was ruled out include (Brighton and Hove City Council, 2008, p. 6):

- The Dome requires all day delivery access for many of its events
- Blocking vehicular traffic would limit access to the cultural institutions for those with mobility challenges
- The Unitarian Church is largely dependent on the income from the rent it gains from the three parking spaces in front of the church
- Emergency vehicle access would be adversely affected
- The loss of “eyes on the street” provided by taxis and other vehicles using New Road at night.

In light of these complications, Gehl Architects recommended something that Council wasn’t aware of at the time – a “shared space” scheme for New Road (J. Mayor, personal communication, May 28, 2008). From the beginning of the process, there were some concerns with the scheme (J. Mayor, personal communication, May 28, 2008). Some people in Brighton had difficulty with a Danish design team suggesting a solution that they believed would work in Denmark but not in England. Many people were concerned about the possibility of collisions between vehicles and pedestrians in a “shared space”. Finally,
some believed that Council had ulterior motives behind the redesign that could threaten local businesses.

To help alleviate these concerns, Council and Gehl Architects worked with local stakeholders to ensure that their needs were met. They also observed how people were already using New Road and used that foundation to guide their proposed designs. According to Jim Mayor, “Initially people were a bit suspicious but I think we won them around by the end. Midway through the process, people were clear that we were working together” (personal communication, May 28, 2008). Gehl Architects led three workshops with local residents and stakeholders. (J. Mayor, personal communication, May 28, 2008). The first workshop focussed on concerns and aspirations of local stakeholders and led to the creation of some possible designs for New Road. These designs were then discussed at the second workshop. The feedback from the second workshop informed the creation of a final design which was discussed and amended at the third workshop.

Based on the results of these workshops, construction on New Road took place between September 2006 and June 2007. As of May 2008, three post-construction meetings had been held with local stakeholders to determine whether New Road is managed properly and to make adjustments to ensure the success of the street (J. Mayor, personal communication, May 28, 2008). Furthermore, Council has imposed an Experimental Traffic Order (a legal document that states parking and traffic rules and restrictions), which gives Council the flexibility to monitor and modify New Road as problems arise. Council wanted to start off with minimal restrictions and regulations and the Experimental Traffic Order allowed Council the flexibility to change regulations or features that weren’t successful (J. Mayor, personal communication, May 28, 2008). This flexibility on behalf of Council helped to further alleviate public concerns with the “shared space” scheme (J. Mayor, personal communication, May 28, 2008).
Due to the Experimental Traffic Order, New Road is still a work in progress. At the moment, New Road is open at both ends (North St. and Church St.). However, access is only permitted from Church St. This effectively makes New Road function as a cul-de-sac. While most cars enter and exit New Road legally from Church St., a significant number illegally enter and exit using North St. Signs are kept to a minimum on New Road with a few small signs showing the speed limit (20 mph, or 32 km/h), parking restrictions and signs restricting certain turns at the exit points from New Road (Figure 15). The assumption is that people will drive using common sense without signs. All parking has been removed with the exception of roughly five spaces reserved for disabled drivers and three spaces outside of the Unitarian Church.
Figure 15. Minimal signage on New Road. Signs at the entrance and exit to New Road inform drivers of where they can turn and of any parking restrictions (three signs in top left). Once on New Road, only small signs inform the driver of speed limits (lower right) and parking restrictions (right). (Used with permission of Ian MacPhee)

Street furniture includes an attractive dark wood seating wall that stretches along the length of the Royal Pavilion Gardens (53.7 m) (Figure 16). Small circles of LED lighting make the seating more attractive at night and help to illuminate the street. Four wide satellite benches (3.2 m each) made of the same material can be found directly across from the seating wall with one more located further up the road near Church St. (Figure 16). With ample public seating, secondary seating is rarely used. Popular secondary seating exists on the stairs outside the Unitarian Church and a small wall along the Dome loading bay. Metallic garbage cans can be found close to the benches. Bike racks are located close to the Dome as well as on the south-eastern side of the street near North St.
The surface of New Road consists of granite slabs and lacks curbs, roadways and lane markings (Figure 17). Two lines of pavers (one on each side) with a subtle colour difference can be found where a curb may be found on a conventional street. Along the eastern side of New Road lies a tactile strip that is slightly darker than the other pavers and is intended as a navigation device for the visually impaired (Figure 17). The only other distinguishable markings on the road are symbols denoting the boundary to the disabled parking spaces. The subtle surface markings on New Road are intended to provide an ambiguous environment that does not clearly state where different road users should be (J. Mayor, personal communication, May 28, 2008).
6.2. OBSERVATIONS OF NEW ROAD

New Road appears to be an important pedestrian and bicycle thoroughfare. The busiest time for pedestrians on all three days of observations was between 13:00 and 14:00 (Figure 18). Pedestrian volumes ranged from 440 per hour (10:00 on Thursday, May 29) to 1656 per hour (13:00 on Wednesday, May 30). The number of bicycles increased over the day with peak volumes seen between 17:00 and 18:00 on each day. Bicycle volumes ranged from 20 per hour (11:00 on Thursday, May 29 and 10:00 on Friday, May 30) to 84 per hour (17:00 on Friday, May 30) (Appendix B). Neither pedestrian nor bicycle volumes seemed to be affected by unpleasant weather.
Vehicle traffic patterns were quite low but were different for each type of vehicle. Motorcycles were rarely seen using New Road with an estimated twelve observed over three days. Service vehicles of all sizes (from small service vans to very large delivery trucks over 6 m in length) tended to come before 13:00 (Figure 19). The number of service vehicles ranged from zero per hour (each day at 13:00) to 24 per hour (11:00 on Thursday, May 29) (Appendix B). Taxis were the most common cars using New Road and few private automobiles chose to use the street. The numbers of cars ranged from zero per hour (10:00 on Thursday, May 29 and 11:00 on Friday, May 30) to 32 per hour (17:00 on Friday, May 30) (Appendix B). Cars tended to increase in volume over the course of the day.
Despite inconsistent and often inclement weather during the observations of New Road, it became clear that it is a successful public space. As long as the seating was dry and rain was light, people could be found using the public seating along New Road. The seating wall along the Royal Pavilion Gardens was more popular than the satellite benches in the middle of the road. The benches were used for all sorts of activities including eating lunch, people watching, talking, sunbathing, listening to music (both headphones and portable stereos), drinking and occasionally sleeping. Furthermore, skateboarders were seen using the benches (particularly the satellite benches). Finally, children were frequently seen climbing on the benches, with some walking along the top of the seating wall.

Due to the school holidays taking place in late May, many children were seen during my observations of New Road. While most children were involved in play on the benches, they were regularly seen playing in the middle of the road. Children’s events at the Theatre Royal took place throughout the day on
Wednesday, May 28 and before and after shows, children and families took up most of the street. At one point a large delivery truck crept along and stopped in front of a line of parents and children ready to enter the theatre. The driver waited patiently with a smile for the line to part for him to pass through. Vulnerable road users (children, elderly, parents with strollers, wheelchairs and electric scooters) were seen using all parts of the road with most choosing to move down the centre of the road.

Vehicles were courteous to all pedestrians and behaved as though they were intruding in a pedestrian space. In three days of observations, only one vehicle was seen displaying risky driving behaviour after getting impatient behind a very large number of pedestrians. When he was able to get past the group, he moved quickly down the rest of the street (although he still seemed to be under the posted speed limit). Pedestrians responded to his inappropriate driving with dirty looks.

It is often said that “shared space” streets depend on eye contact to negotiate right of way between vehicles and pedestrians. However, my observations of New Road contradict this claim with a minority of negotiations taking place with eye contact. Most negotiations took place as vehicles waited patiently for a clearing. For their part, pedestrians seemed to listen for oncoming vehicles and move accordingly – particularly when the vehicle approached from behind them.

Just as weather – or perhaps, dryness of seating – affected the level of use for the public seating, it also affected the use of secondary and patio seating. Since the stairs outside the church are partly covered, people used this seating even when the weather was wet. Likewise, patios with large umbrellas or some other form of shelter were used in all but the most inclement weather.

While rare, commercial and cultural activities were observed along New Road. After the children’s events at the theatre, merchants sold posters to children in the street. A busker playing a saxophone was observed for roughly a half hour for two of the three days observed. Some people gave money but no
one stopped to listen. Buskers were more common in the Royal Pavilion Gardens playing a range of musical instruments from a jazz trio, a pennywhistle and a didgeridoo.

When the weather was pleasant there was a marked difference in the number of stationary activities taking place along New Road (Figure 20). The most common stationary activity observed along New Road was using the patio seating. The next most common activity was using the public seating. When the weather was unpleasant, both of these activities dropped off dramatically, leaving the street largely empty of stationary activities except those that could take place under shelter. On average, stationary activities were most common between 13:00 and 14:00. While it seems as though the use of public seating falls after 13:00 on a sunny day, the use of café seating seems to increase throughout the day.
Figure 20. Stationary activities on New Road, Brighton. Wednesday, May 28 (this page, top) was cloudy but dry until 13:00 when it began to rain. Thursday, May 29 (this page, bottom) was dry and pleasant until 15:00 when it began to rain. Friday, May 30 (next page) was cloudy but dry until 13:00 when it became sunny and pleasant.
6.3. INTERVIEWS WITH LOCAL STAKEHOLDERS

In general, the local business people that were interviewed saw the redesign as a change for the better. Almost all of the interviewees had some reservations with the redesign but all agreed that the redesign had a positive impact on most businesses – particularly food and drink establishments. Those businesses that did not benefit from the redesign were believed to be unaffected by the changes. Since it has only been one year from the time when construction was completed, it is too early to predict the long-term impacts to the business composition along New Road. However, there have been no changes to the business community of New Road to date. The responses from the interviews with business people and Jim Mayor have been classified to address the five concerns of the Yaletown BIA.

6.3.1. PARKING

All respondents agreed that parking is a problem in Brighton. Since there was limited parking on New Road prior to the redevelopment and a general lack
of parking in central Brighton, the redesign had little impact on the availability of parking on New Road. People had already adapted to a lack of parking by finding alternative forms of transport to central Brighton (transit, cycling, walking). Therefore, the redevelopment caused little or no concern to the businesses with respect to parking. Throughout the process, Council only received one complaint regarding the loss of the motorcycle parking (J. Mayor, personal communication, May 28, 2008). Only one business person complained that the redevelopment meant that they could no longer park in front of their business. Despite this inconvenience, this person continued to be supportive of the redesign.

6.3.2. ACCESS TO DELIVERIES AND SERVICE VEHICLES

New Road lacks the signs and markings designating loading zones that are found on most streets. This is due to the desire to reduce visual clutter as well as the difficulty in effectively policing such regulations. According to Jim Mayor (personal communication, May 28, 2008), street furniture was used to indicate where drivers could pull in for deliveries and the lack of markings and signs reflected the assumption of Council that delivery and service drivers would behave sensibly. My observations support Council’s assumption of the sensible behaviour of delivery drivers. Delivery and service vehicles used common sense and parked their vehicles on the edge of the street.

Most business people find the new layout easier for service and delivery vehicles as they can stop nearly anywhere they like for short periods of time (5 minutes). One business person complained of the inconvenience for quick deliveries to their business due to the placement of street furniture in front of their business. Another business has trouble with people using unmarked delivery vehicles getting fined, as they are not able to complete their deliveries in the time allotted and aren’t recognized by the parking attendants as delivery vehicles. Finally, another business said that while there were some problems with deliveries at first, a receptive and reactive Council responded to the complaints the problem has since been rectified.
6.3.3. VISUAL CLUTTER

All local business people seem to like the redevelopment and feel it has made the street more attractive. The removal of clutter from New Road was a key objective of the designers and of Council. While no business people explicitly stated that they liked the less cluttered look, the uniformity of street furniture and the minimization of signs and road markings along New Road may add to its appeal to the local businesses. Only one complaint was raised with the appearance of the redevelopment at the edge of the Royal Pavilion Gardens. This will be discussed in the next section.

6.3.4. AN ADJACENT PUBLIC SPACE

During the interviews with both Jim Mayor and the local business people, I learned that many stakeholders believed that the redesign would include creating a piazza where the Royal Pavilion Gardens meets New Road. The construction of a piazza would have meant cutting many trees and could have affected at least one business on the street. However, this option was found to be too difficult and was discarded at a very early stage. Another concern that affected the Royal Pavilion Gardens was the rubbish – much of it empty alcohol containers – that was thrown behind the seating wall that backs on to the park. However, the garbage cans installed by the benches helped to reduce – without eliminating – this problem.

The general feeling among the business owners is that while the seating wall has attracted more public drinking and sleeping (one respondent referred to the benches as the “New Road Hilton”), this is a problem that is not unique to New Road. Furthermore, the general consensus is that these problems are a minor bother that is outweighed by the benefits of the redesign. In response to these behaviours, police have made a stronger presence on New Road than before, minimizing the incidences of public drinking and sleeping on the benches at the edge of the gardens.
One business person complained that the redevelopment ended too abruptly at the edge of the street with little consideration to improve the New Road entrance to the Royal Pavilion Gardens (Figure 21). This person felt that the redevelopment budget should have incorporated the entry to the park to provide a more unified and cohesive convergence between these two locations.

Figure 21. Entrance to the Royal Pavilion Gardens from New Road. (Used with permission of Ian MacPhee)

6.3.5. AN INHERENT INCOMPATIBILITY

As previously mentioned, there were some members of the public who felt that a Danish solution would not work in Brighton. Others simply doubted that a “shared space” street could work in Brighton. However, Mayor (personal communication, May 28, 2008) believes that these concerns were based on assumptions of what might happen in the worst-case scenario rather than based on facts or experience.

Some local business people gave some indication that they were sceptical of the success of the redevelopment. For example, one person expressed surprise at how dramatically the traffic was reduced along New Road and how quickly drivers found alternative routes to avoid driving along New Road. Another business person mentioned how the patio seating had become so popular that they began to take over more and more of the road. The city responded by requiring the patios to delineate their service area with barriers.
6.4. SUMMARY OF NEW ROAD

New Road has enjoyed some success in its first year as a “shared space” street. Since New Road was reopened, there has been a 93% reduction in traffic volume (a reduction of over 1200 motorized vehicles per day) (Brighton and Hove City Council, 2008). Furthermore, the behaviour of drivers on New Road has been commendable with maximum speeds of 13 mph (21 km/h) observed along New Road – well below the posted speed limit of 20 mph (32 km/h) (Brighton and Hove City Council, 2008). “Since New Road re-opened, traffic speeds appear to be governed by common sense rather than speeds shown on signs.” (Brighton and Hove City Council, 2008, p. 4). This data was backed up by my observations of New Road, where only one example of “unsafe” driving was seen over three days. As a part of the Experimental Traffic Order, the public were invited to raise concerns with the design as it stands. The very low number of concerns raised point towards the general acceptance of New Road by the public (Brighton and Hove City Council, 2008).

New Road has been successful at encouraging its use by non-motorized means of transportation. Since reopening, there has been a 22% increase in the amount of bicycles using New Road (approximately 500 per day) (Brighton and Hove City Council, 2008). Impressively, there has been a 162% increase in the number of pedestrians using New Road (Brighton and Hove City Council, 2008).

As a public space, New Road can be considered a success so far. It has now become the fourth most popular destination to spend time in Brighton (Brighton and Hove City Council, 2008). “The street now had a distinct character with the ambience of a pedestrianised zone … with motorists giving way to pedestrians and accommodating their pace without pedestrians feeling threatened” (MVA Consultancy, 2007, p. 2.2). Conservative driving behaviour is even the norm at night as pedestrians – however few – continue to use the centre of the road (MVA Consultancy, 2007). The worst-case scenario outcomes that many people feared have yet to materialize (J. Mayor, personal communication, May 28, 2008).
Despite these successes, there are some valid concerns that have been raised about New Road. Perhaps the most obvious concern is on behalf of visually impaired individuals. The Guide Dogs for the Blind Association (GDfB) found that “the safety, confidence and independence of blind and partially sighted people are undermined by shared surfaces.” (Guide Dogs for the Blind, 2008, p. 2). The difficulties visually impaired individuals have with New Road – and indeed, most “shared space” shared surface streets – is caused by a lack of curbs and tactile marking used by visually impaired people to find their way along streets. Furthermore, the inability for visually impaired people to negotiate right of way with motorists using eye contact can make visually impaired individuals feel unsafe on “shared space” streets. A Safety Audit completed by MVA Consultancy for Brighton and Hove City Council confirmed that the lack of appropriate tactile surfaces and curbs makes New Road difficult for visually impaired to navigate. Carelessly parked vehicles are often found parked on top of the coloured tactile strip on the eastern side of the road, compounding the problem (MVA Consultancy, 2007) (Figure 22).

Figure 22. Tactile strip on New Road. Often vehicles carelessly park on top of the strip. (Used with permission of Ian MacPhee)

A number of suggestions have been made to improve New Road for the visually impaired. These improvements include making the distinction between a
“sidewalk” and a roadway (MVA Consultancy, 2007) and setting up a “safe space” on one side of the street that is accessible only by foot (Guide Dogs for the Blind, 2008). It is of the opinion of MVA Consultancy (2007) that while the design of New Road may result in visually impaired individuals finding themselves in the road, this can be overcome somewhat through proper training. Furthermore, based on the slow-moving traffic that now exists on New Road, MVA Consultancy (2007) believes that traffic poses little risk to the visually impaired on New Road and they suggest that the presence of signs of impairment (canes, guide dogs) may make drivers behave more cautiously. My observations of drivers around vulnerable users of New Road (wheelchairs, babies in strollers, children) support this statement.

Jim Mayor (personal communication, May 28, 2008) acknowledges these criticisms and believes that better testing of the tactile strip in situ after the redevelopment would have mitigated these concerns. According to Mayor (personal communication, May 28, 2008),

“Whilst I can confidently say that anybody here is safer than they were, I can’t confidently say that visually impaired people can navigate and I think that’s the big challenge.”

It would appear as though the threat to visually impaired users of the street may be one of perceived – rather than actual – threat. However, a “perceived threat” does not reduce the validity of these concerns and Mayor (personal communication, May 28, 2008) hopes to learn from New Road to either improve it for the visually impaired or to apply the lessons learned to any future “shared space” streets in Brighton.

While New Road is still a work in progress, there are many indicators of its success. Since the redevelopment, traffic has been calmed and replaced by a new public space. More pedestrians and cyclists are using New Road to get between Brighton’s different destinations. New Road has become an important public space that is well used by the people in Brighton. Perhaps most successful is the process used by Council throughout the redevelopment. The
transparent and participatory process helped to alleviate the concerns that some local stakeholders had of Council’s true intents (J. Mayor, personal communication, May 28, 2008). Concerns were further alleviated by the willingness of Council to enact an Experimental Traffic Order and make modifications to New Road as necessary or as the public demands. As can be seen in the concerns of GDFB, New Road is not perfect for everyone. However, as Council continues to learn from their experience with New Road, the next incarnation of “shared space” in Brighton may be more appropriate for all road users.
CASE STUDY: STRÆDET, COPENHAGEN

Strædet is located in the centre of Copenhagen, running parallel to the more famous Strøget – the city’s main promenade and shopping street (Figure 23). It is composed of five streets (Farvergade, Kompagniestræde, Læderstræde, Store Kirkestræde and Lille Kongensgade) that link into one another. For the purposes of this paper, Strædet refers to the pedestrian priority section along the lengths of Kompagniestræde and Læderstræde unless otherwise stated.

### Strædet Fast Facts

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Central Copenhagen maintains its medieval street pattern despite the destruction of the original buildings by a series of fires. The streets are relatively narrow and built on a human scale. Despite being poorly designed to accommodate automobiles, Central Copenhagen allowed automobiles and other vehicles to drive on all of Central Copenhagen’s streets and park in its squares for much of the 20th century. The dominance of automobiles in Central Copenhagen began to end in 1962 when Strøget was controversially pedestrianized. Many people believed that a pedestrian street was more compatible with the climate and culture of southern European countries like Italy.
(Gehl and Gemzøe, 1996). Despite the scepticism, “the new pedestrian street acquired immediate popularity with Copenhageners” (Gehl and Gemzøe, 1996, p. 12). The popularity of Strøget marked the beginning of the gradual pedestrianization of Central Copenhagen’s streets and squares. Pedestrianization achieved two major goals of discouraging automobile use, and creating more pedestrian-friendly and attractive public spaces in the city centre.

Strædet is composed of buildings roughly 4-5 storeys high (Figure 24). The buildings along Strædet are unique in Central Copenhagen as most of them are from the period after the great fires of the 18th century. Most buildings have shops located on the first two floors – with one shop being half underground and the upper shop half a floor above ground. With the exception of the Kunstforeningen art gallery (a minor attraction) there are no destinations along Strædet. However, there are a variety of attractions and destinations around Strædet. The main shopping street, Strøget, lies immediately parallel to the north. Across the canal to the south lies Slotsholmen, the island containing the current house of parliament along with many museums and palaces. To the southeast lies the Nationalmuseet (national museum). The town hall, Rådhuset, and its large square can be found to the east of Strædet. Beyond Rådhuset are the Danish Design Centre, the Ny Carlsberg Glyptotek art gallery, Tivoli Park and the main train station. To the east of Strædet lies Hojbro Plads and Amagertorv – two of Copenhagen’s popular squares with cafés and shops. Just past these squares lies the Copenhagen Contemporary Art Centre. With an east west orientation and many key destinations nearby, Strædet offers pedestrians a viable alternative to the busier, more crowded Strøget.
Before 1962, Strædet and Strøget worked in tandem with traffic running east to west along Strøget and west to east along Strædet. After Strøget was pedestrianized, Strædet became even more important for deliveries and service access to Strøget (Jens Rørbech, personal communication, July 1, 2008). Prior to development, Strædet was a one-lane, one-way arterial road that ran from Rådhuset to Kongens Nytorv. It was a busy route for all vehicles and was used by many important bus routes. (Figure 25). To discourage through traffic, Store Kirkestræde was closed to all traffic but bicycles and busses by the 1990s (J. Rørbech, personal communication, July 1, 2008). Prior to the redevelopment, there were some on-street parking spaces but no specified delivery zones, bicycle lanes or taxi ranks.
Besides being an important bus and automobile thoroughfare, Strædet was known for the many second hand and antique shops (books, silverware, jewellery, etc…) that were found along its length. One local business person described the wares on sale as being somewhere between second hand flea market items and a high-end antiques. The high level of traffic and narrow sidewalks meant that the street was less attractive than surrounding pedestrian streets and therefore demanded less rent from local businesses.

7.1. HISTORY OF THE REDEVELOPMENT OF STRÆDET

In 1987 the process to redevelop Strædet was begun by the City Engineers office (led by then Technical Director, Jens Rørbech) and the City Architects office (J. Rørbech, personal communication, July 1, 2008). One reason to pedestrianize Strædet was that the architecture of the street was identified as being unique and worth preserving. The volume of busses passing
along the street was causing local pollution and noise and the vibrations were affecting the buildings along Strædet (LEDA, 2008).

A number of objectives were identified in the redevelopment of Strædet. One of the main objectives was to remove the busses from the street and calm traffic (LEDA, 2008). It was hoped that the removal of buses and calming of traffic would protect the buildings and create a more attractive public space (LEDA, 2008). Additionally, it was hoped that the redevelopment would not impact the original businesses along Strædet (LEDA, 2008). Rents along other commercial streets in Copenhagen rose as they were pedestrianized, which could threaten the survival of the second hand shops (LEDA, 2008).

In addition to the City Engineers office and the City Architects office, the public transport company, the police and a local stakeholder group containing some of the local businesses and residents were involved in the process. While all residents and businesses along Strædet were invited to participate, the local stakeholder group tended to contain individuals who subscribed to the belief in a car free Central Copenhagen and who wanted to improve the status of the street (J. Rørbech, personal communication, July 1, 2008).

Despite the existence of the local stakeholder group, some concerns existed with the redevelopment of Strædet from individuals outside of the group. Some individuals were concerned of the rising rent that seemed to accompany previously pedestrianized streets. Others were concerned with the loss of parking and access to both residences and shops (J. Rørbech, personal communication, July 1, 2008). Some were simply opposed to the limitation of automobiles in Central Copenhagen.

During the planning stage, meetings between the responsible City departments and the local stakeholder group were regular. Besides helping to guide the redevelopment, the local stakeholder group worked towards convincing those in opposition to the redevelopment that the project was a good idea (LEDA, 2008). Due to the importance of Strædet to delivery and service vehicles to
Strøget, full pedestrianization was not considered (J. Rørbech, personal communication, July 1, 2008).

In September 1990, two of Strædet’s five streets – Læderstræde and Kompagniestræde – were converted to pedestrian priority streets. The operation of the two streets was changed without any alterations to the physical design (i.e. sidewalks, curbs and roadway remained as they were). An alternating one-way system was implemented to discourage through traffic. The busses were moved to a parallel street across the canal to the south. While Strædet may have been classified as a pedestrian street – or more appropriately a pedestrian priority street – the curbs and road lanes told a different story. Drivers were confused as to the rules and speeding, illegal parking and going in the wrong direction were common (LEDA, 2008).

Some local business people were not happy with the new street and the city held a meeting with the public in late 1990 to determine possible solutions to the problems. The arguments were listened to and some of them were acted on. For example, the original intention was to remove all parking but after this meeting, it was decided that 15-20 parking spaces (roughly 1/3 of the original spaces) would be retained (J. Rørbech, personal communication, July 1, 2008). Furthermore, this meeting led to the City Architects office putting together a design for Strædet that would help solve the mixed messages coming from the signs and the environment (LEDA, 2008).

The redevelopment of Strædet was completed in 1992 at a cost of €590,000 (roughly $900,000 CDN) (LEDA, 2008). The redeveloped Strædet was made to look more like the other pedestrian streets in Copenhagen. The surface of Strædet is composed of granite and concrete pavers in the “roadway” with cobblestones and two lines of granite pavers (for easier access to wheelchairs) on each side where the sidewalk would be (Figure 26). Intersections are composed of cobblestones laid out in a circular pattern to remind crossing vehicles that Strædet is a pedestrian zone. There is little colour distinction between the ‘sidewalk’ and ‘roadway’ portions of Strædet, which helps to
maintain the appearance of a single surface, despite the different materials used. The most significant contrasting surface materials are the white pavers used to mark out the on-street parking stalls. Bollards were set up along much of the road, but were taken out when it became clear that they were often involved in collisions with vehicles and were unnecessary to ensure pedestrian safety (J. Rørbech, personal communication, July 1, 2008).

Figure 26. Surface of Strædet. Clockwise from top left: Cobblestones indicate where a sidewalk might be. Subtle changes in paver colour indicate parking stalls. Circular cobblestones are laid in the intersections. (Used with permission of Jens Rørbech (bottom left) and Ian MacPhee (top left, right))

Strædet functions as a series of alternating one-way streets to prevent through traffic. The one-way rules are almost always respected. Originally, this one-way system applied to bicycles as well but this has since been changed and counterflow lanes have been added to the three streets of Strædet that are not pedestrian priority (J. Rørbech, personal communication, July 1, 2008; Nelson, 2007). With the parking spaces and patios taking up much of the road space,
one lane is available for the movement of vehicles. There are some on-street parking spaces in the pedestrian priority section (approximately fifteen plus one reserved for disabled drivers) that are valid for 30 minutes between the hours of 8:00 and 15:00 (and longer during other times). Deliveries are allowed at any time along Strædet and can stop anywhere in the street as long as they are not blocking traffic (J. Rørbech, personal communication, July 1, 2008).

Vehicles entering Strædet are greeted by a sign that designates a pedestrian zone (Figure 27). However, unlike other pedestrian streets the words “driving allowed” are found underneath the sign. Once on Strædet, signs are kept to a minimum with signs showing the direction of travel allowed (one-way signs in one direction, do not enter signs in the other, signs excluding bicycles from these restrictions) and parking regulations (including automated parking ticket machines). Absent are signs informing vehicles of a maximum speed limit and where they are not allowed to stop.
While there are many places to sit along Strædet at the many café and restaurant patios, there is little in the way of public seating. Only three public benches (roughly 2 metres long each) were found in the study site (Figure 28). However, the design of the benches is consistent with the rest of Central Copenhagen, providing a uniformity and cohesion to the public spaces of Central Copenhagen. Garbage cans were located nearby each of the benches. Secondary seating was limited to the few staircases leading up to the shops and residences above Strædet. However, the utility of these seating opportunities is curbed by the need to maintain access for businesses and residences.
The commercial activities found along Strædet have changed since the redevelopment. In 1998, a second public meeting was conducted to assess Strædet after almost ten years as a pedestrian priority street. While there were few concerns brought up at the meeting, those that existed had to do with some local businesses experiencing a lack of turnover (LEDA, 2008). Few of the original second hand and antique shops remain along Strædet. Restaurants, cafés and small, independent boutiques are now the dominant commercial activities along Strædet.

7.2. OBSERVATIONS OF STRÆDET

Strædet is well used by both pedestrians and bicycles. Like New Road, the busiest time for pedestrians on Strædet was between 13:00 and 14:00 (Figure 29). Pedestrian volumes ranged from 172 to 1196 per hour (10:00 and 16:00 on Friday, June 6). Bicycle volumes tended to increase slightly over the day on Strædet with peak volumes seen around 17:00. The number of bikes using Strædet ranged from 168 per hour (10:00 on Tuesday, June 10) to 868 per hour (17:00 on Wednesday, June 4) (Appendix C). With pleasant weather during all three days of observations, it is impossible to tell how weather affects the number of pedestrians or cyclists using Strædet.
Motor vehicle volumes were light along Strædet and seemed to peak in the morning and fall off throughout the day. Motorcycles were nearly absent from Strædet with only 16 estimated over three days. Service vehicles of all sizes (large trucks to service vans to automobiles) tended to come before 13:00 and ranged from 4 per hour (at various times) to 36 per hour (12:00 on Tuesday, June 10) (Appendix C). Cars consisted mainly of personal automobiles with a few taxis and showed no discernible pattern of activity. The number of cars per hour ranged from 4 (17:00 on Friday, June 6) to 44 (10:00 on Tuesday, June 10) (Appendix C).

Strædet appears to be a very comfortable and relaxed public space. The cafés and restaurants with patio seating provided blankets for anyone wishing to sit outside in the morning when the weather was still warming up or later in the afternoon when the shade covered the street. On two days, local business people could be seen playing Frisbee in the street in between sales – a reflection of the low traffic volumes and the perceived safety of the street. There seems to
be a level of trust on Strædet – which is perhaps more emblematic of Copenhagen – that doesn’t exist in many other places. Bikes were regularly left unlocked by their owners, or in some cases were locked with a small lock that would only prevent a thief from rolling the bike away. Strollers were left unattended on the side of the road – occasionally with the baby inside. Laptops could be seen left unattended at a patio table while its owner went inside the restaurant. Shops left displays of goods for sale unattended in the street. Rather than closing shop fronts at night, narrow bars are placed over the windows for security, allowing the light from inside to spill out in the street and maintaining a comfortable and lived-in feel to the street.

The public and secondary seating opportunities are somewhat limited on Strædet. The public seating seems to be used most frequently for short periods of time. People would use these benches to have a cigarette or a drink, talk on the phone, have a quick conversation with a friend, eat a snack or just take a short break and watch the world go by. In one case a busker sat on a bench and played his accordion before walking past the patio seating to collect money. The secondary seating was used most often by local business people taking a break from their duties. Common activities taking place on the secondary seats were having conversations, smoking and watching people walk by. In one case, a merchant sat on a chair in the street talking to customers on their way into her shop.

Strædet saw a variety of commercial activities taking place in the street. While there were no market style vendors, a beer company was observed handing out free samples to pedestrians walking past. On another day, two people were canvassing for an international charity. All shops had window displays and many put displays of items outside on a table or rack. The displays attracted window shoppers who could be seen both day and night walking slowly past the shops. Once in a while, the display would entice the pedestrian into the store.
Sitting at one of the many patios was a very popular activity along Strædet. The patios had no barriers separating them from the cars and other road users. In one case, a series of flowerpots helped to delineate the boundary between patio and roadway. People sitting on the patios tended to be in groups and were mostly involved in conversations with one another. Pedestrians were often seen standing beside patio tables talking to friends they happened to meet. The only cultural activity seen taking place was the regular appearance of an accordion-playing busker who would play as he sat or strolled near the patios.

Under pleasant weather conditions, the most popular activity by far along Strædet was spending time at one of the patios (Figure 30). The next most popular activities were participating in commercial activities and standing. Stationary activities seem to peak between 13:00 and 14:00 in the afternoon. Since the weather was pleasant for all three days of observation, it is unclear of what impact inclement weather has on stationary activities along Strædet.
Figure 30. Stationary activities on Strædet, Copenhagen. Tuesday, June 10 (this page, top), Wednesday, June 4 (this page, bottom) and Friday, June 6 (next page). The weather was sunny and warm for each day.
While vulnerable road users were not frequently observed on Strædet, those that were there seemed comfortable. School-aged children were not observed frequently along Strædet likely due to their attendance at school during most of the observation period. Parents were commonly seen walking babies in strollers and riding “Christiania bikes” with the children in a seat placed in front of the front wheel. These parents chose to use all parts of the road, implying that they feel secure with their children on Strædet. Electric scooters were seen using the centre of the roadway rather than the side of the road. This is perhaps due to the smoother surface found in the middle of the street than the cobblestones on the side. No visually impaired individuals were observed on Strædet.

Like on New Road, eye contact seemed to be unnecessary to travel safely along Strædet. Eye contact was only used when the oncoming car and pedestrian were heading in opposite directions. In other cases, pedestrians listened to the approaching car and courteously moved out of the way when they were able. For their part, almost all drivers waited patiently for pedestrians to
clear a passage. On one occasion, three men walked slowly down the street. On three separate occasions, cars advanced slowly behind them. Without looking, they moved to the side, let the car pass and moved back into the middle of the street. Observations late at night on two occasions and on Sunday morning saw drivers taking care despite the absence of pedestrians and patio seating in the street.

Impatient or ‘dangerous’ driving was only seen six times over three days of observations. One of these incidents involved a car that wasn’t even using Strædet. This driver grew frustrated with the driver in front of him who was patiently waiting for pedestrians to pass so that he could turn onto Strædet. The frustrated driver continued on his path without entering Strædet. Another incident involved a motorcycle whose small size allowed it to move faster through the obstacles of Strædet than other motor vehicles. The other incidents involved drivers moving too quickly for the space provided (but not quickly enough to cause serious damage to person or property). When drivers were perceived to be taking too great a risk, pedestrians reprimanded them with dirty looks.

More commonly, drivers were courteous to one another and particularly to more vulnerable road users. Cars were regularly seen waiting patiently to pass between pedestrians, parked cars and patio seating. During a windy spell, a sandwich board was knocked over and a driver waited for over thirty seconds for the waiter to pick up the board rather than driving over it. Another incident involved a very large truck passing between a public bench and a patio. A baby stroller was parked beside the edge of the patio. The people in the truck waited for the stroller to be moved and for eye contact to be made with the people on the bench and at the patio before slowly creeping though the gap. The whole process was done with smiles and waves from all parties. It would seem as though priority is almost always given to the more vulnerable road users with cyclists yielding to pedestrians and motor vehicles yielding to both pedestrians and cyclists.
Deliveries on Strædet were relatively conflict free (Figure 31). A small but significant number of deliveries were made via ‘unconventional’ methods like bikes, a motorcycle and a walking forklift. Deliveries took place from the front of the buildings on Strædet. On only one occasion was a conflict seen between delivery drivers. A car making a delivery had blocked the road and was honked at by the driver of a truck. The driver of the car quickly returned to his vehicle and moved the car.

Figure 31. Deliveries on Strædet, Copenhagen. In the morning when the street is quiet (left), cars and trucks stop to make deliveries wherever it suits them. Large trucks continue to make deliveries when the street is busier. (Used with permission of Ian MacPhee)

7.3. INTERVIEWS WITH LOCAL STAKEHOLDERS

While there is little doubt about the success of Strædet as a public space, opinion seems to be divided on the street. The character of the street has changed significantly from the second hand and antique stores to the current mix of boutiques, restaurants and cafés. Few of the original businesses remain. Generally speaking, people working for businesses that existed prior to the redevelopment seem to have a negative opinion of the street while people working at the newer businesses have a more positive opinion. The responses from the interviews with the local business people and Jens Rørbech have been organized to address four of the five concerns of the Yaletown BIA. The category pertaining to an adjacent public space does not apply to Strædet, as there are no public spaces on either flank of the study area.
7.3.1. PARKING

The general feeling with those that I interviewed is that parking is an issue across Central Copenhagen and not specific to Strædet. However, opinion was divided on whether a lack of parking has a serious impact on the economy of Strædet. Roughly half of the business people believed that there was too little parking nearby. They believed that their businesses were adversely impacted by a lack of parking and the resulting loss of customers that are either unable or unwilling to find alternative forms of transportation. Most of the business people whose clients need to drop off or pick up heavy items subscribe to this belief. One business person felt that the availability of parking at the shopping malls threatens the economy of Strædet – and more generally, the economy of Central Copenhagen.

The other half of respondents felt that the lack of parking did not affect their business. These respondents tended to believe that ample parking was available for drivers on the street or at the Bremerholm parking lot a few hundred metres away. Furthermore, these respondents believed that Copenhageners are used to the difficulties involved in driving and parking in the city centre and have found alternative forms of transportation. Interestingly, one respondent whose clients drop off and pick up heavy items felt that the design of the street made it easier for their clients to access their business.

It is impossible to conclude from these interviews whether a lack of parking impacts the businesses on Strædet. What is likely the case is that both perspectives are valid depending on the individual customer. There are likely customers that are unable or unwilling to shop on Strædet due to the difficulties with parking. However, there are also customers that find alternative forms of transportation to Strædet and are unaffected by a lack of parking. While there may be a connection to the type of business and the impact caused by a lack of parking, the results of these interviews do not provide enough evidence to support such a connection.
7.3.2. ACCESS TO DELIVERIES AND SERVICE VEHICLES

In general, deliveries do not seem to pose any serious problems to the businesses on Strædet. According to the business people from restaurants and cafés, deliveries are easier than before as the delivery vehicles can park anywhere they like, including right up to the edge of the business.

There seems to be some confusion as to the regulations on deliveries on Strædet. Some business people incorrectly felt that, like Strøget and the other pedestrian streets, deliveries were only allowed up to 11:00 a.m. Others were aware that deliveries could take place any time of the day. One respondent found that many of the less formal deliveries (e.g. individuals bringing in used goods for sale) were nervous about driving on what they perceived to be a pedestrian only street (despite the sign informing them otherwise). More generally, Jens Rørbech believes that the maze of pedestrian streets in Central Copenhagen and the alternating one-way system of Strædet can pose difficulties for delivery drivers (personal communication, July 1, 2008).

Two respondents noted that conflicts can occur when delivery trucks block the road (particularly when the patio seating is already set up). However, they both believed that conflicts between delivery drivers are neither their concern nor unique to Strædet. Two respondents complained about delivery vehicles blocking their windows from potential customers. However, one of these respondents felt that since most deliveries are in the morning before the business is open, that this has little impact on the business.

7.3.3. VISUAL CLUTTER

There were many complaints concerning a lack of bike parking on Strædet. Bikes are parked along the whole length of the road, often in front of shop windows or entrances. Additionally, large strollers were often parked on the side of the road. Since many of the shops are either half above or half below ground, windows are concealed easily by the careless parking of strollers and bikes. The sheer number of bikes and strollers has led to many local businesses
putting up signs warning cyclists that all bikes and baby strollers blocking the windows will be moved. The signs are usually – but not always – respected. One business person described how a fellow merchant put a bike rack in front of their business but was told to remove it by the municipality. It seems as though the visual clutter caused by careless parking of strollers and bikes is a problem felt by many Strædet businesses.

The minimization of signage along the road may pose some problems for drivers. One business person believes that the lack of signs makes some drivers nervous to drive down the street. If this is true, it may detract potential customers from the businesses along Strædet.

7.3.4. AN INHERENT INCOMPATIBILITY

None of the business people interviewed felt that a pedestrian priority street was incompatible with Copenhagen either before or after the redevelopment. The abundance of pedestrian streets likely helped to assuage fears of pedestrian priority streets. However, there are some reservations with the way that Strædet is today. Two respondents felt that Strædet would be better as a pedestrian-only street. This belief is in response to the people who tend to show off expensive cars on weekends – and often drive too fast in the process.

Some of the original business people that were interviewed looked to the example of Strøget (and the other pedestrian streets) and the increasing rents that accompanied the pedestrianization. These people were concerned about the ability of the original businesses to survive in the face of increasing rent. Unfortunately, it appears as though this concern proved to be valid. One respondent reported over twenty rent increases in the past ten years – a problem compounded by European Union laws making it difficult for businesses to negotiate long-term leases (with favourable rents) with landlords.

It is worth noting that while most of the original tenants were forced to move or close down after the redevelopment, some of the newer tenants feel that rents are still significantly lower than on Strøget. These respondents believe that
the relatively low rent allows independent boutiques to survive – unlike Strøget, dominated by chain stores. One respondent described Strædet as a “double edged sword”. Pedestrians don’t want cars around, but businesses want their customers to have access to their businesses by car. Ultimately this respondent feels that Strædet is a compromise that goes a long way towards the challenge of accommodating cars and pedestrians in a medieval centre.

7.4. SUMMARY OF STRÆDET

Unlike New Road, Strædet has had almost two decades to develop its current character. Traffic volumes have been reduced through the removal of the busses, the discouragement of through traffic and the implementation of a shared surface for pedestrians, cyclists and motor vehicles. Jens Rørbech, then Technical Director for the City of Copenhagen, is confident that Strædet is a safer street now and to the best of his knowledge, no severe accidents have taken place since the changes (personal communication, July 1, 2008). It would appear as though the objective to calm traffic in Strædet was successfully met. The removal of the busses – and their vibrations and exhaust – has helped to protect the buildings along Strædet. Furthermore, the calming of traffic has set the foundation for improving the public space along Strædet, meeting another objective.

The one objective that was not fully met was the intention to preserve the original shops. The commercial makeup of Strædet has changed dramatically since it was designated a pedestrian priority street. It would appear as though the pedestrianization of Strædet led to increases in rent for local businesses. Other factors, such as new European Union laws, appear to have contributed to the original shop closures. While few would believe that Strædet is a less appealing public space today, some people believe that it had a unique character worthy of protection prior to the changes. That character – of second hand and antique dealers – has now changed.
Despite the loss of the original character of Strædet, it is a well-used and pleasant street. The number of cyclists along Strædet point to its importance as an east-west cycle connections for Copenhagen. Pedestrian use of Strædet has been rising. Between 1995 and 2006, the number of pedestrians on Strædet between 10:00 and 18:00 on summer weekdays increased by 37% (5316 in 1995 to 7300 in 2006) (Gemzøe, Kirknæs and Søndergaard, 2005). The increases in pedestrians at other times have been even more dramatic. Pedestrians have increased on summer weekday evenings between 18:00 and 24:00 by 59%, on summer Saturdays between 10:00 and 18:00 by 81%, and on summer Sundays between 10:00 and 18:00 by 194% (Gemzøe, Kirknæs and Søndergaard, 2005).

Local business people have noticed the increase in the number of patios over the last five to ten years. The higher number of pedestrians may be related to the increase in seating available at the many patios along Strædet. Based on my observations, the patio seating is very well used. The lack of available public or secondary opportunities along this pleasant street may help to explain the success of the patio seating on Strædet.

Interactions between different road users were usually patient and cordial. Vehicles were almost always seen yielding to more vulnerable road users. This also seems true for evenings and weekend mornings where fewer people are in the road and drivers still tend to drive cautiously. While commonly used to negotiate right-of-way, eye contact was unnecessary. Strædet hasn’t received the same level of criticism on behalf of organizations representing people with visual impairments than New Road (J. Rørbech, personal communication, July 1, 2008). The observed use of the centre of the road by people in electric scooters, elderly people and parents with strollers indicates the perception of safety on behalf of all pedestrians on Strædet.

In summary, Strædet can be considered very successful as a public space. Traffic has been calmed which has protected the buildings and encouraged more use by pedestrians and cyclists. It has become a more pleasant public space and a more important destination than before the
redevelopment. The process was open and transparent with meetings with multiple stakeholders both before and after the redevelopment. However, through my interviews, it appears as though not everyone felt included in the process. It appears that while the City of Copenhagen was willing to listen to concerns with the details of a pedestrianized Strædet, they may not have been willing to listen to whether Strædet should be pedestrianized. It would appear as though supporters of pedestrian streets find Strædet an improvement on the way it was while people less supportive of pedestrian streets are less impressed with the results. The redevelopment of Strædet saw both winners and losers. The perception of the street depends largely on which side an individual is on.
8. LESSONS FOR MAINLAND ST

The examples of New Road and Strædet hold many lessons for Mainland St. While there were no concerns on behalf of the Yaletown BIA with safety, both case studies have shown comparable – if not improved – safety records after conversion to pedestrian priority. Both have shown increases in both pedestrian and cycling volumes as well as an increase in the level of use of the public space. Importantly, both street contain lessons that directly address the concerns raised by the BIA.

8.1. PARKING

There is a key difference between Mainland St. and the two case study streets. The availability of parking in Downtown Vancouver is perceived by local business people to be much greater than in both Brighton and Copenhagen. Parking was already severely limited prior to the redevelopment of both Strædet and New Road. In both cases, it seems as though people adapted to the lack of parking by relying on alternative forms of transportation to the city centre like walking, cycling and public transport. While 57.6% of Vancouver’s commuters travel to work by automobile (25.1% transit, 15.9% walking and cycling, 1.3% other) (Statistics Canada, 2006), only 48% of Brighton’s commuters (17% walk, 12% bus, 9% work from home, 8% train, 3% bike, 3% other) (Gehl Architects, 2007) and only 27% of Copenhagen’s commuters travel by automobile (36% bike, 33% transit, 5% walk) (Gehl, Gemzøe, Kirknæs and Søndergaard, 2006; Gehl, 2008). In this respect, Strædet and New Road offer few lessons that would be immediately applicable to Vancouver today.

While acknowledging the difficulties driving and parking in Brighton City Centre, the business people along New Road did not find parking to be a problem worth worrying about. The opinions of business people in Strædet were
mixed. Some felt that people have adapted and found alternative forms of transportation for Central Copenhagen. Those business people who were critical of the lack of parking along Strædet offered some lessons that would be valid for Mainland St.

Mainland St. has many stores with heavy or large goods (furniture, house wares, car dealership) that require motor vehicle access to take away goods. Most merchants along Strædet whose customers had to either drop off or pick up heavy or large items found the pedestrian priority layout more problematic for their clients. However, one merchant found it easier for his clients to access his business. With proper planning, this problem could be diminished, making the pick up and drop off of heavy items along Mainland St. easier than is currently possible. Freeing up some of the road space for short term stopping would provide closer access for customers at many Mainland St. businesses.

While not specific to Strædet, Copenhagen could offer a lesson in the rate of change in Downtown Vancouver. The example of Copenhagen’s incremental pedestrianization of the city centre suggests that if done slowly and adequate transport alternatives are in place, city centres can be reclaimed for pedestrians and businesses can continue to thrive.

8.2. ACCESS TO DELIVERIES AND SERVICE VEHICLES

Like Mainland St., New Road and Strædet serve important functions for delivery and service vehicle access. Maintaining service vehicle access all day were key factors leading to the decisions making New Road and Strædet pedestrian priority streets rather than pedestrian only zones. Furthermore, there are no back lanes along either of the case study streets so like Mainland St., all deliveries must take place from the front of the building. Due to these reasons, the experiences of New Road and Strædet are very applicable to Mainland St.

In most cases, business people on both case study streets felt that deliveries are easier under the pedestrian priority schemes. The lack of rigid parking or loading zones means that vehicles can pull up closer to most stores
than previously possible. Currently along Mainland St., the abundance of parking and loading zones means that it is possible to get quite close to stores for deliveries. However, this assumes that nearby space is available.

As was seen on Strædet and New Road, delivery drivers use common sense and usually park to the side of the road where they do not block traffic. It seems like the reduction in regulations along these streets was accompanied by the use of common sense when making deliveries. While there were still occasional disputes between delivery drivers, the business people along both case study streets felt the same as one BIA member who felt that these conflicts were of little concern to them.

Despite the ease of most deliveries, some informal deliveries (either in unmarked vehicles or by drivers not accustomed to making deliveries on the case study streets) encountered difficulties on both case study streets. Many drivers were unsure of the regulations and were nervous about driving and stopping along the streets. In other cases, unmarked cars were ticketed if they couldn’t complete their deliveries within the time allotted. Any pedestrian priority redevelopment for Mainland St. should include an education program to ensure businesses, delivery drivers and road users know how to use the space.

A key strength of the New Road redevelopment was the open and inclusive process. The needs and concerns of the local businesses helped to guide the redevelopment before, during and after construction was completed. If the City of Vancouver can ensure that businesses delivery access is met, a pedestrian priority Mainland St. has the potential to make deliveries on Mainland St. an easier and more efficient task.

8.3. VISUAL CLUTTER

Few of the interviewees in Brighton and Copenhagen mentioned anything specifically about clutter. However, pictures prior to redevelopment leave no doubt that the streets were more cluttered with signs, road markings, barriers and run down features prior to their redevelopments. Most people seemed pleased
with the look of their streets after redevelopment and believed that aesthetically, it was an improvement. Few complaints were lodged regarding post-construction visual clutter. The only complaint heard from business people on Strædet had to do with the number of bicycles and strollers left unattended along the street. On New Road, one business person felt the interface between the Pavilion Gardens and New Road should have been included in the redevelopment plans and budget. Despite the odd complaints about visual clutter, the redevelopments of Strædet and New Road provided their respective Councils the opportunity to create more uniform and uncluttered public spaces with a greater aesthetic appeal.

Even with a high level of general aesthetic approval of the redevelopments, some improvements could be made. New Road teaches us that any future pedestrian priority redevelopment for Mainland St. should ensure that any adjacent spaces get some consideration in the design phase. Furthermore, the minimization of signs on both streets has led to many local business people feeling that some people were unsure about driving down their streets. This demonstrates that more could be done to educate people on the use of pedestrian priority streets. The local Council and business people are best placed to educate road users on the use of these streets. If a pedestrian priority scheme was implemented for Mainland St, a combination of advertisements, mail-outs, signage, and encouraging local business people to pass this information on to their clients may help to mitigate the uncertainty some drivers may feel moving along a pedestrian priority street.

8.4. AN ADJACENT PUBLIC SPACE

The presence of the Royal Pavilion Gardens along one flank of New Road is an important factor to consider in light of the presence of Bill Curtis Square along Mainland St. The Gardens are significantly larger than Bill Curtis Square and the nature of the public spaces are very different. Despite the differences in form and function of these public spaces, there are some comparisons and lessons that can be drawn from the experience of New Road.
The seating wall along New Road does attract people who do not always use the rubbish containers provided. Additionally, the seating wall has attracted more public sleeping and drinking. Public sleeping in Bill Curtis Square was a concern raised by one member of the Yaletown BIA. New Road handled this situation in a number of ways. Police made more regular visits to New Road after the incidences of these behaviours increased. Despite these “undesirable” activities, the observations of New Road confirmed that the space is popular enough with all types of people to make the number of “undesirable” activities taking place relatively insignificant. “Undesirable” activities were a small minority of activities and as long as they stay that way, they do not seem to impact the use of the space by individuals engaged in “desirable” activities. As long as Vancouver was able to continue to attract “desirable” activities, any “undesirable” ones will be either pushed out or become less apparent.

As mentioned in the previous section, the redevelopment of New Road stopped abruptly at the edge of New Road. It seems as though the redevelopment could have been more successful if it had included even the first 5 m of the Gardens. That way the redevelopment could have better strengthened the connection between the Gardens and the street through a unified design aesthetic. Since Bill Curtis Square is much smaller than the Royal Pavilion Gardens, it should be included in any plans to redevelop Mainland St. into a pedestrian priority zone. This will help to ensure that it becomes a destination in its own right and to take full advantage of its location next to a rapid transit station and as a link between the waterfront and the rest of Downtown Vancouver.

8.5. AN INHERENT INCOMPATIBILITY

Strædet was redeveloped nearly 30 years after the pedestrianization of Central Copenhagen began with Strøget. Throughout this time, delivery and service vehicles have had access to Copenhagen’s streets before 11:00 a.m. and have mixed with pedestrians. Therefore, a pedestrian priority street caused
little alarm to Copenhagener. However, some people that were interviewed for this study felt that a pedestrian only street would be better for Strædet.

While Brighton had some pedestrianized streets (e.g. Kensington Gardens) and districts (e.g. the Lanes) prior to redevelopment, there were some that felt a pedestrian priority street wouldn't work. Some felt that Danish solutions to an English street were doomed to failure. These sceptics used worst-case scenarios to justify their beliefs. It is important to remember that many Copenhageners were sceptical about the pedestrianization scheme that began in the 1960s. Many argued that “We are Danes, not Italians” and that what some perceived to be a southern European style of street would not work in Copenhagen’s northern climate and culture (Gehl and Gemzøe, 2001, p. 11). These sceptics were proven wrong as over time Copenhagen developed a patio and café culture not unlike those of southern European countries. After one year, it seems as though the concerns of the sceptics have yet to materialize on New Road. Perhaps a “Danish” solution can work in an English context.

Another “inherent incompatibility” between the case study streets and Mainland St. concerns the liquor laws and resulting containment of patios. Copenhagen’s laws do not require barriers between patios serving alcohol and the street. On the other hand, Brighton’s licensing department required barriers to be set up around the establishments. The fear in Brighton was that without the barriers, cars may not see where the tables and chairs are and collisions may occur. These barriers need not be permanent or fixed to the ground and can be moved at the end of the day when the patio is cleared of furniture. In Vancouver, any patio serving alcohol falls under the “Large Sidewalk Patio” designation and is required to have a permanent structure (that can be removed within 24 hours) around the service area (Figure 32). “Bollard and chain fencing is not permitted as it poses a hazard to pedestrians with a visual disability” (City of Vancouver, 2008). Under current bylaws, the flexible styles of patio seen on New Road and Strædet would be impossible in Vancouver.
In the redevelopment of New Road, Gehl Architects used a style of street that is more common in the Netherlands or Denmark, but they paid particular attention to the local context when coming up with possible designs for New Road. Certain features of New Road or Strædet will not be transferable to Mainland St. for a variety of reasons. Perhaps some new patios opening up in a pedestrian priority Mainland St. would have to be alcohol free. Perhaps more public parking will be needed to ensure adequate business in Vancouver. It is crucial that any pedestrian priority redevelopment for Mainland St. take into account the local context in the design phase rather than importing a direct copy of a Danish, English or even another Canadian street.
9. CONCLUSIONS AND RECOMMENDATIONS

A pedestrian priority design has the potential to enhance Mainland St. in a number of ways. Opportunities for the use of the street as a place of exchange (of goods, knowledge and culture) are increased by replacing some of the parking with street furniture and providing more space to be used by restaurants, cafes and to be used for larger, more frequent public events. Increasing the amount of seating along Mainland St. (at cafes/restaurants and public benches) could increase the number of people engaging in optional and social activities. As more people spend time along Mainland St., the potential for spontaneous activities will increase which could enhance the recognition of home territory for local residents. Children living in the vicinity could have a more immediate space to play and interact with one another and with members of other generations. The more the local residents take part in activities along Mainland St., the more distinct Mainland St. can become. Importantly, these potential social benefits to Yaletown are made possible with little change to existing traffic capacity.

It seems more appropriate to extend the original focus of this study (the 1100 block of Mainland St.) to include all four blocks of Hamilton St. between Drake and Smithe St. and the two blocks of Mainland St. between Davie St. and Nelson St. Since these two streets complement each other – they both work together as opposite one-way streets, they both lack back lanes for servicing, and they both share the design features that make Yaletown unique – it would be important to apply the same treatment to both streets.

A number of reasons would make full pedestrianization a less viable option than pedestrian priority. Importantly, deliveries must be made from the street front and some businesses need vehicle access at all times of day (e.g. the car dealership). Additionally, many of the buildings have underground parking for either residents or employees. Access to this off-street parking would
be jeopardized by the full pedestrianization of the street. Enforcing who is and who isn’t allowed to drive along the street would be problematic. Finally, some stores have larger items that would be difficult for clients to move if access was limited to only a few hours per day.

To accommodate a pedestrian priority scheme in Yaletown, at least one row of parking would have to be removed. There are currently 175 on-street parking spaces (40% parallel, 60% angled parking) along the heritage blocks of Mainland St. (1000-1100), and Hamilton St. (900-1200). If a current plan by the Yaletown BIA to remove the dumpsters from the street is enacted, it will allow for an even greater number of angled parking spaces. Without knowing the level of importance of the on-street parking for business vitality in Yaletown, it would be a more prudent decision to remove the parallel parking on the eastern sides of Hamilton St. and Mainland St. Since the angled parking has the ability to accommodate more parking spaces, this would minimize the amount of parking spaces lost. To help mitigate the impact of the loss of these parking spaces, signs around Yaletown could direct drivers to alternative parking spaces in the many underground parking lots nearby. Additionally, the Canada Line may provide a transportation option for some of the people who currently drive to Yaletown. Finally, increasing the number of bike racks at street level could encourage more bicycle transport to and from Yaletown.

Replacing the eastern sidewalks and roadways along Hamilton St. and Mainland St. with a single surface would provide greater room on the eastern side of the road for pedestrians. This would be particularly beneficial to people with mobility challenges that currently have to dodge obstacles like sandwich boards, postal boxes, hydro poles and wires on the narrow eastern sidewalk. A wider walking area on the eastern side of the street will also help to accommodate any future pedestrian traffic to and from the Canada Line station. Furthermore, having some more space on the eastern side of the road could provide room for street furniture, patios and flexible space for use during public events. This could help to add life to the street and reduce some of the pressure on the loading docks for accommodating more and more patios.
Ironically, one BIA member expressed concern that the increasing number of patios on the loading docks threatens the amount of true public space (i.e. space available for use free of charge without the need to patronize a restaurant or café) along Mainland St. Due to City of Vancouver bylaws, all patios serving alcohol must be enclosed by a permanent barrier. So while patios add life and vibrancy to the street, they also serve to reduce the amount of true public space that is available in Yaletown.

The new space on the eastern side of the streets could also help make deliveries easier for businesses. Street furniture could be used to informally designate loading zones. Care would have to be made with permitting patios on the eastern side of the streets to ensure that they do not interfere with these loading zones. Quick deliveries in smaller vehicles could make use of these informal loading zones.

To help people learn how to use these informal loading zones, education packages could be sent to all businesses (and perhaps delivery companies) in Yaletown. If this information is passed on from businesses to delivery people – both informal and formal – many problems associated with deliveries could be avoided. If problems were to arise with illegal use of the informal stopping spaces, a permit or pass could be given to each business. These permits could be placed inside delivery vehicles identifying which store they are servicing. This would allow parking attendants to quickly and easily find the driver and determine if any infractions are being made.

To help ensure efficiency of deliveries of all sizes, the current space designated as loading zones could be adjusted. Additionally, the angled parking spaces could be adjusted to allow for greater space of movement for delivery vehicles. As in the examples of the case study streets, giving delivery drivers the benefit of the doubt almost always sees them use common sense. There is no reason to believe that Vancouver’s delivery drivers are capable of using common sense.
Any redevelopment of Hamilton St. and Mainland St. would provide the opportunity to reduce clutter and make Yaletown even more appealing. It would provide an opportunity to bring a uniform design to the street furniture in Yaletown. Importantly, the reconstruction of Mainland St. after the completion of the Canada Line provides an excellent opportunity to rethink some design elements of Yaletown. The removal of the eastern sidewalk would provide more space for the placement of sandwich boards and mailboxes and create a less cluttered appearance.

Ensuring that Bill Curtis Square is included in any redevelopment of Yaletown could help to better integrate the square into the physical and social fabric of Yaletown. Fixtures like electrical outlets and water supply could be installed that would help make hosting farmers markets and other events more possible. The added public space on the eastern side of the street could be used as flexible space for the expansion of public markets or other events taking place in Bill Curtis Square. Providing more permits to vendors would allow for food to be served in the square and help to make the square a destination in its own right. Other features such as appropriate street furniture (that match the rest of Yaletown), public art and wayfinding information would help people coming out of the Canada Line station as well as attracting people to the square for orientation purposes. Ensuring a high level of use in the square could help to keep any “undesirable” activities away.

While the end product of a pedestrian priority scheme for Hamilton St. and Mainland St. offers many improvements, it would not be without its challenges. Many people would be sceptical about “European” street designs that “wouldn’t work in Canada”. However, in both Copenhagen and Brighton, the sceptics were proven wrong. In New Road’s case, the worst-case scenarios feared by some have yet to materialize. According to one of the BIA members, Vancouver would be an ideal place in Canada to implement a pedestrian priority scheme. Vancouver – and British Columbia in general – is known for the relatively high level of respect shown to pedestrians. Drivers do not run down jaywalkers on busy streets like Hastings St., so there is no reason to believe they would do the
same in Yaletown. This scenario is particularly unlikely in Yaletown since drivers are already used to watching for pedestrians in the neighbourhood.

Furthermore, Vancouver already has elements of pedestrian priority streets in place (Figure 33). Most famous of these places is Granville Island – intentionally designed with a single surface treatment to blur the lines between pedestrian and automobile space. Cars creep slowly on Granville Island and take care of pedestrians who can be found “illegally” crossing the street wherever they choose. Less famous is Menchion's Mews, a small street located near the Coal Harbour seawall off of Bayshore Dr. This single surface road without a sidewalk warns drivers that pedestrians and cyclists are permitted to use the roadway.
Figure 33. Elements of pedestrian priority areas in Vancouver. Clockwise from top left: Granville Island intersection with a pedestrian in the roadway; Granville Island market with space shared by pedestrians, cyclists and cars; The entrance to Menchion’s Mews showing the sign instructing motorists to yield to bikes and pedestrians; the Seawall near Granville Island where cyclists and pedestrians mix. (Used with permission of Ian MacPhee)

One difficulty that a Copenhagen or Brighton model of pedestrian priority street may encounter in Vancouver is the licensing laws requiring barriers between liquor service areas and the sidewalk. For the two European models included in this project to be implemented here, changes would have to be made to the City liquor laws. Like an Experimental Traffic Order, liquor laws could be changed on an experimental basis in a pedestrian priority Yaletown. The success or failure of this experiment could guide future sidewalk patio laws across Vancouver. Without an experimental or permanent change to patio laws, the types of patios acceptable to City Council would be limited. However, not all patios need to serve liquor and small cafés on the eastern side of the road could have a few tables out on the street in between the street furniture. Implementing a pedestrian priority scheme for Vancouver will inevitably require modifications
from examples from other locations (whether European, American or elsewhere in Canada). Patios are one example of a possible limitation in Vancouver.

Equally important to the end product of any Yaletown redevelopment is the process. The process of redevelopment would be critical in winning and maintaining the support of local businesses and residents. The processes followed by Brighton and Hove City Council and Copenhagen City Council for the redevelopment of New Road and Strædet offer many lessons for Vancouver. The commercial and business community of Yaletown is diverse and each business would need to feel like their concerns were both listened to and factored into any redesigns of Mainland St. and Hamilton St. The process would have to be a collaborative approach including all stakeholders. Vancouver would need to ensure that no local or other stakeholders are left feeling outside of the process (like some business people felt in Strædet or the Guide Dogs for the Blind felt in Brighton). Vancouver would need to ensure that all stakeholders and interest groups were included and consulted in any redevelopment of Mainland St. and Hamilton St.

The current commercial activities in Yaletown are very similar to those of Strædet. It is composed mostly of high end, independent boutiques and restaurants. The neighbourhood has a unique shopping character because of these stores. It is unclear whether a pedestrian priority scheme for Yaletown would impact rent for local businesses. A potential negative consequence of any pedestrian priority redevelopment in Yaletown could be increasing rents that only multinational chain stores like those on Robson St. will be able to afford. It will be important to examine other examples of pedestrianization of streets to determine the likelihood of such an event.

It will also be critical to help people adjust to any redevelopment of Mainland St. and Hamilton St. The example of the pedestrianization of Copenhagen City Centre shows that slow and gradual transitions help people to adjust to changes in the City Centre. It is critical that transportation alternatives are in place prior to the completion of any redevelopment in Yaletown. The
opening of the Canada Line will provide many people – but not all – an alternative mode of transportation to Yaletown. For those people who continue to drive, it will be important to ensure that adequate parking exists (or is planned to be built) within a few minutes walk from Mainland St. and Hamilton St.

Ensuring that people in Vancouver know how to use any potential pedestrian priority streets will also help to make them more successful places. An education campaign in the media (newspapers, television, GVTV, posters, fliers to local addresses) can help to instruct people how to use the space. Furthermore, local businesses can be provided with education on the use of the streets and can then act as ambassadors to clients and service people coming to and from their places of business. These businesses can help to properly educate others of the proper use of a pedestrian priority street.

Signs – while kept to a minimum – can be placed at the entrances of the redeveloped streets. Signs showing speed limits, loading zones and perhaps a warning for drivers that pedestrians have the right of way on this street could also help people learn how to use the space. Parking metres and road markings would intuitively let people know where they can park. As mentioned, loading zones could be informally placed between street furniture or in specifically designated zones.

Of critical importance for the implementation of any pedestrian priority scheme in Vancouver would be to treat it as an experiment and implement an Experimental Traffic Order like in Brighton. An Experimental Traffic Order would allow for the street to be monitored and altered if necessary. Importantly, it would help people feel more at ease that change to the street is possible even after construction is complete. No element of the street redesign should be considered untouchable – including the pedestrian priority status of the street.

Despite the evidence supporting a pedestrian priority scheme for Yaletown in this research, more information would be required to validate this claim. For example, I was unable to find an example of a pedestrian priority street with loading docks (or even an example with two different elevations). The nature of
the elevated loading docks means that a portion of a pedestrian priority Mainland St. or Hamilton St. would effectively be pedestrian only and the remainder would be pedestrian priority. This differs significantly from the examples of Strædet and New Road with no parts of the street reserved for pedestrians only. A three dimensional analysis of the design of Yaletown could provide a more complete picture of how space is used and the relationship between the elevated loading docks and the eastern sidewalk and roadway below it. Such an analysis would help to modify the examples of New Road and Strædet to best suit the unique architecture and design of Hamilton St. and Mainland St.

Just as it would be wrong to assume that the pedestrian priority models provided by New Road and Strædet could be applied directly to Yaletown, it would be equally wrong to assume that a pedestrian priority redevelopment of Yaletown could be applied elsewhere in Vancouver. A pedestrian priority Yaletown could provide some lessons about the behaviour of Vancouverites on a pedestrian priority street. However, any further pedestrian priority streets in Vancouver would have to adapt the unique example of Yaletown to take into account the different architectural, social, economic and possibly cultural contexts.

A final element that could help to validate this research is to determine the concerns of other stakeholders. This study focussed on the concerns of the Yaletown BIA. The concerns of other groups have not been considered. Residents will have a very different set of concerns with pedestrian priority streets than both visitors to the neighbourhood and local businesses. For example, while a business may want more space in the street for a patio, perhaps those extra tables mean more unwanted noise for the resident or fewer parking spots for the visitor. Determining a wider range of concerns will be important to validate the results of this research.

Based on the results of this study, a pedestrian priority scheme for Mainland St. and Hamilton St. could provide a number of improvements over the current design. Addressing the preceding concerns would help to better inform
any decisions to make Yaletown a pedestrian priority zone. However, if Yaletown were to be redesigned along pedestrian priority principles, it would be critical to provide an inclusive and transparent process in the redevelopment. Any redevelopment should be treated as an experiment with adequate monitoring and assessment processes in place. All stakeholders must be open to accept the success or failure of such an experiment and to make adjustments to best suit the local context. Only through such processes can a pedestrian priority redevelopment of Mainland St. and Hamilton St. truly be considered a success in Vancouver.
APPENDIX A: PICTURES SHOWN TO BIA MEMBERS.

Pedestrian priority pictures shown to members of the Yaletown BIA. (Used with permission of (clockwise from top left) Ben Hamilton-Baillie, Gehl Architects, Gehl Architects, Urban75, Gehl Architects).

Pedestrian only pictures shown to members of the Yaletown BIA. (Used with permission of Erik Borälv (left), Niko Lipsanen (right)).
APPENDIX B: ESTIMATED HOURLY BICYCLE AND MOTOR VEHICLE TRAFFIC VOLUMES: NEW ROAD, BRIGHTON.
APPENDIX C: ESTIMATED HOURLY BICYCLE AND MOTOR VEHICLE TRAFFIC VOLUMES: STRÆDEDET, COPENHAGEN.
REFERENCE LIST


