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Streets as Social Spaces:
A Comparison between Sparks Street Mall in Ottawa, Canada
and Murray Street Mall in Perth, Australia

by

Olivia Susai

A thesis submitted to the School of Urban and Regional Planning
in conformity with the requirements for
the degree of Master of Urban and Regional Planning

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ABSTRACT

The purpose of this thesis is to compare the public use of two pedestrian streets in Ottawa, Ontario and Perth, Western Australia. The comparison will derive lessons for Ottawa from Perth and vice versa.

Thirteen key design elements for public use were extracted from the literature review, City of Toronto and the Project for Public Spaces organization. These were tested against two pedestrian malls- Sparks Street Mall, Ottawa, Canada and Murray Street Mall, Perth, Australia. Local users consider Sparks Street Mall as an unsuccessful space and the latter as a successful one. Assessment of the two malls was primarily undertaken using qualitative observation and photography of the natural setting and the human interactions within it.

This thesis identified that design elements such as pedestrian comfort, programming and adjacent land uses appear to influence the level of use within the pedestrian malls. The results suggest that public use of the pedestrian mall was most intense where social uses such as food establishments were present.

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I wish to thank Dr. David Gordon for his passion and dedication to students as their lecturer and/or thesis supervisor. His patience, encouragement and belief in me throughout the writing of this thesis and my time at Queen's have been invaluable. I would also like to thank the Faculty and Administrative Staff at the School of Urban and Regional Planning for their wisdom, support and assistance over the past couple of years.

I am thankful to all those who provided information and useful advice in particular, Jeff O'Neill from the City of Ottawa and Russell Kingdom from the City of Perth. Special thanks are due to Ross Blair and Kalle Hakala for their help in preparing illustrations and to Irene Fernandez for providing insightful critique and for tirelessly taking the time to edit the thesis.

I am grateful to my colleagues at SURP, all of whom I am honoured to have had the opportunity to work, laugh, dance and sing with and thank them all for making my time at SURP and Kingston most enjoyable.

Finally, I am indebted to the unconditional love; support and constant encouragement of my parents Kevin and Elizabeth, my sister and brother, Veronica and Xavier Susai and those always on my mind, who have made the distance apart seem unnoticeable. Without their guidance and reinforcement, this experience would not have been possible.

EXECUTIVE SUMMARY

This thesis evaluates physical design of two public pedestrian streets against their effectiveness as a social space. This thesis uses qualitative research through identification of thirteen key design elements adapted from the Toronto Parks and Recreation Department (1988), the Project for Public Spaces (2003) and a literature review. These elements were assessed against two case studies of pedestrian streets: Sparks Street Mall in Ottawa, Canada and Murray Street Mall in Perth, Australia to identify what attributes influence a high level of public use.

Location

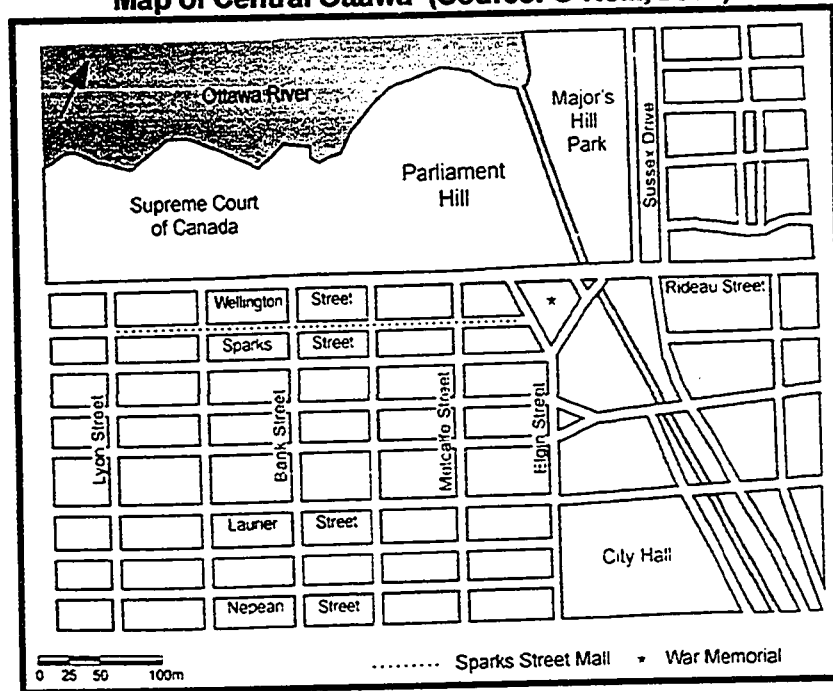
Sparks Street Mall, Ottawa, Canada comprises of five blocks that run east west from Elgin to Lyon Street and is surrounded by various government buildings, retail stores, restaurants/cafés and tourist attractions.

Sparks Street Mall is in close proximity to the Parliament Buildings, Supreme Court of Canada, War Memorial and the Rideau Canal.

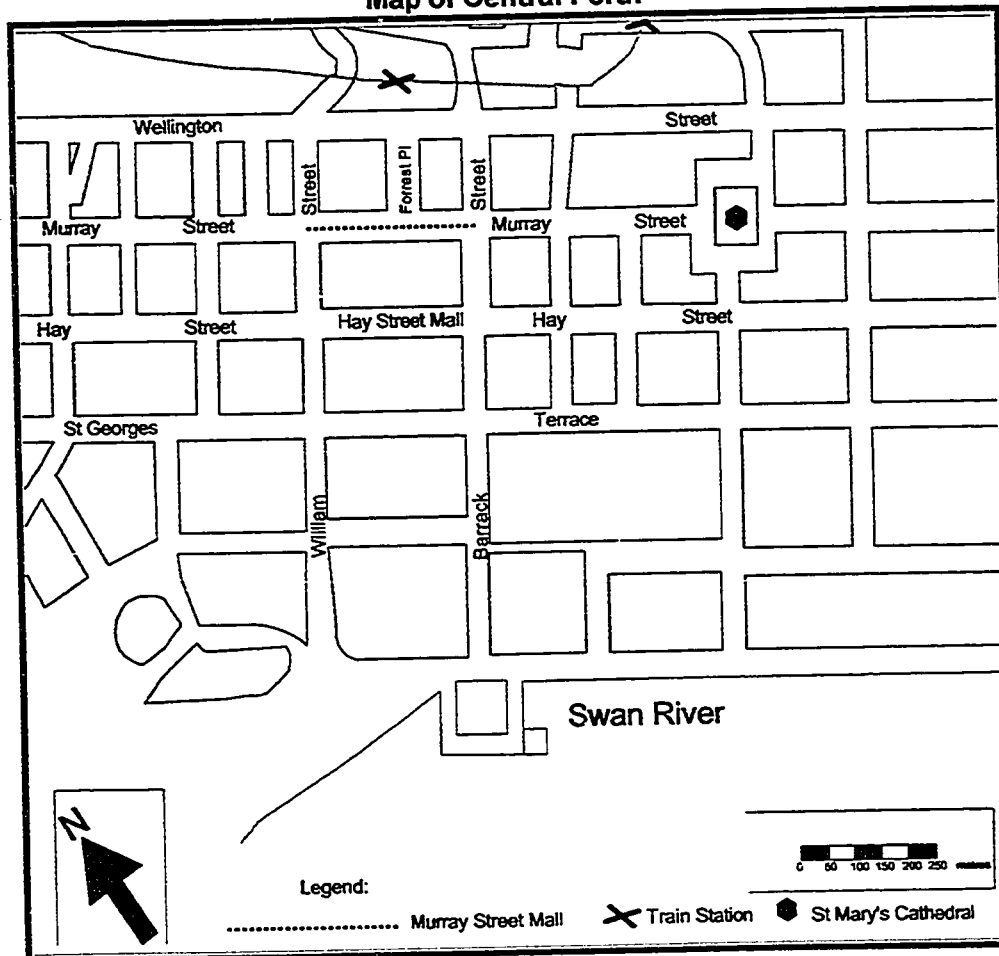
Murray Street Mall, Perth, Australia runs between Barrack and William Street and is surrounded by a mix of government buildings/offices, restaurants/cafés and residential apartments.

It is in close proximity to the Perth Central Train Station, Forrest Place and forms part of the shopping precinct of the city centre.

Map of Central Ottawa (Source: O'Neill, 2003)



Map of Central Perth



Methodology

The thesis uses methodology previously applied by the Toronto Parks and Recreation Department in a 1988 study, *A Comparison of Five Inner-City Parks*. It uses three analytical tools: ecological mapping, a “door handle” survey and observation study. These are supported with maps and photographs.

Thirteen criteria were selected and categorized into three categories to assist in the appraisal of the public space as follows:

- Access and Linkage: Form and length, focus and linkages to the surrounds are factors that should be considered in site design.
- Comfort and Image: Consideration of microclimate, legibility, seating, aesthetics, security and safety, maintenance and amenities are important for needs of potential users of public spaces.
- Uses and Activities/Sociability: Activities, attractions or elements of discovery should be incorporated into the design to lure people and increase level of use within public spaces.

Data collected for this report extended over two seasons to explore the differences (if any) in the usage patterns during *warm* and *cooler* periods. The samples for Sparks Street Mall in Ottawa, Canada was obtained in October and November 2002 (Cool climate sample) and in early September 2003 (Warm climate sample). The samples for Murray Street Mall in Perth, Australia was obtained in April 2003 (warm climate sample) and August 2003 (Cool climate sample).

Analysis

The analysis for both pedestrian malls is summarized in the table below. This table assesses the attributes of each mall with a score between 1 (poor) and 4 (very good).

Design Elements		Sparks Street Mall Rating		Murray Street Mall Rating	
		Warm	Cool	Warm	Cool
Access & Linkage	Form and Length	2.5		4	
	Focus	1	-	1	-
	Linkages to surrounds	3		4	
Comfort & Image	Microclimate	2	1	3	1
	Legibility	3	3	3	3
	Seating	3	2	4	2
	Aesthetics	3	-	2.5	-
	Security & Safety	2.5	-	4	-
	Maintenance	2	1	4	4
	Amenities	2	1	3	3
Uses & Activities/ Sociability	Activities	3	2	4	2.5
	Necessary Social and Optional Activities	3	3	3	3
	Discovery	2.5	1	3	2.5

Key: 1= poor, 2= fair, 3= good; 4= very good; - = no change

Further analysis identified factors that encouraged high level of use within the space or discouraged it.

Factors that Encouraged Use

Murray Street Mall	Sparks Street Mall
<ul style="list-style-type: none"> • Good level of connectivity • Comfortable length of mall • Arcade or roof cover protects pedestrians when raining • Accessible to the physically challenged • Well maintained • Information booth and maps (hand out) for visitors • Good quality and sufficient provision of amenities • Sufficient seating space • Rich in architectural variety • Variety of outdoor café type establishments • Good mix of social, optional and necessary uses 	<ul style="list-style-type: none"> • Good level of connectivity • Accessible to the physically challenged • Rich architectural variety • Well marketed for tourism purposes • Sufficient seating space • Open space at corner of Sparks Street and Bank Street provides opportunity

Factors that Discourage Use

Murray Street Mall	Sparks Street Mall
<ul style="list-style-type: none"> • Lack of focus • Lack of directional signage at grade level • Lack of public art, water features • Lack of nightlife 	<ul style="list-style-type: none"> • Mall is too long • Blocks 4 and 5 are underused resulting in lack of social activity • Cars are accessible within Blocks 4 and 5 segregating these two blocks from Blocks 1 to 3. • Poor design of open space at corner of Sparks Street and Bank Street • Lack of amenities during colder climates • Mall is poorly maintained • Lack of sunlight penetration to ground's surfaces • Tall buildings and narrow streets create wind tunnel effect • Little protection for pedestrians against sun/rain • Lack of passive/active activities during cooler climates

Murray Street Mall recommendations

- Introduce public art/sculptures into the mall as done in Sparks Street Mall.
- Street paving within the mall is quite dull, therefore it should be made more interesting by incorporating different coloured tiles/ public art into it.
- Add more directional signage throughout the mall especially at grade level.
- Add social uses such as restaurants, pubs that would increase use of space after normal business hours.

Sparks Street Mall recommendations

- Shorten the length of the mall by converting Blocks 4 and 5 into vehicular street with generous sidewalks or prohibit vehicular access to the area.
- Add grassed areas in open space at corner of Sparks and Bank Street to increase choice of seating.

- Re-arrange and incorporate sculptures, public art with small clusters of seating spaces.
- Remove kiosk/outdoor seating areas from middle of the mall and relocate them to the applicable establishment. Removing permanent structures from the middle of the mall will open the mall up and provide the opportunity to improve seating arrangements or increase street planting.

Sparks Street Mall may never return to the level of success it had in its glory days in the 1960s, but by introducing activity, improving its amenities and diminish the negative perception it currently exists, it may yet re-emerge as a popular public place.

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INTRODUCTION

1.1 Aims and Objectives

The purpose of this thesis is to compare the public use of two pedestrian malls in Ottawa, Ontario and Perth, Western Australia. It uses criteria developed from extensive literature review, the Toronto Parks and Recreation Department (1988) and the Project for Public Spaces organization (2003). The comparison will derive lessons for Ottawa from Perth and vice versa.

In addition to this, this thesis explores the following:

- Land use and seasonal change.
- Age of user, type of use and where they choose to locate themselves within the public open space and why.

1.2 Research Methodology

The thesis research method uses a 'qualitative research' approach, in the sense that it is based on personal observation. Two types of observations were performed. The first was direct observation of how people moved within the pedestrian mall and what the mall encompassed in terms of design elements and features. The second observation was an ecological mapping exercise in which the author noted where people located themselves within the mall, the type of activity they undertook, and their assumed gender and age.

Some quantitative measures were applied to support and justify the effectiveness of some of the design elements, such as a 'Door Handle' survey, which notes the number of entrances to a building or use to assess if they influence the level of pedestrian flow through an area.

Sotirios Sarantakos (1993) describes qualitative research as being an interpretive, naturalistic and reflective methodology. This type of research has both its strengths and weaknesses. The three key strengths of this methodology are that 1) it researches people in their natural settings 2) presents a more realistic view of the world and 3) stresses interpretations and meanings of the subject matter (Chadwick, Bahr, Albrecht, 1984).

Appendix H outlines how the research methodology is used to analyze the list of criteria that assesses the two pedestrian malls.

1.3 Limitations of Method

With any research method there are limitations, and in the case of this thesis, the observation studies were time consuming and in some cases had to be repeated due to poor weather conditions that affected the volume of pedestrians within the pedestrian mall. Data collected during poor weather conditions however was still useful in obtaining an understanding of human movement within the city spaces during poor weather.

Physical limitations, such as building developments along Sparks Street Mall, may have affected the level of movement within it. There was construction at end of O'Connor Street (Block 3) that blocked Zeilers, development of the new CBC building within the same block and landscaping between Kent and Lyon North Street (Block 5). These

works had protective fencing and construction signage that controlled where pedestrians could move about within the Mall. Thus, this may have deterred users from the area during the observation in September 2003.

Furthermore, analysis and interpretations of results are subjective, which is another disadvantage of the methodology used. However, interpretations were often supported by literary sources and O'Neill's 2003 report 'An Evaluation of the Sparks Street Mall'.

The data collected using the above-mentioned techniques was based on a twelve-hour composite day taken over four days, which was comprised of two working days and two days on the weekend. Even so, such representation does not provide a true representation of the use of the pedestrian mall considering that the use of the Mall would be varied over a twelve-month period.

1.4 Study Area and Boundaries

The two pedestrian streets used for the case study are Murray Street Mall, Perth, Australia and Sparks Street Mall, Ottawa, Canada. Murray Street Mall runs from William to Barrack Street (refer Figure 1.1), known to be a popular street within the city centre, considered as an effective (i.e. well used) public space that draws people to the area through the wide array of commercial uses and social activities.

The Mall adjoins Forrest Place, a major public square, which connects further to the Perth Central Train Station located across Wellington Street.

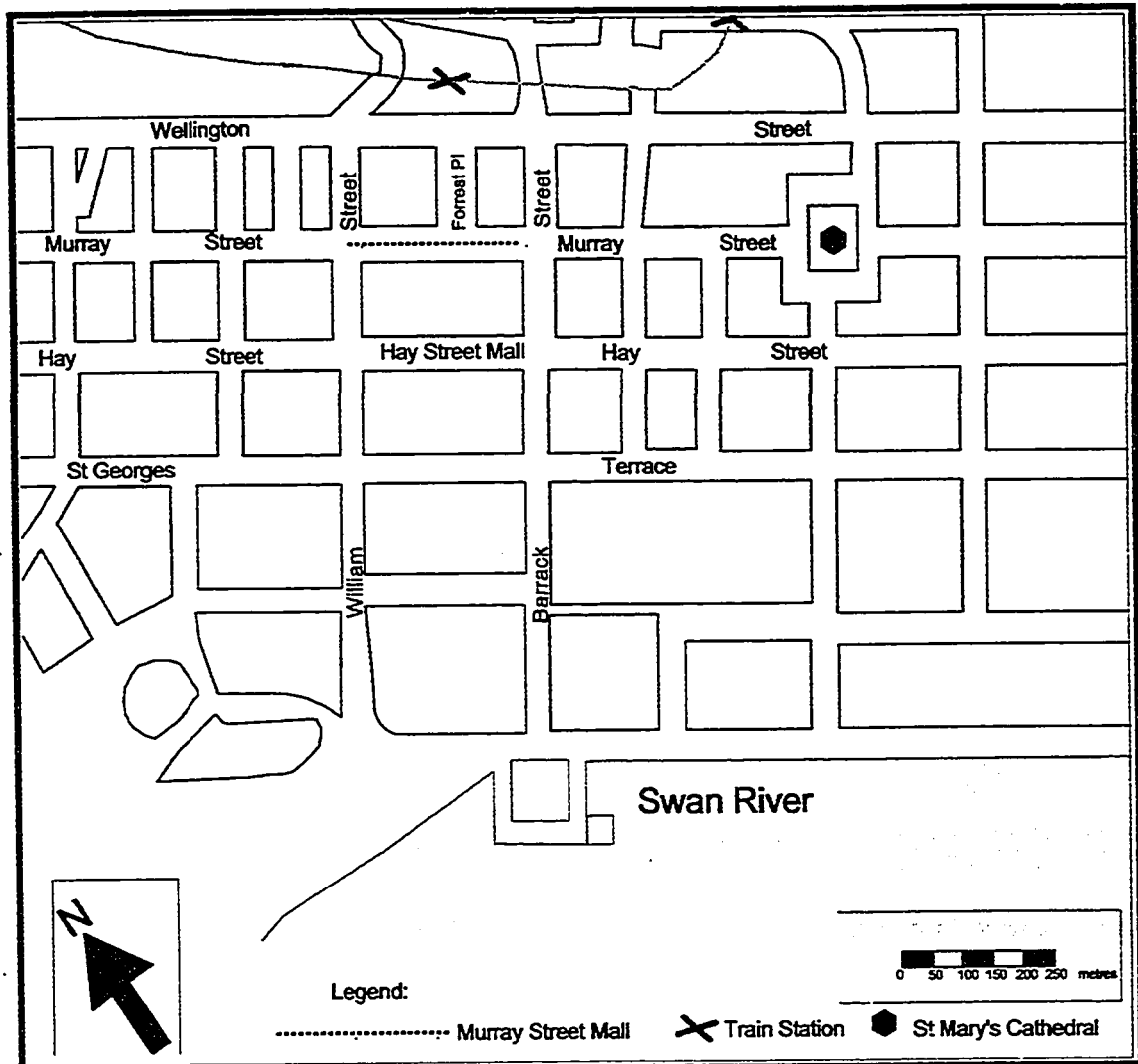


Figure 1.1 Location of Murray Street Mall.

Sparks Street Mall runs from Elgin to Lyon Street (refer Figure 1.2) and is not as popular as Murray Street Mall, nor does it offer a similar social scene. Hence the two cases are examples of strong and weak public open spaces.

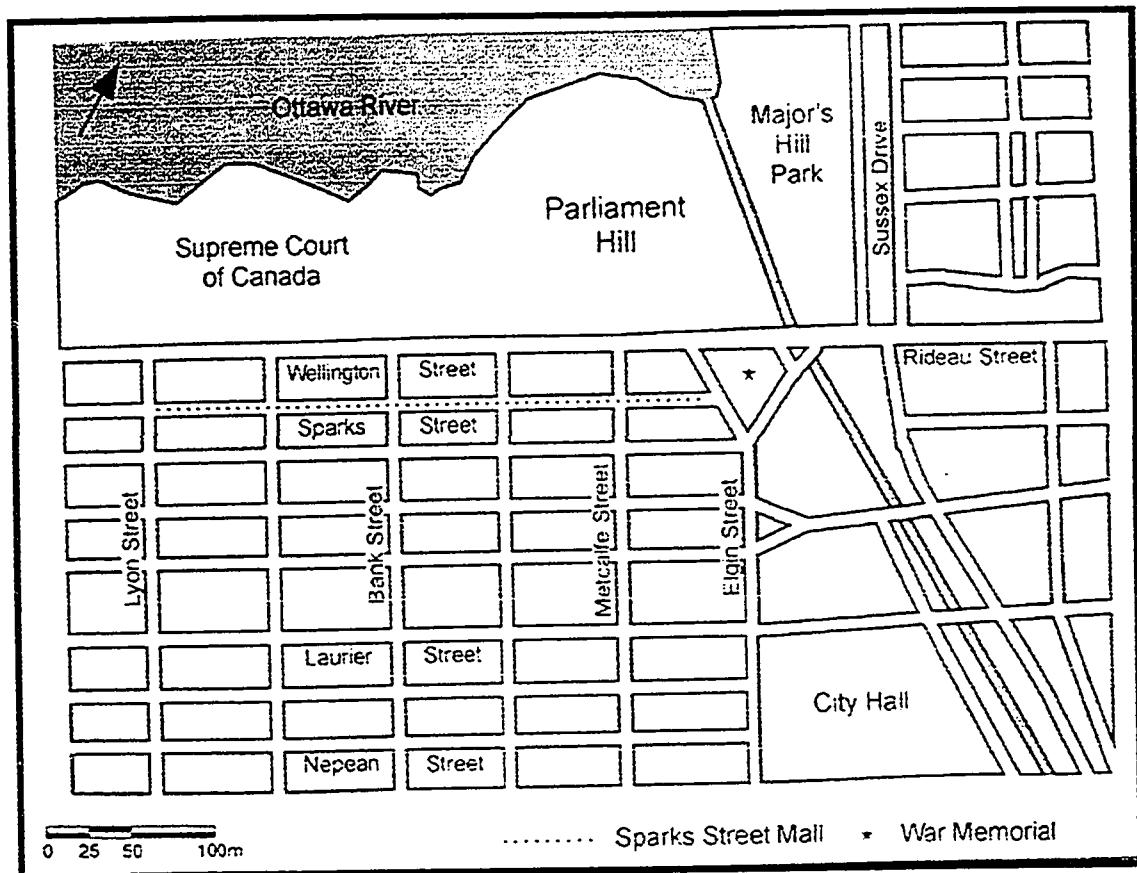


Figure 1.2 Location of Sparks Street Mall (O'Neill, 2003)

Despite this difference, the two case studies have similar characteristics. The metropolitan region of Perth has a population of 1.38 million (WATC, 2004) and Ottawa-Gatineau has a population of 1.13 million (Statistics Canada, 2002). The locations of the pedestrian malls are in their city centres; hence the premises that surround the malls are similar in nature in that they comprise of retail, commercial and office uses. Therefore, it is anticipated that the type of users, how they use the mall and the activities that they partake in, would be similar. Furthermore, cultural differences between the two case studies were assumed to be insignificant as this issue was not considered in this thesis.

In terms of climate, Perth has a Mediterranean climate, with warm to hot summers and cool, wet winters. The summer temperature averages 29°C during the day and between

13°C -17°C at night. Humidity ranges from 50 % to 70%. The average winter temperature is 9°C -18°C during the day, dropping to 1°C to 3°C at night (WATC, 2004).

Ottawa has a temperate climate with an average summer temperature of 25°C during the day and approximately 18°C to 25°C during the night. The humidity levels are higher than that of Perth and are in mid 80-percentile range. The average early winter temperature is 0°C to 10°C during the day, dropping to below zero temperatures during the night (Lonely Planet, 1999). The observations were undertaken when climatic conditions for both cases were similar.

1.5 Scope of Thesis

This thesis begins with a literature review (Chapter 2.0) about the function of streets and the development of the pedestrian mall. Chapter 2.0 also discusses the theories and concepts of public space and the design elements incorporated within them that result in it being a social space. These design elements are developed further in Chapter 3.0, to identify evaluation criteria that are used to assess the two pedestrian malls. This chapter also discusses methods of collecting data using qualitative research approach.

Chapters 4.0 and 5.0 analyse the two case studies i.e. Sparks Street Mall in Ottawa, Canada and Murray Street Mall in Perth, Australia in detail. It provides insight to the reader as to what is available within each space and how it is used as a public space. A comparative analysis of these two spaces is undertaken in Chapter 6.0.

The implications of this analysis and recommendations for both pedestrian malls are detailed in Chapter 7.0.

THEORY AND CONCEPTS OF PUBLIC STREET SPACE

Streets are essential spaces within a city centre, not necessarily just for vehicular means but also as public spaces for people. This chapter discusses the early function of streets and their development towards becoming a social space. Some of the design elements that facilitate this social interaction are discussed.

2.1 Historical Use of Street and the Birth of Pedestrian Malls

Traditionally, the street in medieval settings was primarily used for the purposes of traffic exchange and the trade of goods. However, local citizens would also use this opportunity to communicate to other residents, which resulted in the street having “an economic function and social significance” (Kostof, 1992, p. 189).

As urban growth continued, the street provided a link between buildings within the street itself and also to the wider urban core area. Cliff Moughtin acknowledges that the function of the street as a means for transporting goods is not lost; however, the use of the streets has changed. Streets “facilitate the movement...communication and interaction between people and groups- thus serving to bind together the social order of the polis, or what in current parlance could be called the local urban community” (1992, p.131).

As automobile dependency increased in the early 1950s and 1960s, streets were increasingly constructed to accommodate vehicular capacity (Lennard & Lennard, 1995).

With an increase in automobile dependency, there was also an increase in public concern about the decline in urban quality due to pollution, which resulted in various initiatives to assist in improving urban quality for pedestrians (Orski, 1974). In an attempt to control this problem within the city centre, simple planning policies such as limiting car access to primary commercial streets were implemented in European cities, which resulted in the birth of the pedestrian mall concept, which began in early 1950s (Lennard & Lennard, 1995).

Rotterdam, Netherlands was the first modern city worldwide to banish the automobile. Following the 1940 bombing of the central city, the Dutch government decided not to recreate its winding and crowded streets but construct a “modern business district whose retail centrepiece, the Lijnbaan” was opened in 1953 (Garvin, 1995, p.142). It was believed that downtown employees were inclined to remain within the central business area if they could do their shopping in a pedestrian-only area and likewise, suburbanites would be less likely to shop in outer suburban stores if they were offered an automobile-free downtown alternative (Garvin, 1995). The Lijnbaan soon became the model for America’s first pedestrian mall, known as Burdick Street Pedestrian Mall in Kalamazoo, Michigan, which opened a few years later in 1959. The importance of Burdick Street Pedestrian Mall is that a fully pedestrianized street had the capability of reviving the downtown area.

The concept of the pedestrian mall involved zoning the main streets in city centres for commercial purposes only and incorporating light fixtures such as seating, planters and paving as part of the street design and introducing activities for street users (Lennard & Lennard, 1995). More importantly, these streets form an integral part in the function of

the central business district, as they aim to link various other parts of the city such as local parks (Garvin, 1995). They also aim to link the local and regional transit systems and facilities that are required and used by the greater community to gain easy access.

Pedestrian malls can also act as an instrument of town conservation (Uhlig, 1979). It has been recognized that people enjoy the social ambience of these places and planners understand the positive impact that architectural character of streets has upon street users (Lennard & Lennard 1995). Francis further discovered that the privatization of the urban landscape became a commercial venture where adjoining land uses influenced the social design of the public space (cited in Moudon, 1991). Since the 1970s the pedestrian mall concept grew among various city centres worldwide and the pedestrian network within city centres were increased to link to other public spaces to encourage users to discover and use the city centre area by foot rather than by the automobile (Lennard & Lennard, 1995). An additional objective was to further reduce air pollution from vehicle emissions.

Kenneth Orski (1974) reinforces that the predominant motivation for traffic-free streets is:

To enhance the commercial and aesthetic appeal of the inner city and to create a more liveable environment for those who live or work there. A traffic-free environment makes walking more pleasant. An area from which the auto has been excluded is likely to attract more shoppers and strollers, be able to resist more effectively the competition of outlying shopping centres, and contribute towards a healthier, more viable city core. (p.42)

Orski (1974) confirmed that this was the same reasoning behind the development of traffic-free zones in several cities in the United Kingdom, United States and Europe.

Yet, not all pedestrian malls will have a positive effect on enhancing the commercial and aesthetic appeal of the city core. Research indicated that isolated pedestrian streets

and/ malls have failed to achieve significant improvements to the vitality of an urban core (Orski, 1974). It is essential that traffic bans in one street are compensated with the provision of parking, access and circulation in other areas, close to the existing or proposed mall. Considering this, pedestrian malls were usually no longer than 400-500 metres in length as this was thought to be a compact distance at which pedestrians were able to walk comfortably (Orski, 1974).

2.2 Streets as Pedestrian Malls

Alexander Garvin defines the pedestrian mall as a “fully pedestrianized shopping street... eliminated all ordinary vehicular traffic, only permitting emergency access and service vehicles” (1996, p.142). He researched how pedestrianization worked in various cities in the United States and found that pedestrianization was able to reverse retail sales in some cities but not in others. Garvin concluded that successful pedestrianization was more than “just exterior decoration” (1996, p.142). He also confirmed Orski’s point of view that pedestrianization was more effective when it was tied into a larger programme and combined with convenient access, parking, regional and local transit systems and strategically located facilities, which are used by large numbers of people (Garvin, 1996). In addition to this, Garvin states that pedestrianization should occur if there is:

- A market i.e. a concentration of retail customers, office workers, tourists and residents;
- A pedestrian environment that is inviting and this does not necessarily mean it has to have high architectural integrity. Such an environment attracts people because it is accessible, compact to walk, comfortable and contains attractions;

- An entrepreneurial partnership between the government body and downtown businesses; and
- Premises surrounding the mall that will indefinitely induce human activity and interaction throughout the day and night e.g. hotel, nightclub or opera house.

In essence, the mall acts as an open space that is aimed at stimulating and encouraging human activity that will hopefully result in a more vibrant central core for the city. The sections to follow in this thesis define public open space and formulate a criterion for an effective open space that can be applied to the pedestrian mall, which is the focus of this thesis.

2.3 Defining Public Open Space

People derive different meanings from the term public open space. Francis Carr defines it as “the common ground where people carry out the functional and ritual activities that bind a community, whether in the normal routines of daily life or in periodic festivities”. “It is the stage upon which the drama of communal life unfolds” (Carr et al. 1992, p. xi, 3). In a less poetic sense, he states that they are “open, publicly accessible places where people go for group or individual activities”(Carr et. al., 1992 p.50). Clare Marcus provides a similar definition based on a public plaza stating that “a plaza is defined as a mostly hard-surfaced, outdoor public space from which cars are excluded. Its main function is as a place for strolling, sitting, eating, and watching the world go by” (1990, p.10). Garvin defines a public open space as “territory that is owned and managed by a public agency for everybody’s benefit” (2000, p.22).

The Project for Public Spaces (PPS), an organization that was built on research techniques used by William H. Whyte in the Street Life Project. PPS (2003) defines public space as:

the portion of the city from which private ownership of land is excluded in the interest of the common good. The kinds of communal interests that generally warrant the designation of certain portions of land as public space include transportation, commerce, social interaction, relaxation and entertainment, public health, civic identity and public assembly.

These definitions expressed, share common factors. They emphasize the social, environmental and economic value that a public open space should and can provide. Public open spaces, however, come in many forms –a park, plaza, squares, waterfront areas and pedestrian malls (the focus of this thesis).

2.4 Streets as a form of Public and Social Spaces

Spiro Kostof states, “The only legitimacy of the street is as public space. Without it, there is no city...it structures community” (1992, p.194). Whyte (1980) provides a similar point of view, in suggesting that best used spaces are social places where the space is used by groups or used as a meeting place, and most importantly used for social exchange. But how does the physical design of a street influence such communal behaviour? It seems self-evident that used spaces are considered successful and unused spaces are failures; so how do planners and/or urban designers influence success? In trying to understand the use of spaces, Carr et. al. (1992) suggests that it is important to understand peoples’ needs to ensure success i.e. what would people need in order for them to find spaces desirable, relaxing and/or entertaining?

Whyte (1980), Carr et.al (1992) and Marcus & Francis (1990), have collectively agreed on similar design principles that would create an effective and successful form of public

space. Such principles can be applied to a street scene to increase legibility, provide pedestrian comfort, and relaxation, activities, safety and desirability. These principles are supported by the PPS who developed The Place Diagram, as shown in Figure 2.1. The Diagram identifies four main factors i.e. access and linkage, comfort and image, uses and activities and sociability, those of which if applied to most spaces, would make them successful.

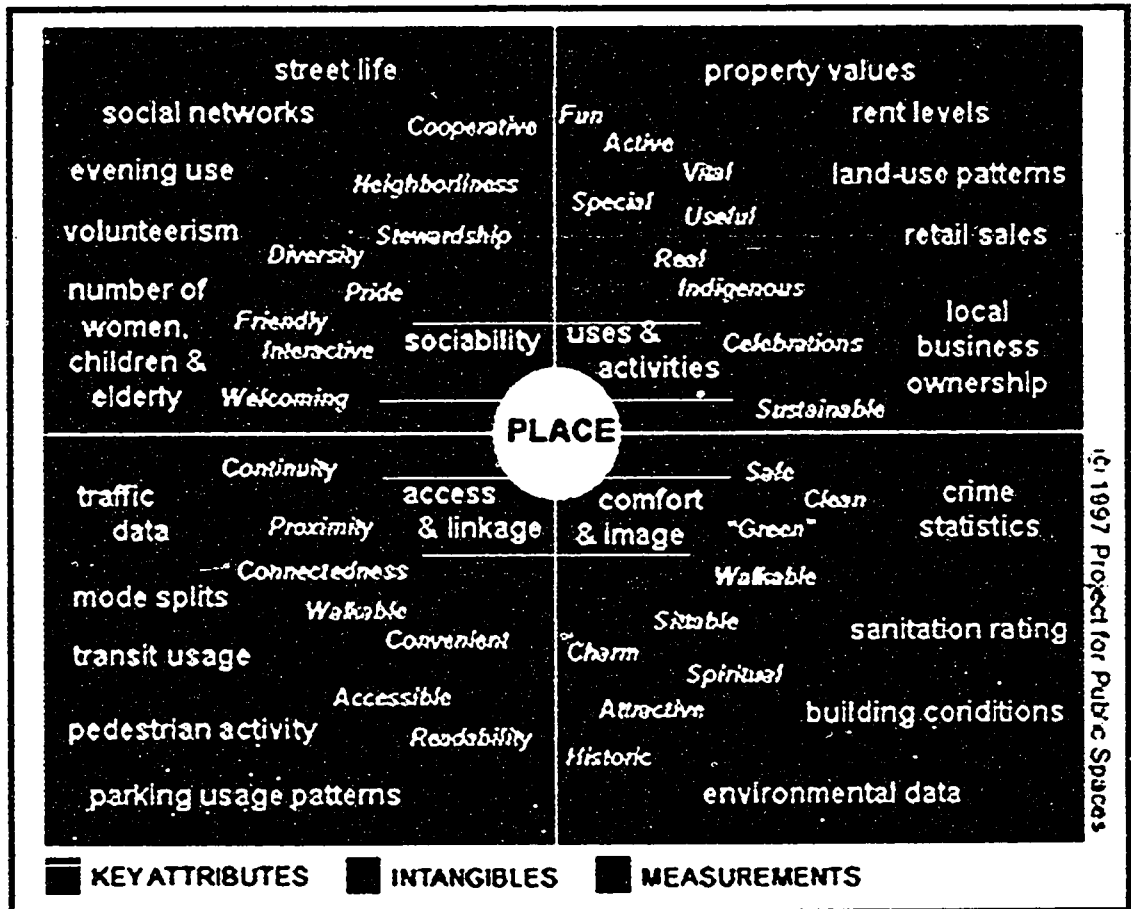


Figure 2.1. The Place Diagram (PPS, 2003)

A similar technique was employed by the Toronto Parks and Recreation Department (TPRD, 1988) in their report *A Comparison of Five Inner-City Parks*. The report identified twelve factors grouped into three categories: contextual support, design framework and social milieu, as shown in Figure 2.2.

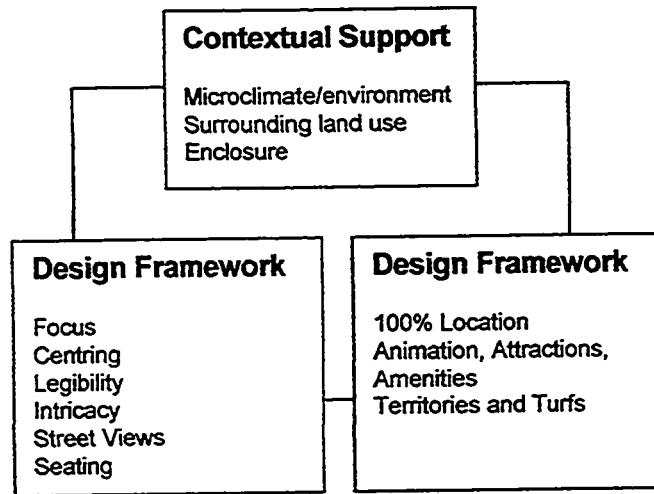


Figure 2.2 TPRD criteria based on 1988 Report

The following subsections discuss these principles or evaluative criteria in keeping with the criteria identified within the Place Diagram and the TPRD 1988 Report.

2.5 Access and Linkage

2.5.1 Form

The form of a street according to Moughtin (1992) is said to influence the culture and aesthetic feel of the street. The form can be considered in terms of its general design—linear or curved, length, width, amount of enclosure, level of formality, proportion and scale to the buildings that line it and its connections to other spaces (Moughtin, 2003).

2.5.2 Length

Moughtin (2003) states that the “upper limit for uninterrupted length of a street is probably in the order of 1,500m (1 mile). Beyond this distance human scale is lost. Even with vistas considerably shorter than 1,500m the closure of the view causes considerable difficulty” (p. 135). Most interesting is that when prominent buildings are

viewed at an angle of less than 18° are no longer as prominent at an urban scale and form a “silhouette with the surrounding neighbourhood” (Moughtin, 1992, p. 136) as reflected in Figure 2.3.

Camillo Sitte (cited in Moughtin, 1992, 136) states that the ideal street must form an enclosed unit as reflected in Figure 3. The individual is said to be more at ease in a public open space where the “gaze is not lost in infinity” (Moughtin, 1992, p. 139). Furthermore, although straight streets are preferred in city planning design, meandering streets are usually more picturesque (Moughtin, 1992) as the user sees a different view at each turn; unlike straight streets where buildings are a monotonous feature.



Figure 2.3. Rua August, Lisbon, Portugal. (PPS, 2003)

Besides the aesthetic effect, the length of the street has an impact on the walking distance. It was mentioned in Section 2.1 that the possible reason as to why the first pedestrian streets were no greater than 500m was because it was thought to be the distance which pedestrians were able to walk comfortably. And the ideal walking distance appears to be unchanged in recent times. Leung (1999) indicated that in North

America, approximately 75% of pedestrians would walk 150m, 40% would walk 300m and only 10% would walk 800m.

2.5.3 Proportion

Street proportion is just as important as the street length. It includes the "ratio of length to width to height...relationship of the parts of the street to each other and to the proportions of the total composition (of building and street)" (Moughtin, 1992, p.140).

Narrow streets spanning between 6-9m (20-30ft) in width with buildings of three to four stories in height alongside them add to sense of enclosure and completeness, which as mentioned previously, has street users more at ease (Moughtin, 2003). Moughtin refers to the Essex design guide and suggests that a "ratio height to width of 1:1 is not too tight for comfort, but that 1:2.5 is as open as can be tolerated" (2003, p.142). Moughtin (2003) also suggests that narrow streets facilitate shopping, as it allows pedestrians to move from one side of the street to the other and window shop with ease.

2.5.4 Connectivity

It has also been observed by Marcus & Francis (1990) that street spaces often provide a connection from one street to another or other buildings within the urban context and are used by pedestrians as short cuts, to get from one point to another. In view of this, appropriate signage (directional and informative) should be in place at entrances/exits to buildings to indicate the nearest transit stops, taxi stands, nearby streets and available amenities (Marcus & Francis, 1990).

2.6 Comfort and Image

2.6.1 Microclimate/Environment

There are six factors that affect comfort levels within an outdoor environment: "sunlight, wind, humidity, ambient air temperature, activity level and clothing. Depending on local climate and weather, a person might prefer to sit or walk in sunlight or in the shadow of buildings, might enjoy a breeze or might take shelter from the weather in buildings or under arcades. Cities can be built to provide these choices" (Bosselmann, 1998 p. 140).

Andrea Palladio (cited in Moughtin, 1992, p. 142), states that cold places should have wider streets to allow penetration of the sun. Hotter climates, however, should have narrow streets aligned with taller buildings to provide shade, which cools the temperature of hard surfaces. However Peter Bosselmann notes that in cooler climates, streets with tall buildings are less comfortable than those lined with four-storey buildings due to the 'wind tunnel effect'. He states that streets 66 feet wide lined with buildings up to four stories high produce shelter, however experience a 25% to 50% increase in the strength of winds that are normally encountered in an open field (Bosselmann, 1998 p.144).

There are several ways of accommodating climate into the design of street spaces. In modern times, building overhangs are used to provide shade to street users (Marcus & Francis, 1990). Bernard Rudofsky (1982) suggests incorporating architectural design into canopied streets to increase the aesthetics for the pedestrian. Figure 2.4 is an example of an arcaded plaza in Milan, Italy. The glass ceiling connects several Neo-Classical buildings, creating an indoor shopping arcade adjacent to Milan's central square (PPS, 2003).

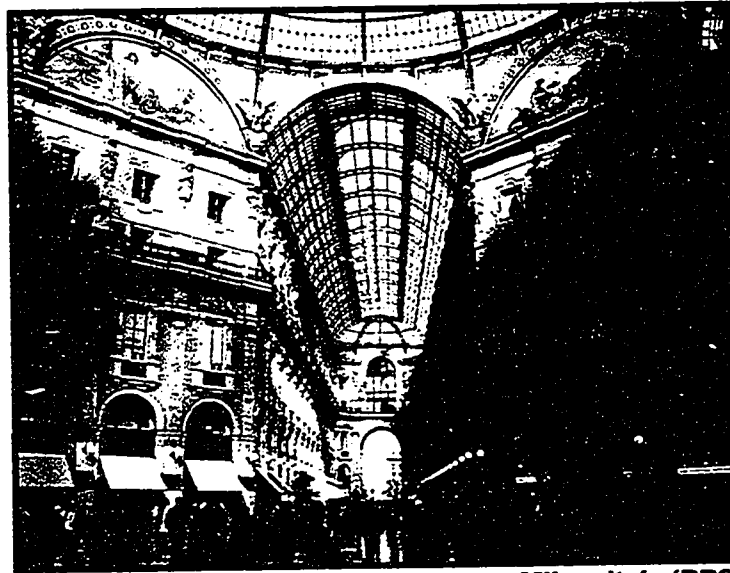


Figure 2.4. The Galleria, Piazza Del Duomo, Milan, Italy (PPS, 2003)

Landscaping is another way of preventing or reducing the effects of the wind and sun. Landscaping is vital in any urban area and increases the level of pedestrian comfort (refer Figure 2.5). Apart from providing oxygen and shade for comfort, “trees modulate and move the light’ (Jacobs, 1993, p. 293).

Furthermore psychologically, the colour green is considered to be a restful colour and agreeable to the naked eye. Trees enable people to relax as is evident in the walking pace of pedestrians. According to Jane Jacobs (1993), the walking pace within a leafy and greener area is proven to be more casual, than intense.

Marcus & Francis (1990) suggests the need to provide a variety of plant types at varying heights, in a variety of colours and fragrances, to allow individuals to experience a place or setting through their senses. This also relates to the idea of providing spaces for relaxation purposes as reflected in Figure 2.5. Carr et.al. (1992), Whyte (1980) and Marcus & Francis (1990) all suggest incorporating flowing water in the form of fountains,

water falls, and meandering brooks, to induce relaxation and minimise the noise from traffic, to create a pleasant ambience.

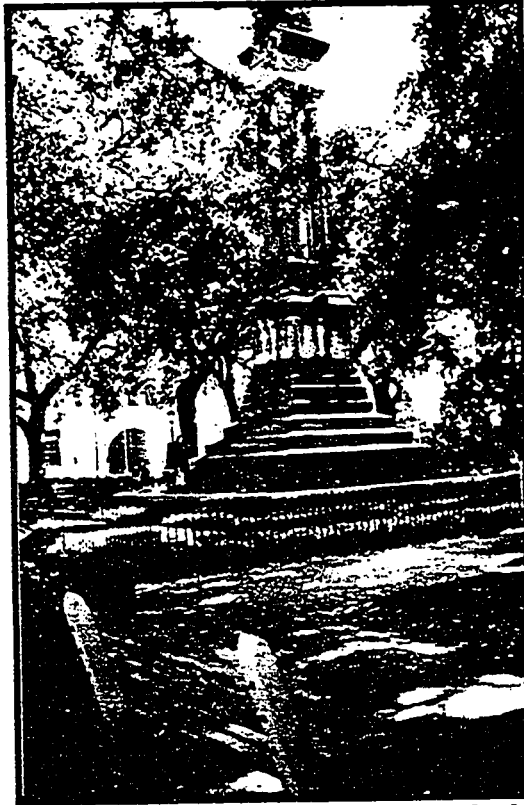


Figure 2.5. Downtown Square, Savannah, Georgia, USA (PPS, 2003)

2.6.2 Legibility

Legibility within a public space is important. If a space is within sight, people are able to see or hear from a distance what activities are taking place, and therefore may be encouraged to go towards the source of activity. Spaces that cannot be seen usually remain unused (Gehl, 1987). However, this could also work in reverse. Unused spaces could lure undesirable activity and may be used in a negative way (e.g. criminal activity). Entrances influence the level of use in a similar way. Good entrances to buildings or arcades tend to draw people inside i.e. people that intend to enter and those that do so on impulse (Whyte, 1988). Whyte suggests that entrances be inviting. "To this end the entrance should be broad and open so that it can be crowded...if entrances are

physically cramped, there will be no slack to work with. If they are generously spaced, they will attract more social use: people holding 100 percent conversations, exchanging interminable goodbyes, just standing there. There also should be a number of people looking at their watches, waiting for friends to turn up” (Whyte 1988, p. 100).

2.6.3 Seating

Seating is an important factor of comfort. It is used for resting purposes, food and water stops, and depending on their design, shelter from the sun, rain and other climatic factors (Marcus & Francis 1990). Firstly, though, it is important to understand the users of the seats prior to providing them. Marcus & Francis (1990) identifies the five categories of sitters in urban spaces as follows:

- Those waiting for public transportation.
- Passers by who need a resting place.
- Users that prefer to sit at the periphery of spaces.
- Individuals and groups that do not choose to sit near traffic or building entrances and have seating patterns that gradually gravitate toward creating sub spaces or smaller group formations;
- Couples or groups, and individuals looking for secluded or less exposed spaces.

Seating provisions along pedestrian malls are therefore necessary to cater to all age groups especially the elderly and physically challenged. Seats are not only a source of comfort, but also provide interaction between the space and the individual. A seat, as David Sucher suggests, “is an explicit invitation to stay, either with others or by oneself” (1995, p. 27). Thus seating is a factor that may determine the length of time an individual chooses to stay within a given space.

Carr et. al (1992) and Whyte (1980) discuss the importance of seating choices to make it socially comfortable. This means the choice of sitting up front, back-to-back, to the side, in the sun or shade, in groups or alone. This can involve using mobile street furniture, i.e. adding chairs or benches that can be moved around at the individual's discretion. Whyte (1980), during his research, also noted the use of ledges as seating opportunities and suggests that buildings surrounding a given space use facades to encourage people to use it in a functional way. Figure 2.6 is an example of a public open space, which employs a choice of mobile seating (chairs and tables) as well as fixed (in the form of ledges) affectively.

Whyte estimates that the amount of seating space required in a public open space is between 6% and 10% of the total public open space area, which is based on 1ft of seating space for every 30ft² of public open space area (1980, p.127). Appendix G shows the calculations used for analysis of the case studies.



Figure 2.6 Paley Park, New York, USA. (PPS, 2003)

Seating location is also important. It should be designed to provide users the option of locating themselves in shaded or unshaded areas, and within areas least likely to be

affected by glare from adjoining buildings or hard ground surfaces (Marcus & Francis, 1990).

2.6.4 Water features

Marcus & Francis also adds that the scale of the fountain, for example, should be in line with the surrounding space. In dense settings, it should be as “noisy as possible and the seating is arranged so that as many users as possible can sit within earshot (of the water feature)”, (1990, p.43) as suggested in Figure 2.7. They note however, the disadvantages of using fountains within public open spaces. Firstly, they are costly and secondly they are affected by wind and can end up deterring a space from being used.

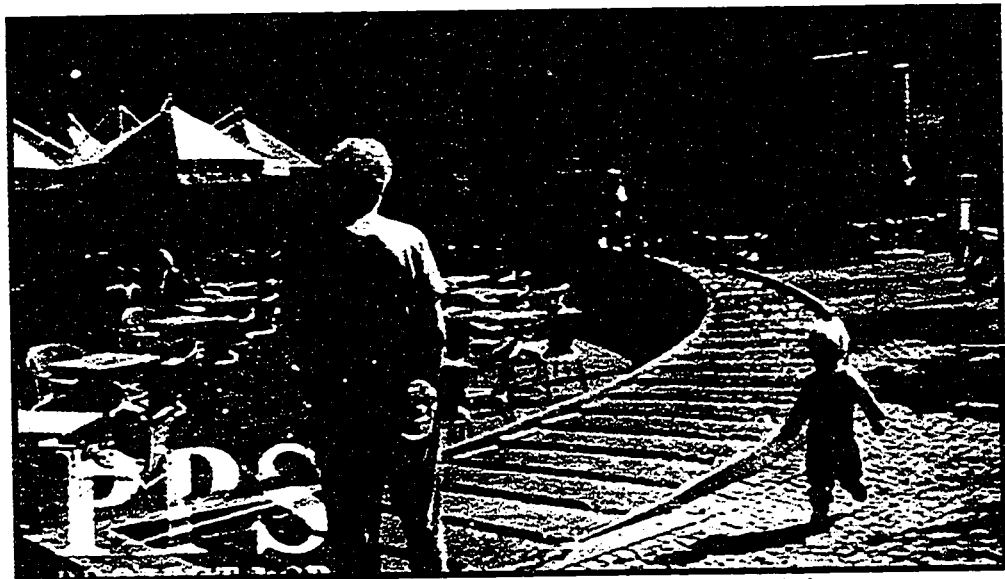


Figure 2.7 Terraced water feature (PPS, 2003)

Whyte (1980) adds that water features should be “accessible, touchable and splashable” (p. 49). This allows individuals to have a relationship with the environment (as discussed previously) by allowing users of all ages to wade or dip their feet in the water as they people watch or read a book. At the same time, he acknowledges the safety

concerns that could arise so suggests that water bodies should not be deep enough for users to swim or get hurt in any form at any time of the day.

2.6.5 Aesthetics

The task of assessing aesthetics within a public open space is challenging. Ali Madanipour raises questions about the importance and level of influence that aesthetics has on a public open space. He asks, "How substantial are the aesthetic considerations in a development? In the context of the depressed economies...is aesthetics not a preoccupation of the more prosperous economies? Is aesthetic judgement subjective or objective?" (1996, p. 163-164).

Madanipour (1996) states that the preceding questions can be argued from several different viewpoints. Urban designers tend to think that good or bad design is subjective, so what is beautiful varies from each individual to another. It is possible to judge aesthetics objectively if individuals experience it with others, for example through public art and architecture. This is further improved when individuals obtain more knowledge of the subject to be judged (Madanipour, 1996). This again suggests that the creation of aesthetically appealing streets depends partially on the unity of the buildings along it. The street should be composed of buildings that are of similar design or have architectural features with subtle differences as shown in Figure 2.8.



Figure 2.8 Royal Mile, Edinburgh, UK. (PPS, 2003)

For the purpose of this thesis, aesthetics of a public space will be judged by the culmination of historic preservation, architectural integrity and general maintenance of an area, all of which support the provision of comfort to the pedestrian.

2.6.6 Safety/Security

Part of city design concerns itself with making the city safe for all users. One of the most important principles is surveillance. The two main forms of surveillance are natural and electronic (Newman, 1973).

Jane Jacobs defines natural surveillance as “eyes upon the street, eyes belonging to those we might call the natural proprietor of the street” (1984, p.45). Oscar Newman discusses this further and claims that natural surveillance such as this has the effect of securing the environment, which results in peaceful activities. Newman further states that “surveillance has a demonstrable effect in reducing irrational fears and anxieties in

inhabitants...feeling that an area is secure, inhabitants will make frequent use of it, and so further improve its security by providing the safety which comes with intensive use” (1973, p.78).

Human surveillance and human presence therefore contributes to level of safety. It is for this reason that both private and public uses should be orientated towards the street where people either, passing by or performing, would provide a sense of natural surveillance.

Jacobs (1984) identified that the sense of fear influenced the use of the street. It can make a street well used or abandoned. Jacobs states, “a well used city street is apt to be a safe street” (1984, p.43). Thus, the street should be used continuously. As mentioned previously, if a space is not used, it can remain unused for long periods of time and be more inviting to undesirable activity. Hence, it is important for people to be present within a space.

Electronic surveillance includes audio, video and a direct communication system linked to the police department. These can be located within buildings, elevators or externally to building facades or within street furniture (usually in exterior light features) (Newman, 1973). These devices increase the individual’s perception of safety when using the public open space.

2.6.7 Maintenance

Marcus and Francis (1990) and Whyte (1980) both stress the importance of keeping public open spaces maintained. Maintenance consists of sweeping, garbage

collection/removal, removal of snow, replacing broken fixtures (i.e. light fittings), seats, watering and landscaping within the street, putting up and taking down decorations for varied festivities such as Christmas decorations (Rubenstein, 1978). It is expected that if a space is not maintained- i.e. litter is scattered either on seats, tables or ground surfaces, unpleasant odours linger from overflowing bins- that users would be deterred. It is evident that public open spaces are managed to ensure that such spaces invite people rather than deter them.

At the same time, Whyte observed, “anti-litter public service ads tell people to stop being such slob. But they are not, usually. They are good about disposing litter if there is something to dispose it in” (1988, p. 91). Hence, bins should be located within short distances to encourage street users to be responsible and dispose of their litter accordingly.

2.7 Uses and Activities

2.7.1 Passive activity

As previously mentioned in Section 2.6.1, landscaping within a space together with street furniture encourages or allows for relaxation, which is also a form of passive activity. The main difference however, is that relaxation demands “the need for encounter with the setting” (Carr, et.al. 1992, p. 105). This includes the interest that groups’ form from watching the passing scene i.e. the user is watching or looking at an activity rather than participating in it. Such activities include people watching (Whyte, 1980), observing performances or scenery as shown in Figure 2.9.



Figure 2.9 Street performance, Granville Island, Vancouver, Canada (PPS, 2003)

2.7.2 Active activity

Active engagement refers to a more direct experience with a place and the people within it. In this way, active engagement reaffirms the definition of public space by facilitating a communal scene and ensuring that interaction between people and activity occurs within that given space. Whyte (1980) calls this process 'Triangulation' and claims that it is almost a natural occurrence in well-designed spaces. Klaus Uhlig reiterates this point by stating, "pedestrian zones are areas for events and assemblies... [They] help to re-establish public and generally accessible social relationships" (1979, p.6).

2.7.3 Necessary, Optional and Social Activities

Moughtin (1992) notes that a variety of land uses that stimulate activity, are almost a prerequisite for the creation of a lively street. Jan Gehl (1987) explored this point further by categorizing activities into necessary, optional and social activities. He also notes that each of these activities places varying demands on the physical environment.

Necessary activities are activities that are considered more or less compulsory (i.e. going to work, to school, banking) (Gehl, 1987). Such activities are almost a requirement for daily living and hence individuals are (to some extent) obligated to participate in them. Considering this, these types of activities take place at all times and are often unaffected by the quality of the physical environment (Gehl, 1999).

Optional activities on the other hand are activities that are usually undertaken on an as needed basis i.e. not compulsory. Individuals may opt to participate in certain activities as they wish in their own time (Gehl, 1987). Such activities may include leisurely walking, people watching, eating or sunbathing. These activities “take place only when exterior conditions are optimal, when weather and place invite them...these activities are especially dependent on exterior physical conditions” (1987, p.13).

Gehl (1987) reiterates the importance of incorporating necessary and optional activities into a public open space by stating that,

When outdoor areas are of poor quality, only strictly necessary activities occur. When outdoor areas are of high quality, necessary activities take place with approximately the same frequency- though they clearly tend to take a longer time, because the physical conditions are better. In addition, however, a wide range of optimal activities will also occur because place and situation now invite people to stop, sit, eat, play, and so on. (p.13)

Social activities are activities that depend on the presence of other people in public open spaces (Gehl, 1987). As Whyte (1980) states, people often go where there are people.

Whyte also mentions “if you want to see a place with activity, put out food” (1980, p. 50).

It is evident that eating facilities often induce such behaviour and encourage conversations and communal activities. Gehl (1999) encourages vendors, music and theatre and pamphlet distributors as other forms of social activities that stimulate

unplanned and unexpected meetings between people. He states “all these humble daily encounters are among the highest valued attractions the city can offer” (Gehl, 1999).

Hence, establishing premises that encourage either a necessary, optional or social activity to occur within that given space would influence people of all age groups to use the space in one way or another.

2.7.4 Discovery

Activities discussed in Section 2.7.3 can also influence the level of discovery of a public open space. Such activities can represent “the desire for stimulation and the delight of new experiences” (Carr, et.al. 1992, p. 134). Marcus and Francis (1990) encourages this principle by incorporating public art features within a space to give users a focus, to enhance an area visually in the hope that such a space is viewed as being a positive space to be in. Marcus and Francis suggests that public art is used to “create a sense of joy, delight and wonder at the life of the city, stimulate play, creativity, and imagination [and] promote contact and communication”(1990 p.40).

2.8 Summary

Based on the preceding it is apparent, as Moughtin states, “the street is something more than a simple pathway, it is series of connected places, somewhere for staying in and not just for moving through” (1992, p.138). It is therefore justified that streets should incorporate design elements that facilitate a social or public space, a space that can be used by all age groups at all times of the day. Hence if streets are transformed to serve pedestrians only, they should be comfortable and provide seating, shade, and activities. Public open spaces should be legible and provide linkages to other areas of the city

centre. Pedestrian malls should not only be places for walking but also places for enjoyment and incorporates art and forms of cultural exchange. When such elements are incorporated, people are encouraged to use the street for many social purposes.

EVALUATION CRITERIA

This thesis explores the use of streets as social spaces. In exploring how design influences the social capabilities of Sparks Street Mall and Murray Street Mall, design principles were adapted from the literature review (in Chapter 2.0), a 1988 report by Toronto Parks and Recreation Department (TPRD) entitled *A Comparison of Five Inner-City Parks and The Place Diagram* established by the Project for Public Spaces as discussed in Chapter 2.

Thirteen criteria were chosen to form the basis of evaluating the two pedestrian malls. The criteria were based on combination of the sources mentioned to form the basis of the evaluative index and were classified into the three categories as follows:

Access & Linkage	1	Form and Length
	2	Focus
	3	Connectivity
Comfort & Image	4	Microclimate/Environment
	5	Legibility
	6	Seating
	7	Aesthetics
	8	Security/Safety
	9	Maintenance
	10	Amenities
Uses & Activities/Sociability	11	Activities
	12	Necessary, Social and Optional Activities
	13	Discovery

The analyses of the criteria were composed with the use of four analytical tools: ecological mapping, a “Door Handle” survey; observation study; and maps and photos (refer to Appendix H). It should be noted that this data collection did not involve

interviewing the Mall users or business owners/employees. It involves recording the features, elements and amenities apparent within the Mall only. The results identify subjective issues such as use, function, safety and aesthetics of the street.

In addition to this, the evaluation of the streets extends over two different periods reflecting warmer and cooler climates. Both Sparks Street and Murray Street Mall were evaluated during these two periods to explore the differences (if any) in the usage patterns during warmer and cooler climate.

The samples for Sparks Street Mall in Ottawa, Canada was obtained in October and November 2002 (Cool climate sample) and in September 2003 (Warm climate sample). Note that the October and November 2002 cool climate sample was collected by Jeff O'Neil as part of his Masters report entitled *An Evaluation of the Sparks Street Mall*, which was completed in 2003. This thesis builds on his analysis.

The samples for Murray Street Mall in Perth, Australia was obtained in April 2003 (warm climate sample) and August 2003 (Cool climate sample).

The data collected using the above-mentioned techniques were based on a twelve-hour composite day taken over four days, which comprised of two working days and two days over the weekend. Such representation is still general considering that the use of a street would vary over a twelve-month period.

The following section discusses what measures will be undertaken to assess access and linkage; comfort and image and uses and activities/sociability and how the analytical tools assist in collating the results.

3.1 Access and Linkage

The three chosen attributes of good street design are form/length, focus and linkages to the surrounding land uses. Moughtin (1992) discussed that such attributes can influence aesthetics and pedestrian movement within the street and the immediate surrounding area. Streets that are approximately 1500m in length and linear often are unable to provide a focal point for users, making the trip feel long and arduous. Meandering streets however prove more interesting, (Rudofsky, 1982) as users are provided with a new view through natural displacement.

Linkages to surrounding areas are important. Most pedestrians use a street for more than one purpose and at different levels of urgency (i.e. they use the street to reach a transit stop, their place of employment or simply walk through the street for casual purposes. Hence the opportunity for users to take short cuts to their intended destinations should be made available. These factors are assessed by undertaking the following measures:

- Noting linkages to key landmarks and transit nodes;
- Noting focal points to surrounding areas;
- Noting facilities available to both abled and physically challenged users.

3.2 Comfort and Image

Jacobs (1993), Whyte (1988) and Gehl (1987) stress the importance of comfort and image in the design of successful streets. The key factors that are repeatedly used in the process of design are microclimate, legibility, seating, amenities, aesthetics and security and safety considerations. All these elements affect the usability of the public open space and the length of time a user is likely to stay. Users are more likely to stay in an area if it meets their needs i.e. it has amenities, seating and is comfortable for

people to stay day and night. For example, if an area has seating but has no shade (in the form of trees, overhanging or free standing shade sails) users would think twice about staying in the area for too long, as the space would either be too hot during summer or too cold during winter.

The following measurements are necessary to assess comfort levels and general image or perception of the street:

- The calculation of height to width ratio of buildings along the Mall adapted from Bosselman (1998).
- Note evidence of signage to landmarks, sites of interest, transit nodes and street orientation.
- Note amenities such as washroom facilities, bins, bicycle racks and drinking water.
- Note the type of seating ie. Primary (benches and chairs) and secondary (ledges and planters) and assess seating space.
- Obtaining hourly photographs of street over 8-hour period to assess the overall usage, sun/shade areas, and
- Note the presence of anti-social or territorial behaviour.

3.3 Uses and Activities/Sociability

This category focuses on the life of the street, which is dependent upon the attractions present in the area in the forms of public art, street performances or activities and types of use (i.e. commercial, retail). Activities stimulate the senses of all age groups and encourage them to return to that space. It gives people a focus whilst they are within

that public open space regardless of the space being a good or bad space, thus they can induce interaction between performer and user and between users themselves.

Gehl (1987) categorizes the activities into necessary, optional and social activities in observing how such uses or activities effect how people move within a given space during day and night. The following measures are required to analyze the sociability of the streets:

- Note form and location of activities provided and the approximate volume of pedestrians that such activities attract (refer to Appendix B).
- Observe/note age groups of people, their activity (e.g. reading, smoking, sitting, talking, eating) and the location within the street over 12-hour period.
- Map user location/density within mall in a Pedestrian Accumulation Map.
- Observe use of mall past business hours.
- Categorize and map surrounding uses within the mall according to necessary, optional and social activities. Correlate this with people's choice of location within the mall.

3.4 Evaluation Index Summary

These three categories interrelate and provide a general inquiry to the design factors available within Sparks Street and Murray Street Malls and at the same time provide a brief understanding of the social life that unfolds within them. Appendix A provides the evaluation index that is used to assess the provision of the elements within the case studies.

These are supported further by four main analytical tools; namely ecological mapping, “Door Handle” survey, observation diary and maps and photos which will provide a more subjective point of view of the two malls.

3.5 Analytical Tools

3.5.1 Ecological Mapping

This method was originally adopted from the TPRD 1988 report. This method uses a coding index to plot the characteristics of people and the activities that occur within a given space. The coding index proposed for this thesis is slightly modified to focus strictly on activity, gender and age. This method will record the activity, gender and age over a twelve-hour composite day taken over four days consisting of two weekdays and over the weekend. A sample of this is shown in Appendix B. It is important to note that the dots on the ecological map refer to the density of pedestrians only. In addition, the coding index applied to these dots refers to the cumulative activity of the users.

Once the data is collected, it will be possible to determine the user i.e. who they are (e.g. male or female, employees working in the city or visitors), their age, where they stay within the space, the activities they undertake and if they use it throughout the day. The presence and volume of people within the street is an obvious indicator of how well the street is being used and more importantly, if it has the capability of inviting users of all age groups throughout the day and night.

Four sets of data reflecting warm and cool climatic periods will be obtained from Sparks Street and Murray Street Malls for comparison. The ecological mapping exercise was undertaken when climatic conditions for both cases were similar, as outlined in Table 3.1.

Table 3.1 Period of data collection

Murray Street Mall	
Warm Sample:	27-29 April 2003- average temperature 15°C to 26°C.
Cool Sample:	2-4 August 2003- average temperature 3°C to 15°C
Sparks Street Mall	
Warm Sample:	4-7 September 2003- average temperature 18°C to 28°C
Cool Sample:	October/November 2002- data obtained from O'Neill's 2002 report.

3.5.2 Observation Study

An observation study will be undertaken to clarify and support the ecological mapping data and provide further understanding of the ways pedestrians use a public open space through the day and night.

The Observation study will also assist in clarifying what types of activities/land uses draw people to the area. Gehl (1987) categorised activities three types as reflected in Table 3.2

Table 3.2 Necessary, Optional and Social Uses

Activities	Explanation/ examples
Necessary	Activities that are more or less a compulsory daily activity, e.g. going to work, shopping, banking
Optional	Activities that are usually undertaken on an as needed basis i.e. not compulsory. This usually occurs under favourable exterior physical conditions e.g. taking leisurely walk, standing around.
Social	Activities that depend on the presence of other people in public open spaces. They occur spontaneously, as a direct consequence of people moving and being within similar spaces e.g. street performance that induces public interaction

A Pedestrian Accumulation map will support the observations for both Sparks Street and Murray Street Malls by providing a general representation of the user location and their relation to the land uses abutting the street, which is categorized into necessary, optional or social land uses. The aim of this is to identify which land uses attract or repel users.

It is obvious that social uses such as outdoor cafes would attract users throughout the day in contrast to a bank where people would only visit it if necessary.

3.5.3 The “Door Handle” Survey

The Door Handle Survey involves noting down the number of access points or entranceways to shops and buildings directly along the five blocks of the Sparks Street Mall and Murray Street Mall on both north and south sides. Note that the “Door Handle” Survey for Sparks Street Mall previously undertaken by O’Neill in 2003 was updated for this thesis.

The data from this survey supports the observation study by identifying the relationship between pedestrian location/movement and the access points to the adjacent activities. It is expected that malls with more access points would have increased pedestrian activity.

3.5.4 Maps and Photos

Photos are used to provide visual understanding of the two case studies and support findings based on the direct observation and evaluative index. “Snap Shots” of use of street space at different times of the day will support the notes undertaken in ecological mapping and observation study.

Maps show locations and potential links to other spaces within city centre and provides a general representation of where pedestrians choose to locate themselves within the Mall.

ANALYSIS: MURRAY STREET MALL, PERTH, AUSTRALIA

This chapter discusses the form and function of Murray Street Mall firstly through its history and its present function. A section 4.2 analyzes the Mall using evaluative index, photos and maps. Section 4.3 incorporates the observation study and ecological mapping exercise to discuss the effective and ineffective use of the space.

4.1 Past and Present Function of Murray Street Mall

Murray Street was named after George Murray, the Secretary of the State for the Colonies in 1828 (Ainslie, 1988). It was part of the original plan for Perth in 1833 by the first Surveyor-General John Septimus Roe (Stephenson, 1992). The first plan consisted of streets in gridiron layout with block sizes of approximately three to four hectares in area and contained allotments of half an acre in area, which crossed the blocks between east-west streets. This resulted in some blocks with two street frontages, which contains the arcades that still stand today (refer Figure 4.1) (Stephenson, 1992 p. 208).

The Perth central area was primarily between the river port, railway station, Government House, Government Buildings and the Supreme Court. Hence the streets which include Murray Street, between William Street and the port became the most intensively developed and have remained so ever since (Stephenson, 1992).

Life on Murray Street intensified when the tram system was completed in 1925 (refer Figure 4.2 and 4.3) (Stephenson, 1992). New buildings appeared within the city centre

and Murray Street became home to major family businesses such as Aherns Department Store (now David Jones Department Store) and Boans Department Store (now Myers Department Store), major banking establishments (e.g. Commonwealth Bank of Australia), the General Post Office, Grand Theatre and various private clubs.

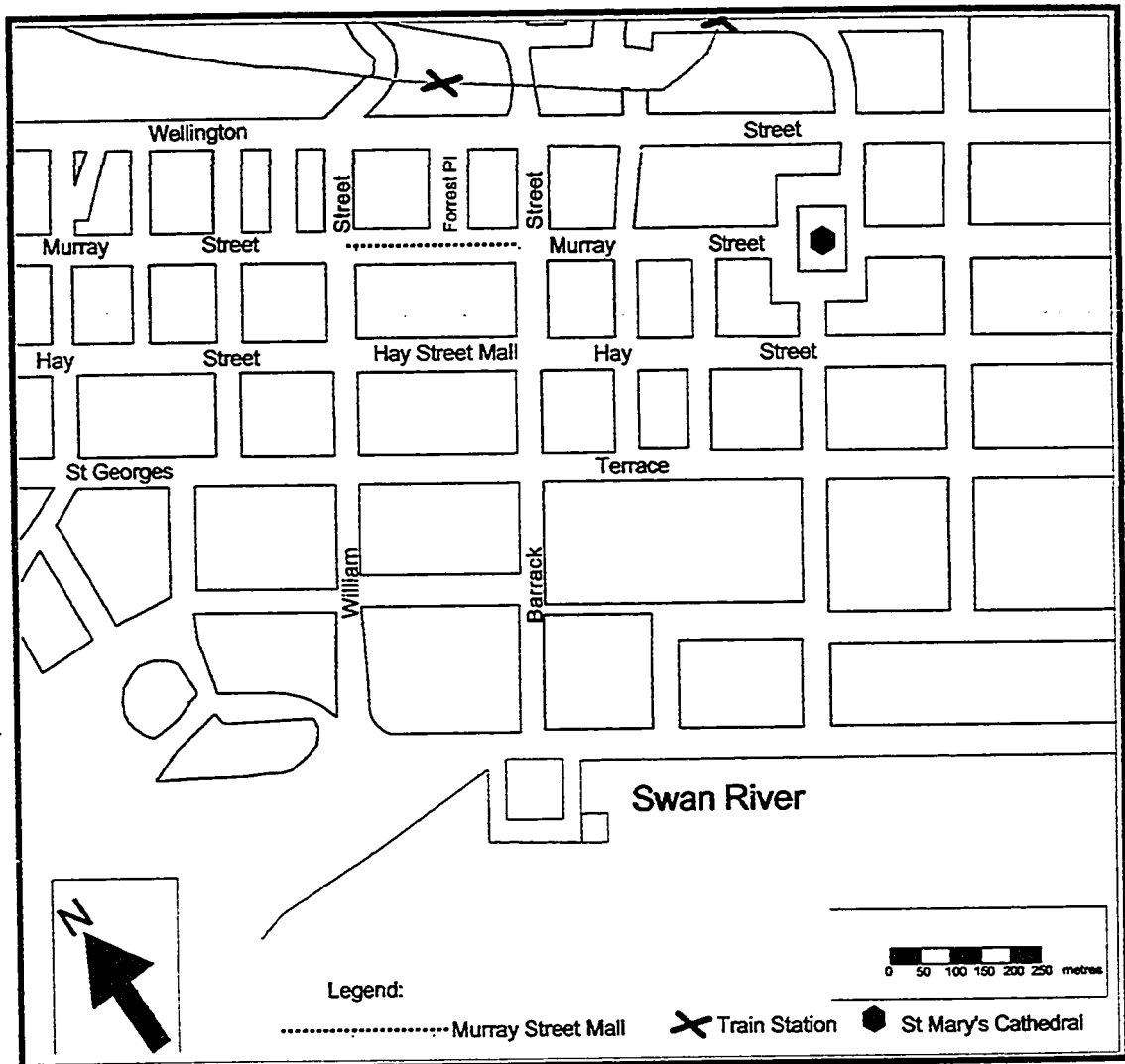


Figure 4.1 Perth Central Area Plan (Gehl, 1994)

The Commonwealth Bank and General Post Office stood across from a key public open space (Forrest Place) and Myers Department Store. These structural components along with the new rail station on Wellington Street became the entry statement to Perth's shopping precinct. This area was also accessible by the tram and bus.



Figure 4.2 Murray Street looking east 1920s. (LISWA, 2001)

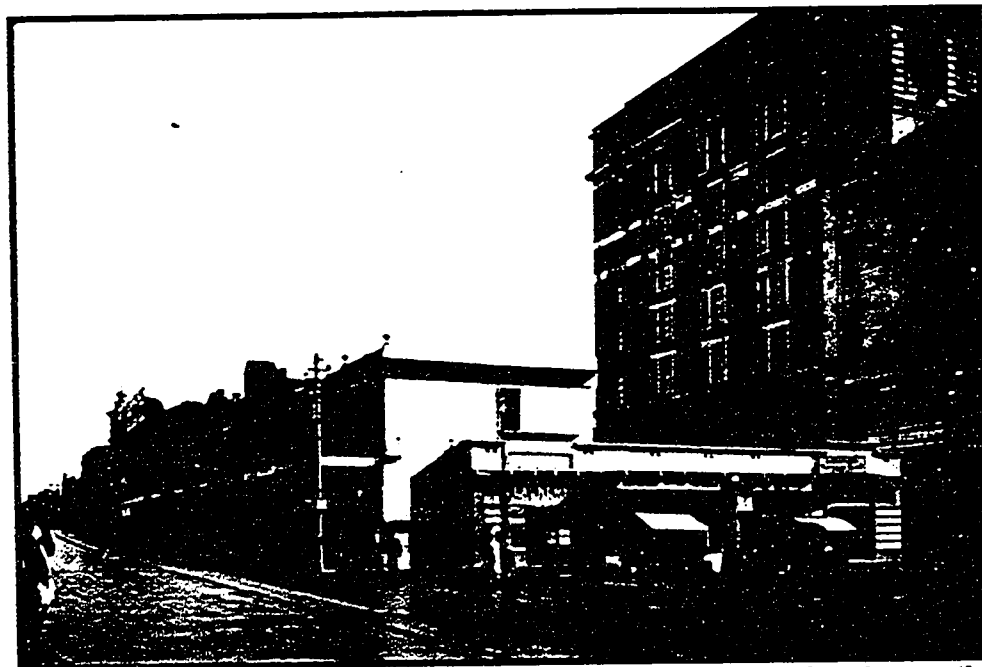


Figure 4.3 Murray Street looking east from Forrest Place showing the south side businesses ca. 1930 (LISWA 2001)

The area from 1930s onwards was rich in “architectural unity and urbanity. The commercial buildings were rich in detail...remarkably well related to the city streets and the pedestrian” (Stephenson, 1992 p.213). The architectural unity and urbanity was further strengthened as a result of historical preservation. People were said to be “comfortable in the totality of the streets, spaces and buildings” at this time (Stephenson, 1992.

However, by the 1960s, densities within the central core increased, the professions and inner city residents were displaced from the central area to outer areas. High-density office and hotel buildings spread west and east of the central core displacing hotels, restaurants and shops. As a result, the area became less pleasant during the day but also unused at night. Prior to the 1960s, overall densities were low, building heights limited and sidewalks were the “exclusive domain of the pedestrian” (Stephenson, 1992, 213).

In addition to this, vehicular use had also increased and pedestrians were seen to be competing with traffic. Despite this, Stephenson observed, “In every street, pedestrians greatly outnumber[ed] the persons in cars or buses. One is tempted to believe that virtually all decision-makers travel[ed] by car, yet the only way to see and understand a city centre is by walking frequently to examine every part and function” (Stephenson, 1992, p.213).

It was clear that policies and actions for transportation and development within the central core did not appear to relate well with each other. For example, public transportation within the central area suffered as most employees who worked in the city

area drove to work rather than take public transportation. This also resulted in automobile congestion and made public transportation a less convenient mode of transport (Stephenson, 1992).

As a result, efforts were redirected toward the pedestrian i.e. give pedestrians (rather than automobiles) the right of way and to provide a more relaxed and safe environment for them. Pedestrian linkages were gradually made throughout the central area to connect urban spaces around the 1970s and to encourage users to stay longer within the area (Stephenson, 1992). At the same time, a section of Hay Street (between William and Barrack Streets) became a pedestrian mall. Due to the success of the Hay Street Mall, Perth City Council resolved to close Murray Street between William and Barrack Streets to create a second pedestrian mall (refer Figure 4.4) in 1987.

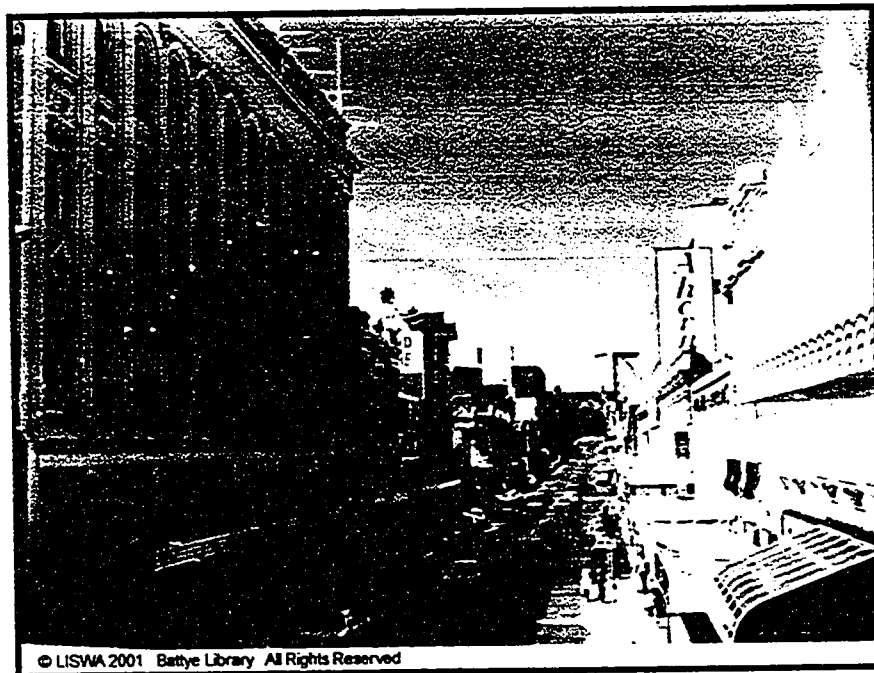


Figure 4.4 Murray Street in 1987 prior to mall transformation. (LISWA, 2001)

Since 1987, Murray Street Mall has been successful in encouraging pedestrians to the area. There were concerns however with the lack of aesthetic uniformity due to the lack

of integration between old and new buildings. There were also concerns with safety and lack of activity to ensure that pedestrians stay within the area for longer periods.

To combat this, Murray Street Mall has undergone several enhancement initiatives up until present date. With the improvements made over time, Murray Street Mall has so far become a pleasurable space and is well used by the general public. A chronological history of Murray Street and its transformation to a pedestrian mall is outlined in Appendix C.

4.2 Access and linkage

4.2.1 Form, Length and Proportion

The road layouts within the city centre follow the traditional gridiron layout and hence Murray Street Mall is linear in form. It has a width of 20.1m, length of 311m and is flanked by buildings that range from three to five stories in height such as the General Post Office Building, David Jones Departmental Store and other historical buildings, which have unique architectural facades. The height of these buildings and their relation to the width of the street creates a spatial enclosure, which is comfortable for the pedestrian according to current aesthetic standards (Moughtin, 1992; Jacobs, 1993; Gehl, 1987).

Historically, building heights within the Perth Central Area were restricted to twice the width of a normal street; however, this changed when Stephenson's Plan for Perth in 1955 came into effect and new height by-laws were implemented permitting maximization of building floor space. This meant that there were no height restrictions, provided that the angle of light requirements was met (Stephenson, 1992).

Due to this factor, there is a significant difference in a couple of the building heights along the Murray Street Mall. For example, the Carillon City Arcade head office is approximately 20 storeys tall, and although considerably set back from the street (i.e. the over height portion of the building appears to the pedestrian as if it is located on Hay Street rather than Murray Street), it is not uniform with the historical buildings adjoining it. A height to width ratio of buildings was calculated on site and on site plans to provide a further understanding of the proportions of the Mall and is tabulated in Table 4.1. The ratio of 1:1.03 ensures pedestrian comfort level according to Moughtin's (2003) guideline.

Table 4.1 Height to Width Ratio Index for Murray Street Mall

	Murray Street Mall
North Side Avg. height (m)	18.5m
South Side Avg. height (m)	20.5m
Combined Avg. height	19.5
Street Width (m)	20.1m
Width/Height Ratio	1:1.03

4.2.2 Focus

The Mall has a vista of St. Mary's Cathedral (constructed in 1863; Molyneux, 1981). However, this view is quite distant and the cathedral tower (protruding structure in front of the Cathedral roof) is no longer as prominent as it was in the 1860s, due to the level of building development within the area and mature landscaping which obscures views ahead as shown in Figure 4.5.

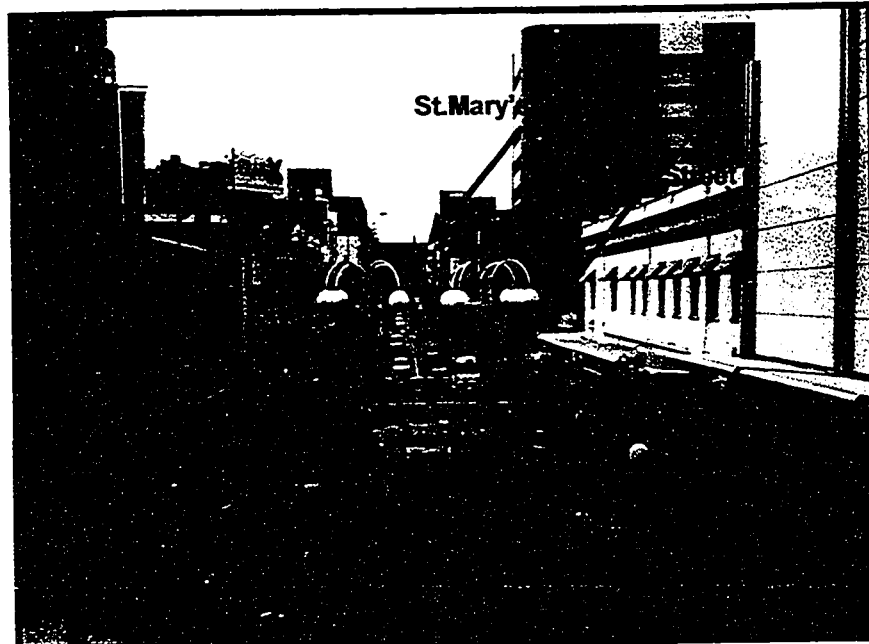


Figure 4.5 Murray Street Mall toward Barrack Street

4.2.3 Connectivity

Due to its central location Murray Street Mall has direct linkages to Forrest Place, an important pedestrian space that is known to be a prestigious due to the architectural surroundings (Stephenson, 1992). From the Perth Train Station, Forrest Place is the gateway to the city centre. In addition to this, Murray Street Mall connects to Hay Street Mall through three main arcades: Piccadilly Arcade, Carillon City Arcade and Plaza Arcade (refer Figure 4.6).

Two pedestrian overpasses also exist over Murray Street Mall, which connects from Myers Department Store to David Jones Department Store and to Carillon City Arcade respectively.

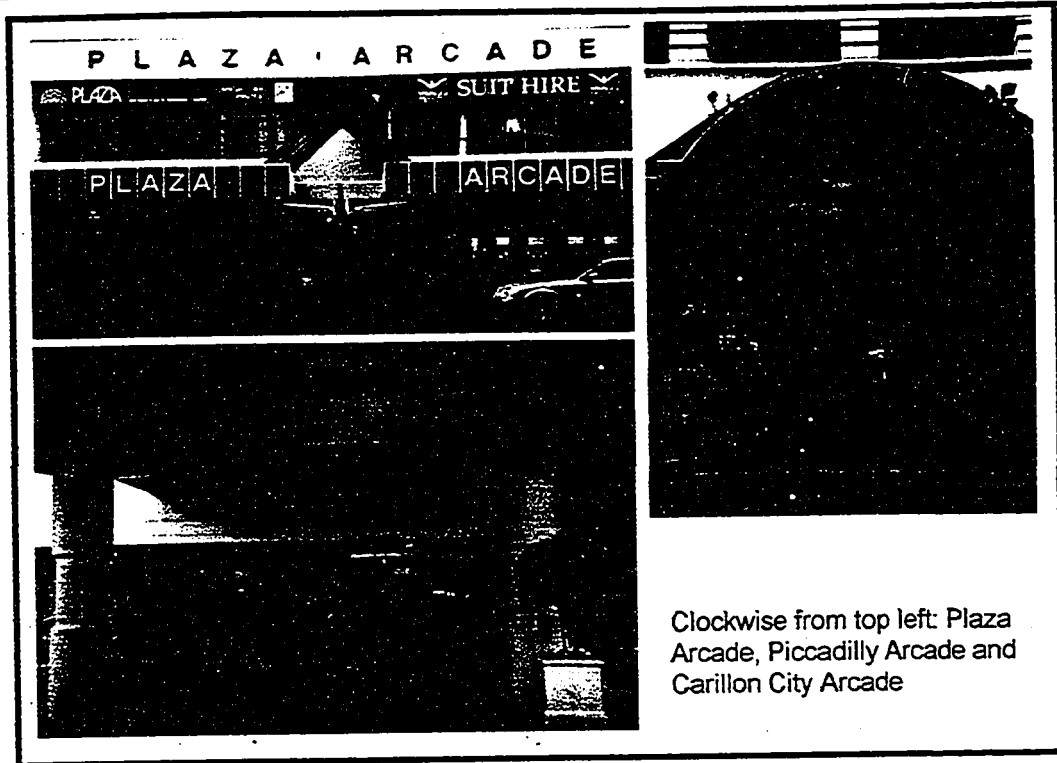


Figure 4.6 Arcades connecting Murray Street Mall to Hay Street Mall.

4.2.4 Evaluation Summary

Murray Street Mall rates highly in terms of form, length and level of connectivity to its surrounding area (refer Table 4.2). Pedestrians are able to comfortably traverse the Mall in its entirety to discover the stores available within it. The Mall however, has poor focus in terms of views toward the ends of the Mall.

Table 4.2 Evaluation Summary of Access and Linkage

Murray Street Mall			
Design Element		Rating	
		Warm Mths	Cool Mths
Access & Linkage	Form and length	4	
	Focus	1	-
	Connectivity	4	
Key: 1= poor; 2= fair; 3= good; 4= very good; - = no change			

4.3 Comfort and Image

4.3.1 Microclimate/Environment

Perth experiences a Mediterranean climate in that it has relatively warm summers and is windy and wet during winter. It should be noted that the spaces within the city centre area especially the Mall, can experience very warm summers and cool winters.

Considering this, the provision of shelter from these elements is vital for pedestrian comfort.

From personal perspective and with reference to Appendix E, the Mall has adequate sunlight penetration during the warmer climate. The street appears to have a 50-50 mix of sun and shade. Shade is provided by the mature trees spaced evenly along the street, buildings casting shadows and the overhangs of retail stores, such as in Figure 4.7. It is apparent through observation that these building overhangs/arcades protect pedestrians from heavy rain, since most pedestrians walked beneath these sheltered areas, to avoid getting wet and feeling uncomfortable.

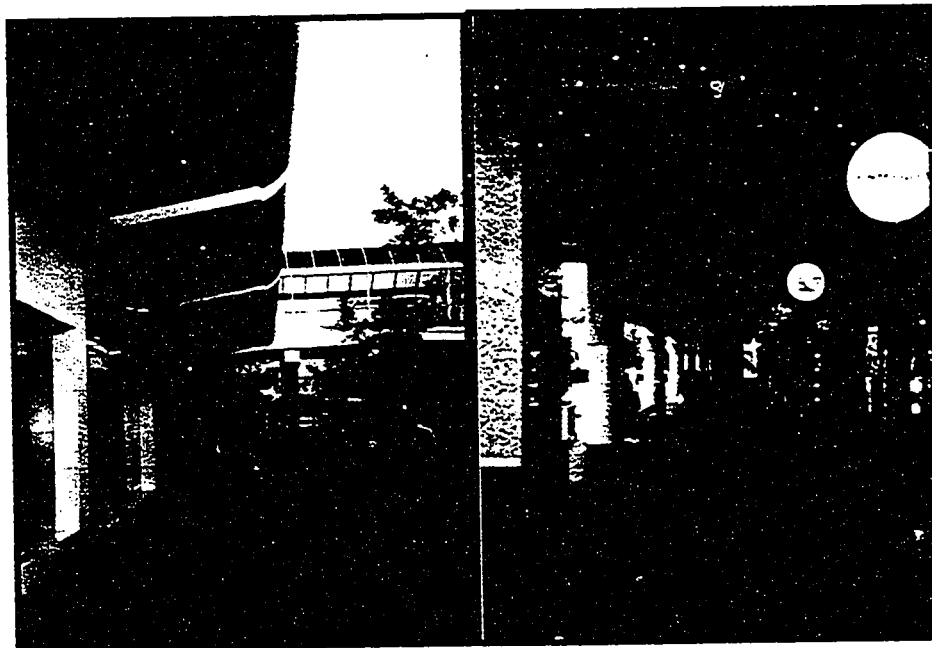


Figure 4.7 Building overhang of retail stores

4.3.2 Legibility

Murray Street Mall is a short, linear pedestrian Mall that has connections to Hay Street Mall via three arcades. Entrances to these arcades are wide at the mouth and their exits to the adjoining street (Hay Street) are visible from Murray Street Mall and this invites large volumes of pedestrians as Whyte (1988) suggested.

In terms of signage these are found predominantly at the entrances/exits of the Piccadilly, Carillon and Plaza Arcades. The signage is basic and indicates the streets ahead and on odd occasion the amenities are available. One of the better directional signs advised users of the following:

- The street that they are on.
- The street that they will end up on (if going through an arcade).
- Nearby landmarks, and
- The closest amenities i.e. public phones and washrooms, are evident only on the first floors rather than at street level.

Quick reference maps are also available (and at times handed out) at the Information Kiosk located in the centre of the Mall to guide users especially tourists around the immediate area and surrounding city centre.

Legibility for the physically challenged is evident towards the ends of the Mall. These are in the form of different paving tiles (raised Braille writing that can be sensed with the foot) that are placed towards the edge of the Mall before road intersections to direct the visually impaired around the area.

4.3.3 Seating

Seating provisions appear sufficient along Murray Street Mall since they were well used. The seating choices however are limited as they are all fixed to the ground. Mobile chairs are available in the outdoor café areas, where users can position themselves in the sun or shade, and towards or away from passers-by, to be used within the boundaries of the café area only.

The benches available throughout the Mall can accommodate approximately three to five people at any given time. However, it was observed that only three to four people sat on the bench at any given time. A couple of long benches that face Murray Street Mall (located on the periphery of Forrest Place) can potentially accommodate as many as twelve people (refer Figure 4.8).

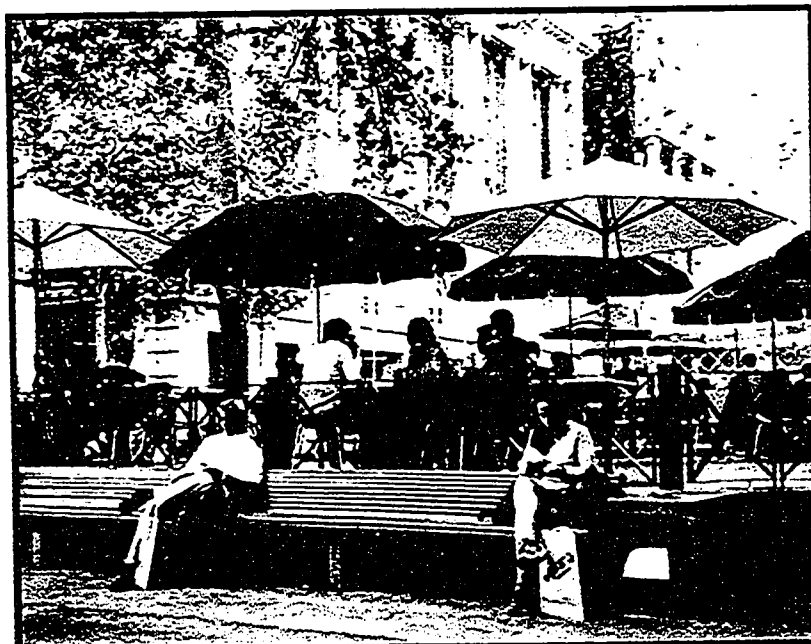


Figure 4.8 Seating in Forrest Place facing Murray Street Mall.

It is unsure if cement edging around planters formed as an alternative seating type however it was observed that some pedestrians did use this to sit and rest. Such seats

could hold approximately six people. The seating provision was calculated using Whyte's (1988) methodology and it is apparent in Table 4.3 that the seating provision is just above the minimum requirement.

Table 4.3 Seating Space in Murray Street Mall (m)

Type of Seating	Length (m)
Primary Seating Bench Short and long	65
Secondary	4
Total seating (m)	69*
Required (min)	62.5*
* Refer to Appendix G for full calculations	

4.3.4 Aesthetics

The aesthetics of a place lures visitors towards spaces. Murray Street Mall has its appeal in the architecture of the historical buildings (refer Figure 4.9) along the Mall and its surrounding areas, such as Forrest Place. The historical buildings along the street have been maintained and refurbished. They add colour and interest to the area. In addition to this, the street trees, planters and furniture present within the Mall, act as accessories to the space and make it appealing.

A water feature also brings an aesthetic appeal to the place. A water feature (in the form of a rotating ball) exists among communal benches within Forrest Place, just metres away from the Murray Street Mall. Although it is difficult to ascertain its true value to users and passers-by along Murray Street Mall, it is important to acknowledge its presence in the area.

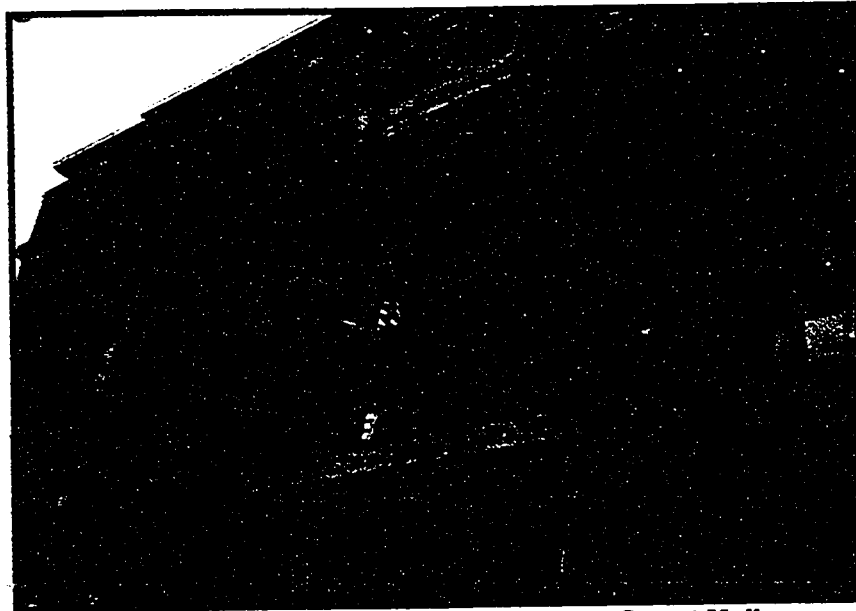


Figure 4.9 Architecture along Murray Street Mall

4.3.5 Safety/Security

The City of Perth is considered to be a safe city by world standards (City of Perth, 2004). However it has been acknowledged that it suffers from antisocial and criminal activity similar to other cities worldwide.

There are approximately 100 security cameras that provide 24-hour surveillance of the public spaces (including car parks) within the city centre and the Northbridge area (an area, north of Murray Street Mall, behind the Perth Train Station which is popular for the nightlife it offers). Security provisions that are present in the Murray Street Mall itself are as follows:

- Information and Police kiosk, which operates mainly during retail hours i.e. 8:30am to 5:00pm Mondays- Thursdays & Saturdays; 8:30am to 9:00pm- Friday and 12:00 noon to 5:00pm- Sunday.
- Emergency communication poles.

- Noongar (Aboriginal) Community Patrol- a joint initiative with the West Australia Police Service.
- A Nightsafe Programme- escorted walks during late night trading i.e. Friday night.

In addition to this, cafés located in the Mall have provisions for outdoor seating, which provides added safety through natural surveillance (refer Figure 4.10). In addition to this, natural surveillance is also provided from above the café-type establishments on the upper floors of the Carillon Arcade, as shown in Figure 4.11. Pedestrians obtain a greater sense of security when they are aware that other people are watching (Jacobs, 1984; Newman, 1973).

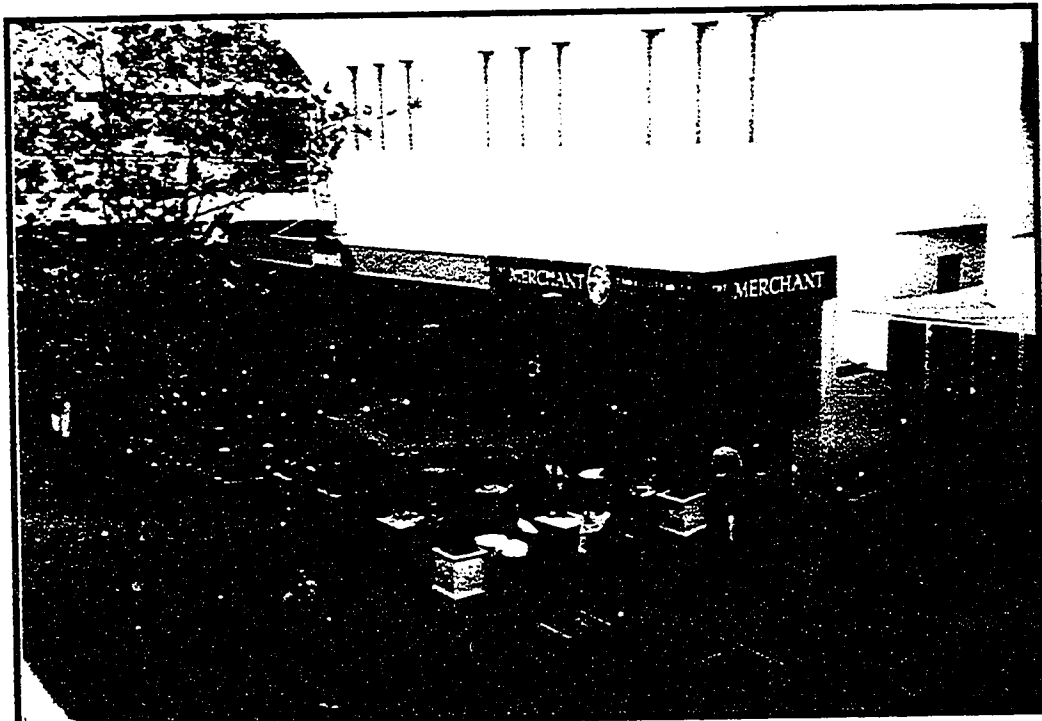


Figure 4.10 Outdoor café, Murray Street Mall



Figure 4.11 Outdoor café on second floor, Carillon Arcade

Despite this however, antisocial behaviour does exist and territorial groups seem to appear more during the later part of the day, which can deter people from visiting the area. It was observed that antisocial individuals tend to loiter in secluded areas such as desolate corners and laneways, as shown in Figure 4.12.

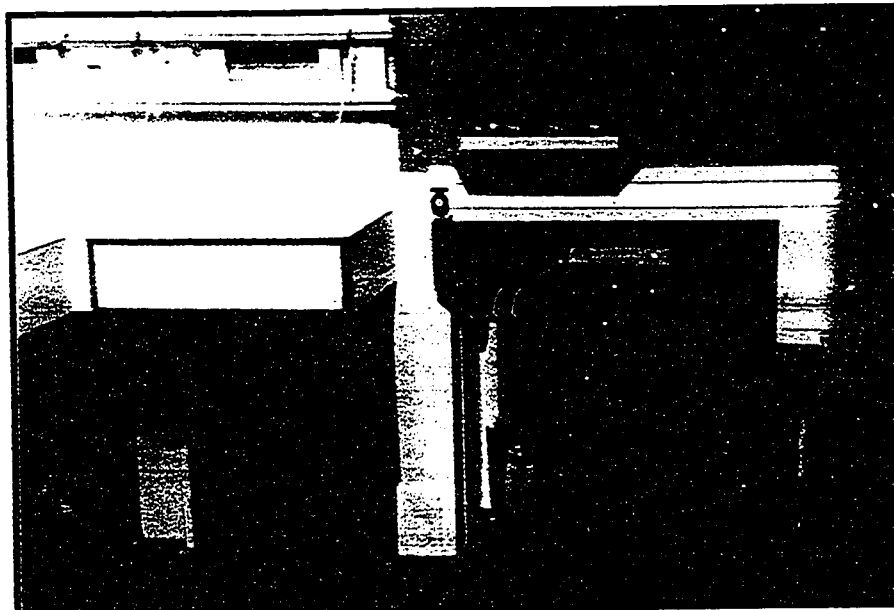


Figure 4.12 Presence of antisocial behaviour in secluded areas

4.3.6 Maintenance

Murray Street Mall appears to be a well-maintained space. It is clean i.e. litterbins are not overflowing onto the street and plants and trees are well manicured and watered daily. Maintenance crews are observed daily on site sweeping the streets, wiping down the railings on escalators and overpasses.

4.3.7 Amenities

Several amenities are available to users and visitors of Murray Street Mall. Drinking fountains are available on the street itself and washrooms (includes washrooms for the physically challenged) are available in the arcades i.e. Piccadilly, Carillon and Plaza Arcades off Murray Street. Within the 311m stretch of the Mall, there are 8 public phone booths, 24 litterbins and 2 bicycle racks that are available at each end of the Mall i.e. close to Barrack and William Street. Drinking fountains are also located at each end of the Mall. Considering the length, it is possible for street users to gain access to water quickly if needed. In addition to this there are various places along the Mall where refreshments can be purchased.

Additional amenities are available in the City railway station complex within walking distance from Murray Street Mall. The Rest Centre is located in the upper floor of the City railway station complex and includes:

- Access to parent and baby rooms from both female and male washrooms.
- Change rooms and washrooms with wheelchair accessibility.
- Bicycle lockers, stroller and wheelchairs available for hire

4.3.8 Evaluation Summary

In general, the Mall offers a sufficient level of comfort to pedestrians to encourage them to use the space and stay for longer periods at a time. The three areas where improvements can be made are in the level of aesthetics, the microclimate of the area and seating during the cooler climate. The area is aesthetically pleasing in terms of the historical building facades that bring colour to the area and the harmonious placement of street furniture along the Mall. However, the dull red brick paving material can result in a monotonous walk for the pedestrian. This can easily be modified to create a more interesting walk. Note that the aesthetic component does not change over the cooler months as indicated in Table 4.4.

The microclimate during cooler months is different. Perth experiences high winds and rain, which affects the individuals' length of stay in the area, hence it is given a low rating over the cooler months. Furthermore, when it rains, the seating in the Mall is unprotected and are wet leaving pedestrians to remain walking or standing around. Despite the unavailability of seating during wet weather, rain did not appear to affect pedestrians as they were observed to walk close to the building edges where they are sheltered by building overhangs/arcades.

Security appears to be maintained at the same level throughout the times of observation. A correlation between crime and seasonal change could not be confirmed and therefore a 'no change' ranking has been applied to this element in Table 4.4.

Table 4.4 Evaluation Summary of Comfort and Image

Murray Street Mall			
Design Elements		Rating	
		Warm Mths	Cool Mths
Comfort & Image	Microclimate	3	1
	Legibility	3	3
	Seating	4	2
	Aesthetics	2.5	-
	Safety & Security	4	-
	Maintenance	4	4
	Amenities	3	3
Key: 1= poor; 2= fair; 3= good; 4= very good; - = no change			

4.4 Uses and Activities/Sociability

4.4.1 Activities

The City of Perth offers various passive and active forms of activities such as street performances (i.e. busking) and professional entertainment. Figure 4.13 shows an example of a performance that lures people to gather and observe.

It is observed that interaction took place between people (who watched the performance/activity) and nearby strangers to discuss what is being observed and share their thoughts on the performance in the same way that Whyte (1980) described the natural occurrence of "Triangulation". These performances occur usually between the late mornings to late lunch time period.

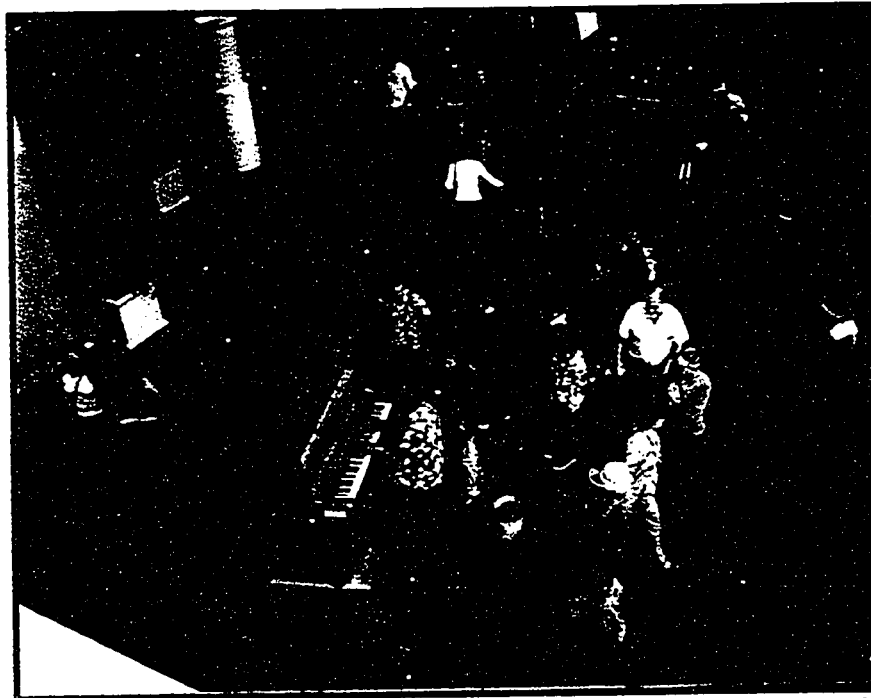


Figure 4.13 The 'Piano man' with his mobile piano plays regularly during lunchtime along Murray Street Mall.

Other performances by buskers also attract crowds. They tend to perform acrobatic acts throughout the day, which involve pedestrians in their acts (refer Figure 4.14). They select children or adults to provide support to their routine, which allows and encourages interaction between those watching such as the friends/relatives of the participants. These types of activities mainly occur on weekends when a majority of families are available to visit the city centre. Observation indicated that such performances occur during the lunch time periods and on occasion before closing time between 5:00pm and 6:00pm in the evenings just as people are heading out of the area.

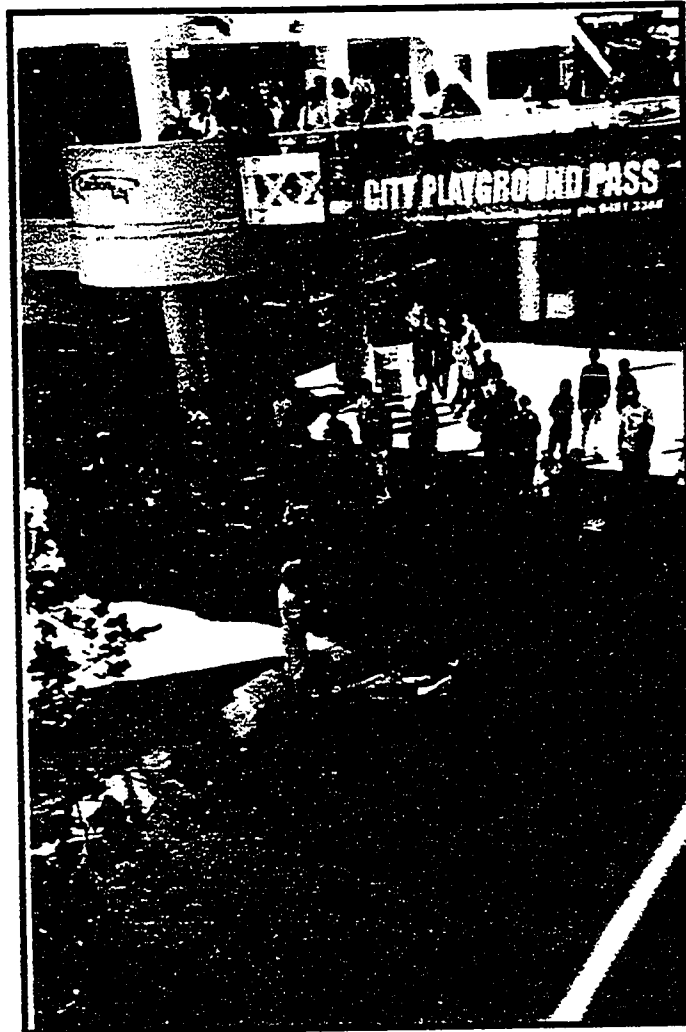


Figure 4.14 Street performance by local buskers in Murray Street Mall

4.4.2 Necessary, Optional and Social Activity

Murray Street is part of the commercial area within the city centre and hence holds clothing stores, newsagents, banks and large department stores.

The store types are categorized into necessary, optional and social uses, and where people chose to stay in the street is reflected in the Pedestrian Accumulation Map (refer end of Chapter 4.0). User patterns in relation to the land uses available are explained in the following paragraphs.

Necessary Uses

As expected, necessary uses such as banks and pharmacies attract individuals rather than groups or crowds. Such uses do not encourage people to linger around the storefronts, as they are insipid uses. However, those that do linger tend to do so whilst smoking, people watching or waiting for another individual.

Optional Uses

Optional uses such as clothing, jeweller and souvenir shops only attract individuals that either have a specific goal or those that are lured with window displays, sales and promotions. Hence these stores do attract a certain number of people more than necessary uses, but this is dependent on the store's marketing abilities. These observations are further supported by the use of a "Door Handle" survey (refer Table 4.5).

Table 4.5. Door Handle Survey for Murray Street Mall

Murray Street		
	South Side	North Side
Door Handles	34	21
Pedestrian activity	Very high	Medium

With reference to Table 4.5 and Appendix I, it appears that the south side experiences high pedestrian activity which can be deduced by a number of reasons; 1) The south side is generally the sunnier side of the street making users inclined to travel/linger on this side of the street as it may provide more comfort to them especially during cooler weather 2) The south side has more optional and social uses that encourage pedestrian activity and 3) The south side has the advantage of having three arcades- Plaza, Carillon and Piccadilly arcade with access to Hay Street Mall. These arcades also have stores, which comprise of a mix of necessary, optional and uses.

Social Uses

Social uses such as food establishments attract more people than optional uses such as retail clothing stores. Unlike the other uses, users have the opportunity to stay longer as most of the cafés along the street have outdoor seating areas, which as a result are often filled to capacity. Activities that are undertaken by those that stay (individually or as a group) within the social uses are drinking, eating, talking with friends.

4.4.3 Discovery

Murray Street Mall offers minimal level of discovery. Most of this is in form of street performances, which are very effective in drawing crowds to the area. Other than that, the Mall does not offer any public art and the level of architecture, although quite rich, only brings some focus to the area. So from a personal perspective this is not the driving force for people to visit the area.

In addition to this, the City also provides treasure hunt games for children in such a way that it is fun as well as educational, as they learn about the history of the city through its buildings and public art available. This is organized throughout the year.

4.4.4 Evaluation Summary

Overall, the Mall is effective in providing activities and forms of entertainment for all age groups. It brings a variety of people into the city at all times of the day, both and during the week and on weekends. This is important in assessing the level of animation the city is able to offer to its people.

The level of activity and discovery however, appears to be dependent on, thus affected by the weather. Buskers often do not perform on rainy days because the buskers themselves do not provide shelter (e.g. canopy) from the rain and they are aware that people will not stand in the rain to watch them perform. The level of discovery is further affected as parents will not permit their children to walk or play around the city during wet weather and would not consider participating in activities such as the treasure hunt offered by the City. Hence the rating of these two categories is lower during the cooler months in comparison to warmer months (refer Table 4.6).

Table 4.6 Evaluation Summary of Uses and Activities/Sociability

Murray Street Mall			
Design Elements		Rating	
		Warm Mths	Cool Mths
Uses & Activities/ Sociability	Activities	4	2.5
	Necessary, Optional and Social Activities	3	3
	Discovery	3	2.5
Key: 1= poor; 2= fair; 3= good; 4= very good; - = no change			

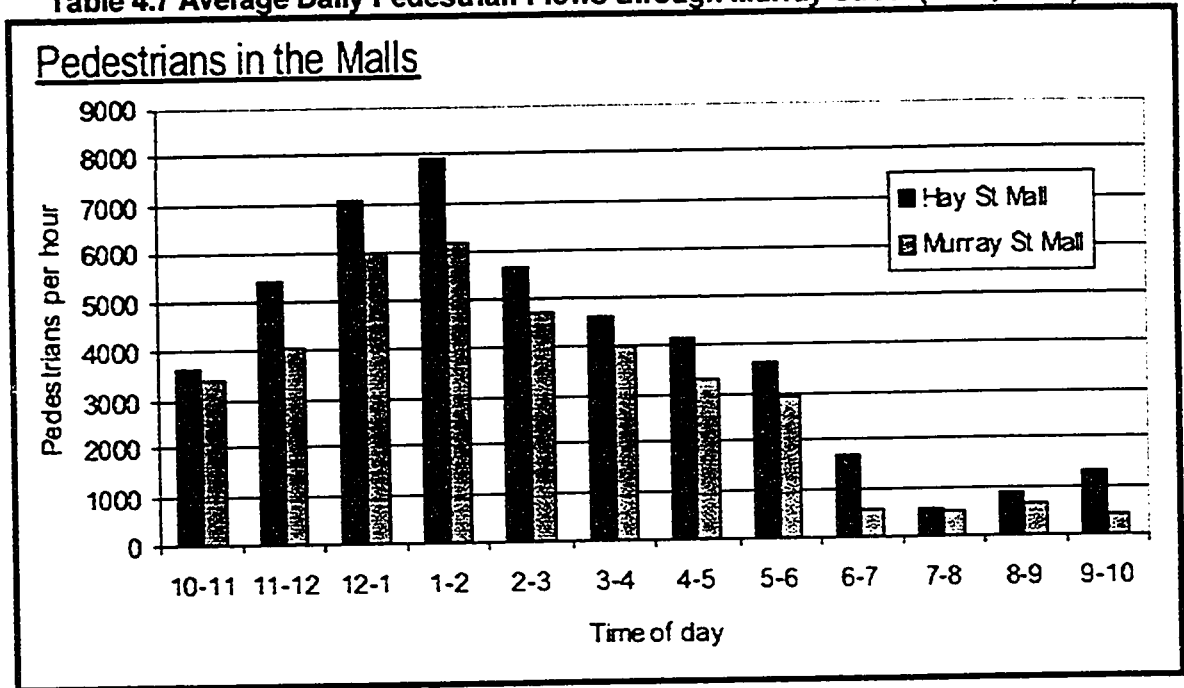
4.5 User Patterns

There are a significant number of pedestrians that flow through Murray Street Mall. Table 4.7 supports this statement as it illustrates the actual pedestrian flow through Murray Street in comparison to Hay Street Mall (the first pedestrian mall in the Perth Central area). This table was originally based on the volume of pedestrians in 1994 however; the City of Perth has recently confirmed that pedestrian volumes have changed insignificantly since then (Rizzo & Associates, 2003).

It is important to realize that this figure only illustrates the number that flow through the Mall rather than the number that stay in the Mall. Ecological mapping and observational

studies were combined together to form a Pedestrian Accumulation Map as shown at end of the Chapter. Note that the dots are only a representation of where people choose to locate themselves when they stay in the Mall.

Table 4.7 Average Daily Pedestrian Flows through Murray Street (Gehl, 2003)



Daily Use Patterns on Weekdays

- **Morning**

Visitors to the Mall during the morning i.e. between 8am and 10am are mainly businesspersons or employees who work in the area. The average age, from observation, appeared to be between 18 and 35 years old. Only a handful of older people are found people watching, having a coffee at the cafés nearby or smoking.

In general, not many people stayed around the area as most people use the space as a thoroughfare to get to work. Red Rooster and Hungry Jacks despite being

social uses do not attract people to eat there in the morning, as the type of food offered quite possibly does not suit the time of day i.e. they were fast food establishments. A majority of the seating in the area is empty. No form of activities such as performances takes place during this time, so the area is fairly quiet and uninteresting.

Loading vehicles are still able to access the area which may deter people from staying in the area, as it is not very safe when several large loading vehicles pass through the area at this time of the morning.

- **Midday**

Results vary from 12:00 noon to 2:00pm. Most users are either visitors or employees who work in the central area and use the street to purchase and/or eat their lunch, shop and undertake necessary activities such as banking or going to the post office. As a result the volume of pedestrians is at it's highest during this time. According to Table 4.7, the Mall experiences an estimated traffic flow of over 6000 people in this peak period. In addition to this, the age group of users expand. Young adults, children and the elderly are present at the Mall at this time.

Seating throughout the Mall is well used especially during this time of the day.

Performances in the form of musical entertainment or acrobatic acts as previously discussed, entertain users and give them a reason to stay in the area for longer periods at a time.

The general atmosphere in the area is more relaxing when compared to the atmosphere during the morning as people are not rushing to get to their destination, which suggests that the purpose of visit is more varied during this time of day. The main activities were:

- Talking with friends, or talking on the cell phone
 - Smoking
 - Eating and reading
 - Window shopping
-
- **Evening**

As expected the number of pedestrians during the day is substantially higher than later at night since business and retail hours do not extend past 6:00pm on weekdays (with the exception of Friday when retail hours are extended till 9:00pm). In addition to this, there are no activities in the Mall that support social activities after 6:00pm (such as pubs, nightclubs or restaurants). Such facilities exist in the Northbridge area, which is a 5-minute walk north of Murray Street Mall. It should be stressed that access to Northbridge does not require users to pass through Murray Street Mall. Thus, users have no purpose to go through Murray Street Mall past 6pm, which results in a substantial decline of pedestrian flow after this time. As a result of this, users tend to rush through Murray Street Mall during the evenings using the area as a thoroughfare to get from point A to B- usually to get to the train station or car park areas.

In terms of security, it was observed that individuals loitered around the laneways and people-watched. This happens throughout the day. On occasions they sit on the edge

of the benches for long periods at a time. Territorial groups tend to be more evident in the late afternoons and early evenings and tend to stand in a group in the middle of the Mall or in central locations. They proved their dominance over the space through loud voice projections and on some occasion, rowdy behaviour which influences a negative perception of the area being unsafe and this can deter users to the area.

Use Patterns During Weekends

The difference between weekdays and weekends is that the age group of users in the area is more varied. This is not surprising since most adults do not work on the weekends thus use the time to bring their families to the city centre to shop or relax. It is evident through observation that when there is a street performance, either in form of a solo singer, musician etc. the performance draws close to 100 people at a time. Some of them watch from street level and others from above on the overpasses. Furthermore, it is important to note that the activities or performers are directed at all age groups, which as a result encourage both the young and old to the area.

Food establishments such as cafés and food vendors that exist along Murray Street were popular and drew large numbers of people all times of the day. This reiterates the theory mentioned by Gehl (1987) and Whyte (1980) in Section 2.0.

Seasonal Differences

The change in seasons did not appear to influence pedestrian use during the warmer or cooler months. Considering the area is primarily outdoor, use during the cooler months is affected mainly by rain or cloud cover. On days that it did rain, seats were wet and unusable reducing pedestrian comfort, however pedestrians were still undeterred and

were still seen shopping and eating. When there is cloud cover, sunlight is not able to reach the Mall's surface and the general temperature drops. It is not known to what degree this discourages users from shopping at Murray Street Mall. Furthermore, it is not known if during this period, they opt to travel and shop at larger suburban shopping malls rather than at Murray Street Mall, due to the drop in temperature or rain.

User Groups

The approximate age of users and the activities in which they participate are reflected in the Ecological Maps in Appendix B1 to B3. The results of the Ecological Mapping exercise indicate that the Mall invites a wide range of users both young and old however this varies during the morning, midday and evening.

During the week, users comprise of students and employees (aged between 18 to 35 years old) who work in or near the Mall. This assumption is purely based on the attire of the pedestrians at the time of observation. In the morning (i.e. between 8am and 10am), users tend to be rushing through the Mall and using it as a thoroughfare to get from Point A to B. Hence not many people stay within the area. Those that do stay tend to be over 50+ and often sit at the benches, talking with friends or 'people- watch' for long periods of time. Observation indicated that men were more dominant during this time of day and reasons for this could be because 1) women who have families and are not working are usually busier this time of day and are at home looking after the children, hence do not go out till later and 2) male dominance in the area results in insecurity for women and conjures up safety concerns.

As midday approaches i.e. 11:30am to 1pm, the demographics in the Mall change. The elderly move on to quieter areas of the Mall to sit or talk with others or leave the Mall. Hence, the young and middle-aged adults dominate the area mostly to purchase and eat their lunch or talk with friends. The Mall is well used during this time, with seating space used to their capacity. A handful of children are present but they do not stay for too long unless there is a performance or group activity that lures them to stay and watch.

During the late afternoon and early evening, the Mall becomes quite deserted as business and cafés in the area close at approximately 6pm and employees head out or home. At times, young adults under the age of 18 years old, gather in large groups in the centre of the Mall and talk loudly, sometimes skateboard or play loud music. This form of territorial behaviour can sometimes deter users from walking through the Mall during the night despite the presence of security personnel that survey the area during this time to specifically ensure the safety of pedestrians (if any) is maintained.

The pattern of use by user groups is similar during the weekend. The only difference during the weekend is that there is a noticeable increase in the number of children and elderly. This could be because 1) families are not working and area available to visit the Mall during the weekend and 2) there are more activities and performances that are held in the Mall, most of which are catered to the children.

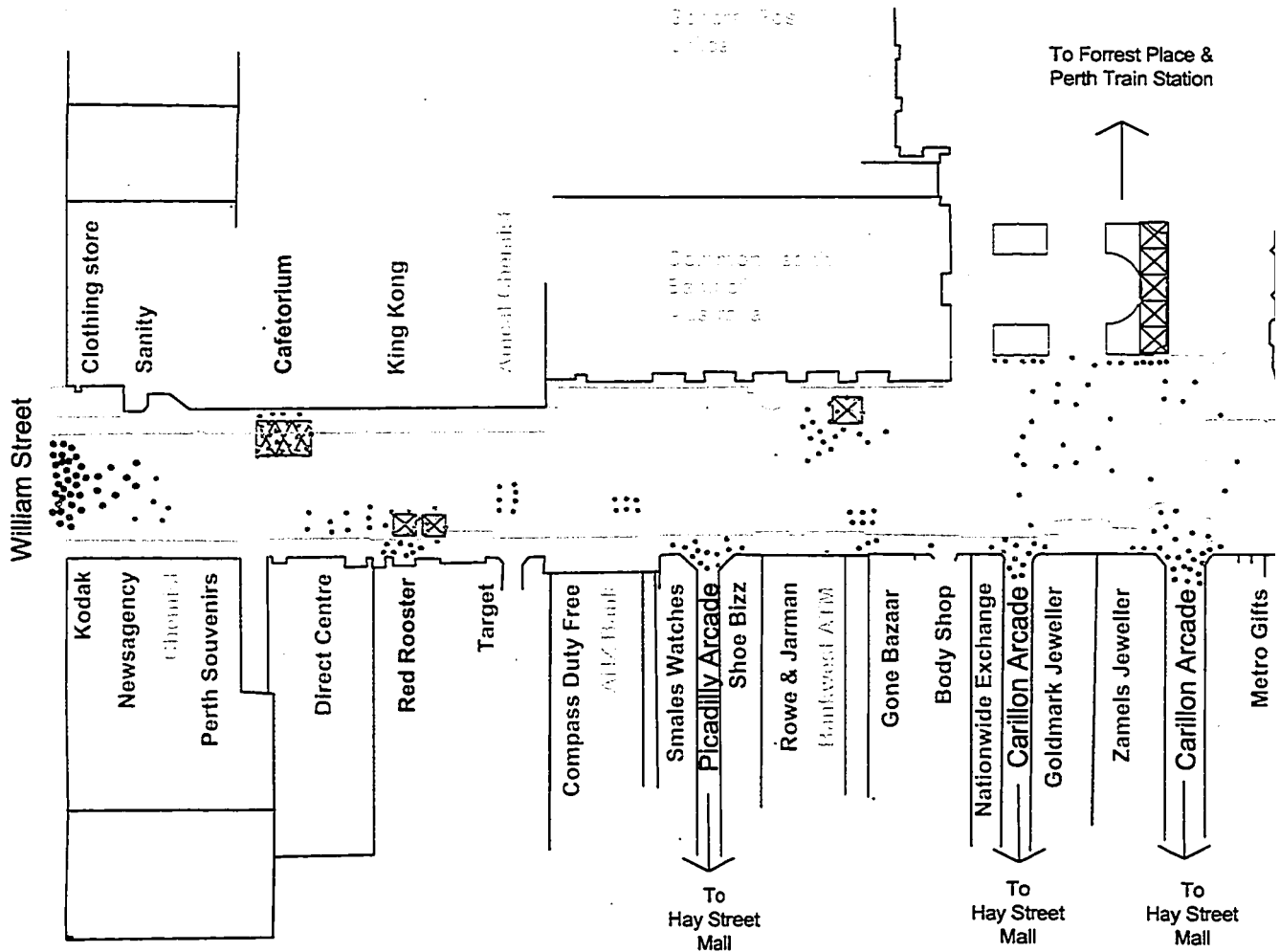
The Ecological Mapping exercise also identified that there is a strong correlation between use of space and type of activity offered. It was clear that social activities such as cafés lured people to stay in the area for long periods of time.

4.6 Evaluation Summary

With reference to Table 4.8, it is clear that the best use of space within the year is during the warmer months, in which the Mall obtains an average rating of "good". As a result, it is safe to assume that overall the Mall synthesizes the design elements effectively which result in a well-used space. There is however aspects, which can be improved such as the aesthetics of the space and these recommendations, will be discussed in the concluding chapters.

Table 4.8 Evaluation Summary of Design Elements

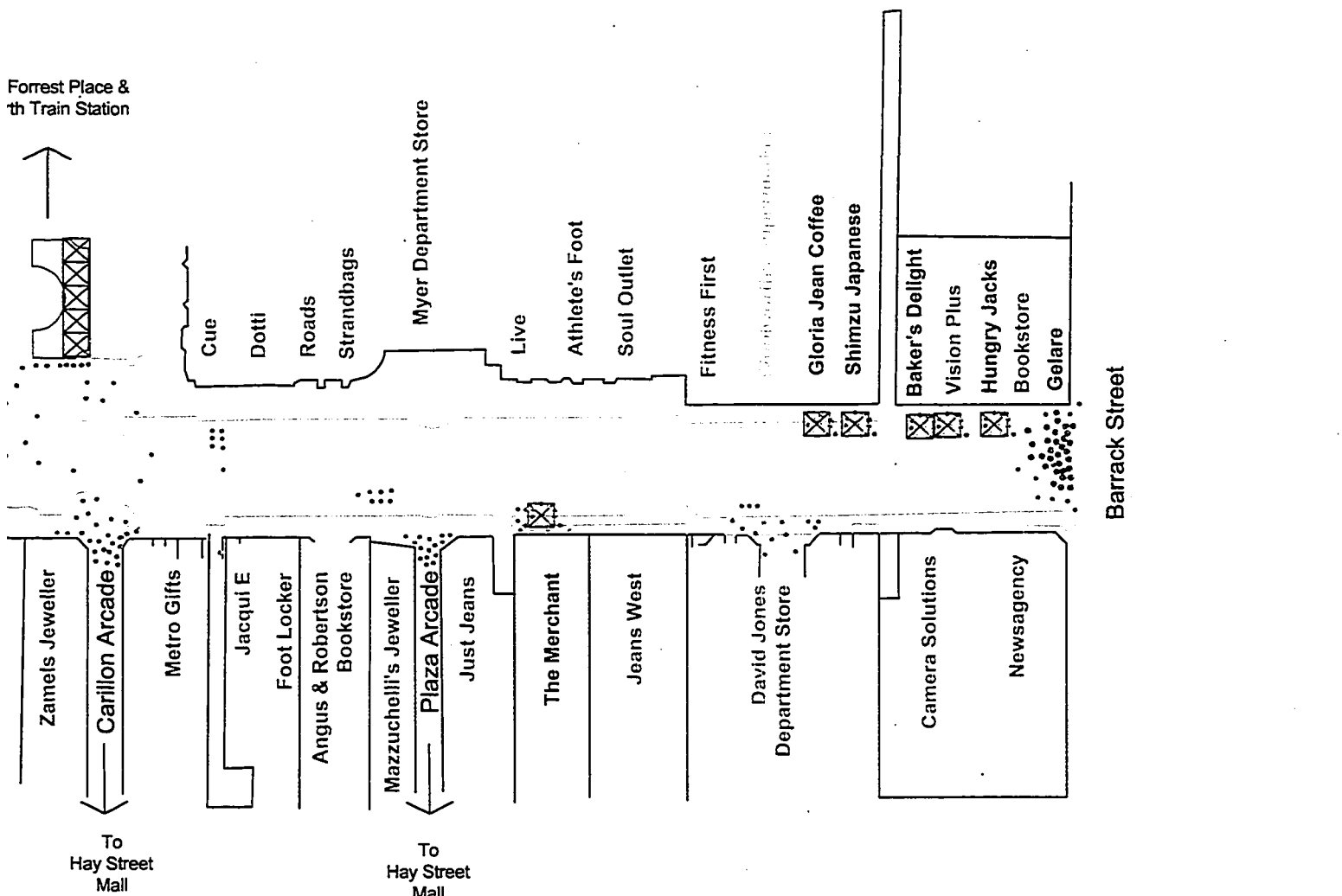
Murray Street Mall			
Design Elements		Rating	
		Warm Mths	Cool Mths
Access & Linkage	Form and length	4	
	Focus	1	-
	Linkages to surrounds	4	
Comfort & Image	Microclimate	3	1
	Legibility	3	3
	Seating	4	2
	Aesthetics	2.5	-
	Security & Safety	4	-
	Maintenance	4	4
	Amenities	3	3
Uses & Activities/ Sociability	Activities	4	2.5
	Necessary, Optional Social and Activities	3	3
	Discovery	3	2.5
Key: 1= poor; 2= fair; 3= good; 4= very good; - = no change			
Note: The numerical ratings in the table are ordinal scores reflecting qualitative evaluation. These ratings should not be summed to create an overall score because the criterion is not weighted and the ratings are ordinal values. The criteria were not weighted because the degree of their interdependence is not known.			



NOTES:

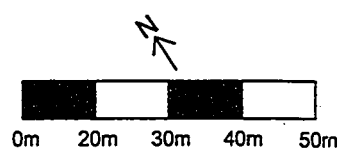
1. Note higher use surrounding social activities.
2. User activity around entrances are similar i.e. standing, talking to others or on cell phones.
3. All age groups present around the mall. Predominant user age is between 18 to 50 yr olds.
4. Dot density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended to provide an estimate of location of user and activities rather than the exact volume of users.

PEDESTRIAN ACCUMULATION: MURRAY STREET MALL



Legend

- Necessary Uses
- Optional Uses
- Social Uses
- People's choice of location (representation only)
- Outdoor cafe seating- Social Use
- Raised lawn/grass (warmer period)/flower bed (cooler period)
- Building overhang and pedestrian over pass



Drawn by: Olivia Susai, March 2004

ANALYSIS: SPARKS STREET MALL, OTTAWA, CANADA

This chapter discusses the form and function of Sparks Street Mall firstly through its history and its present function. A section 5.2 analyzes the Mall using evaluative index, photos and maps. Section 5.3 incorporates the observation study and ecological mapping exercise to discuss the effective and ineffective use of the space.

5.1 Past and Present Function of Sparks Street Mall

Sparks Street was originally part of a larger 200-acre lot that was to become the western part of the town of Ottawa. John Burrows Honey, who purchased Sparks Street in 1817, sold it to Nicholas Sparks in 1821 (Bray, Gordon, Osborne, 2003).

Sparks Street runs from the Rideau Canal on the east to the escarpment overlooking the LeBreton Flats in the west (refer Figure 5.1). The focal points at the west end of the street at the time were the Anglican Cathedral and “Lumber Baron” Mansions, and in the east end, large public buildings (Bray et. al. 2003).

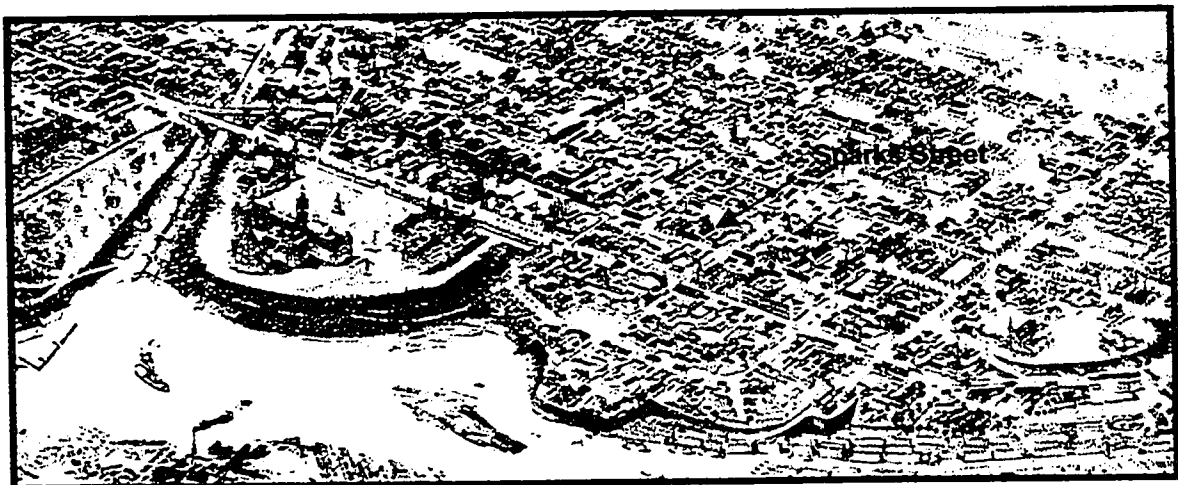


Figure 5.1 Lumber Town 1876. Lithograph by Brosius, 1876. (Source: Bray et.al.2003)

Ottawa experienced an economic boom between 1851 and 1871 and Sparks Street's land use varied from housing to industry, churches, schools, offices and shops (Bray et. al. 2003). Later, the horse drawn streetcar system was developed in 1871 and ran along Sparks Street from Rideau Street up until Bank Street before turning onto Wellington Street. This streetcar was upgraded to an electric system in 1891. This made Sparks Street more popular, and by 1900s Sparks Street was known as the city's central business district (Taylor, 1986) (refer Figure 5.2). Sparks Street had elite shopping, amusements and a level of sociability that brought about a level of prestige for shoppers and other users and made the street somewhat iconic (Bray, et. al. 2003).



Figure 5.2 Sparks Street 1909 (NCC Watch, 2004).

Sparks Street remained vibrant for a long time as it was established as “the principal downtown street...it was also crowded in the evening because...[it] contained the city's best hotel, several saloons, and several large movie palaces” (Bray et.al,2003 p.4-19).

Sparks Street's dominance gradually declined from mid 1920s onwards due to the onset of the depression and effects of World War II. Demographic and market forces changed in 1945 onwards and post war planning emerged with the implementation of Jacques Gréber's plan for the National Capital in 1950. The Plan identified problems within the central core such as congestion and overcrowding that resulted from the population and economic growth at the time. To resolve this, federal offices within the Ottawa central core, especially along Sparks Street, relocated to suburban areas (Bray, et.al, 2003).

Sparks Street was also mentioned in the Gréber Plan as being part of the congestion problem that needed to be addressed with priority. It was suggested that Sparks Street be transformed to a pedestrian mall (Rubenstein, 1978). In 1959, the Ottawa Board of Trade took businessmen, civic and government officials to visit a pedestrian precinct in Toledo, Ohio. Soon after, Council approved the necessary legislation and the Sparks Street Mall was officially opened in 1960. The Mall initially ran from Elgin Street to Bank Street (refer Figure 5.3). The success of the mall was "obvious...from the day it opened. After its first year, retail sales increased by almost 10%, restaurant sales by 30%, and...over 90% of the people surveyed liked the mall" (Bray, et.al, 2003, p. 6-4). Sparks Street Mall was later extended to Lyon Street in 1970. It was clear that eliminating traffic along Sparks Street, increased customer usage and reduced the congestion and environmental concerns.

During the 1970s, large internally focussed buildings such as La Promenade, the Bank of Canada Building and CD Howe Building were constructed along the Mall. The National War Memorial at the east end of the Mall was renovated to give this area a new focus.

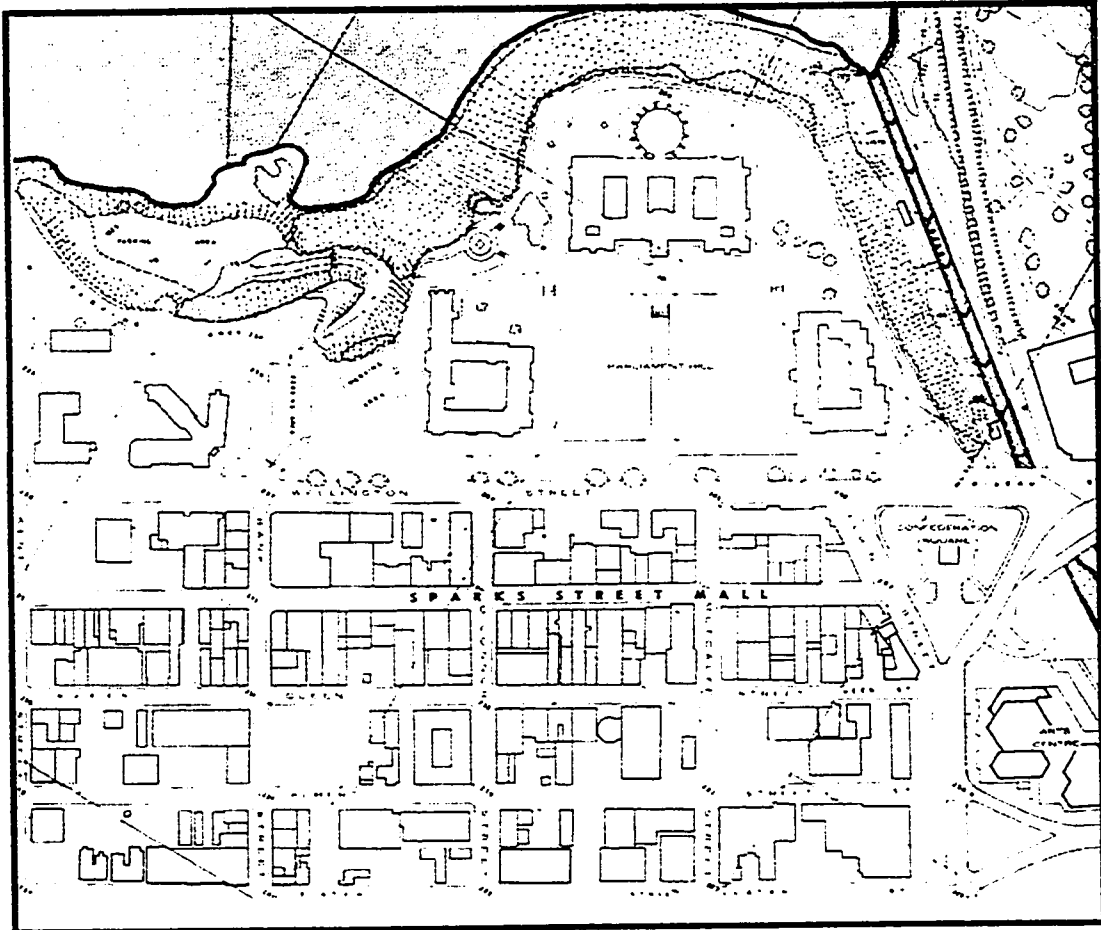


Figure 5.3 Sparks Street Mall between Elgin and Bank Street in 1960s (Rubenstein, 1978)

The Sparks Street Mall has been reviewed several times and undergone several upgrades and refurbishments. It is listed on the Heritage Inventory due to its historical significance and promoted as a tourist attraction (refer Figure 5.4). A detailed chronological history of Sparks Street Mall is outlined in Appendix D.



Figure 5.4 Sparks Street Mall today.

It is evident that Sparks Street Mall used to be a vibrant place. But more recently the City of Ottawa stated, "The retail environment is characterized...as generally weak, and in decline" (1999 p. 99). This chapter will examine Sparks Street Mall against the evaluative criteria to obtain better understanding of how the space is used and what can be improved upon.

5.2 Access and Linkage

5.2.1 Form

Sparks Street Mall is part of the original gridiron road layout of the original Ottawa city centre. Sparks Street has a width of 18.3 m and is 950m in length. The Mall covers five blocks:

Block 1- Elgin Street to Metcalfe Street

Block 2- Metcalfe Street to O'Connor Street

Block 3- O'Connor Street to Bank Street

Block 4- Bank Street to Kent Street

Block 5- Kent Street to Lyon Street

Each block exits to an intersection, that has one-way vehicular traffic and requires pedestrians to wait at the traffic signals before crossing the road.

The height to width ratio of buildings along the Mall was calculated using site plans to provide a further understanding of the proportions of the Mall. These are tabulated in Table 5.1.

Table 5.1 Height to Width Ratio Index for Sparks Street Mall (O'Neill, 2003)

	Block				
	1	2	3	4	5
North Side Avg. height (m)	20.5	18.5	19.0	36.0	N/A
South Side Avg. height (m)	24.0	16.0	15.0	38.0	N/A
Combined Avg. height (m)	22.3	17.3	17.0	37.0	N/A
Street Width (m)	18.3	18.3	18.3	18.3	18.3
Width/Height Ratio	1:1.25	1:0.95	1:0.9	1:2.0	N/A

Using Moughtin's (2003) guideline for keeping the height to width ratio between 1:1 and 1:2.5 to maintain comfort levels, it is clear that average building heights within Blocks 1 and 4 conform to this. But the averages conceal variation, which shadows the street. For example, Block 1 contains 2-4 storey historic buildings and the ten-storey Royal Bank Building.

5.2.2 Focus

Focal points in the Mall are obscured due to the kiosk structures that sit close to the middle of the paths obstructing views to the ends of the street (refer to Figure 5.5). This prevents users (especially visitors) from identifying what is ahead of them and may result

in them walking back and forth along the Mall to find what they are looking for. Despite this, the key landmarks to the street are the National War Memorial towards Elgin Street and the Garden of Provinces at the end of Lyon Street.

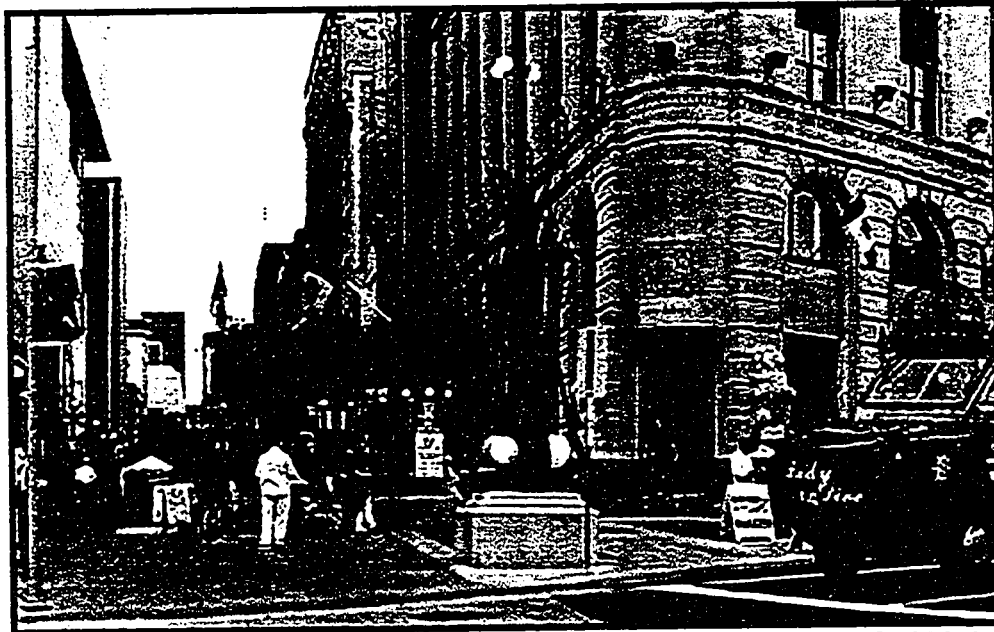


Figure 5.5 View of Sparks Street Mall from Elgin Street (OMDC, 2004).

5.2.3 Connectivity

The gridiron street layout of the city centre ensures that the Mall is well connected to other areas of the city centre. Street connections from Sparks Street Mall to other streets begin mainly at the intersections (north-south direction) between the five blocks of the Mall. A 'short-cut' through the Mall exists via The Hardy Arcade (refer Figure 5.6) found in Block 2 of the Mall. This Arcade exists southeast to Queen Street. The Hardy Arcade however, does not provide any signage that suggests that it leads to Queen Street and also appears dark and uninviting. The cramped and narrow entrance to the arcade does not induce social activities such as conversations and exchange of interminable goodbyes as suggested by Whyte (1988).

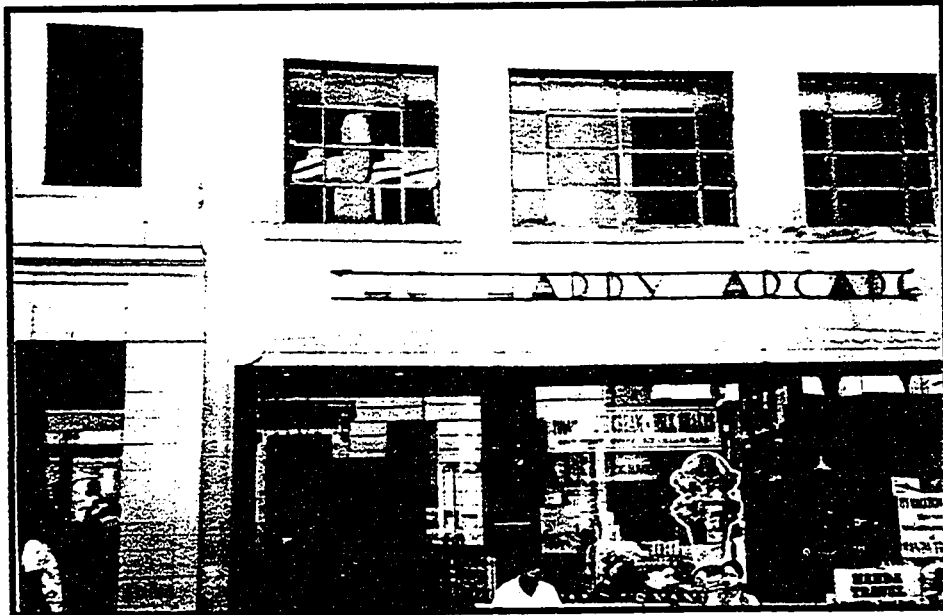


Figure 5.6 The Hardy Arcade, Sparks Street Mall

Blocks 1 to 3 are bounded by large high-rise buildings and provide a variety of retail uses at grade level.

Block 4 has an open space area at the corner of Bank Street and Sparks Street Mall with views to Parliament Hill. This block and its surroundings comprise of commercial buildings and is self-contained and offers additional retail uses for the convenience of employees within it.

Block 5 has similar characteristics to Block 4 in that it is bounded by self-contained office uses such as Place De Ville Building. The difference is that this block has little or no access to retail services, which result in a very uniform, unresponsive environment. Hence Blocks 4 and 5 are quiescent in comparison to Blocks 1 to 3.

5.2.4 Evaluation Summary

With reference to Table 5.2, Sparks Street Mall achieves a high level of connectivity due to the gridiron layout. Pedestrians, however, meet vehicular traffic at each intersection or if they need to walk on to the next block. This can be viewed as a disadvantage to pedestrians as it conjures up safety concerns and increased waiting time. The Hardy Arcade provides an opportunity for increased connectivity but appears underused due to the poor lighting through it and the lack of signage that advertises its link to the neighbouring street.

The Mall lacks focus due to the several outdoor kiosks that obstruct views ahead of the street and is given a low rating because of this. In addition to this, the general length of the Mall appears to be too long for pedestrians. Users tend to access the first three blocks only, leaving Blocks 4 and 5 deserted.

Table 5.2 Evaluation Summary of Access and Linkage

Sparks Street Mall			
Design Element		Rating	
		Warm Mths	Cool Mths
Access & Linkage	Form and length	2.5	
	Focus	1	-
	Connectivity	3	
Key: 1= poor; 2= fair; 3= good; 4= very good; - = no change			

5.3 Comfort and Image

5.3.1 Microclimate/Environment

Sparks Street Mall is oriented 32.5 degrees from true north and as such should have adequate sunlight exposure. However this is not the case, due to fact that tall buildings

are located on the south facing portion of the street, and prevent sunlight from reaching the Mall's surface for part of the day (O'Neill, 2003).

Furthermore, Bosselmann and Wright (1995) through their research on climatic conditions in Toronto established that buildings along east-west streets with a right-of-way of 20 metres must be below 16 metres in height for the streets to obtain a minimum of 3 hours of sunlight during the warm and cooler period. As discussed in Section 5.2, the building heights along these streets exceed the 16-metre height and therefore do not have much sunlight penetration within the area. Hence, during warmer periods it is more noticeable that users prefer to walk or sit in unshaded areas wherever possible to keep warm. This is reiterated further through "snap shots" taken on an hourly basis of some of the blocks along Sparks Street Mall in Appendix F. It is evident in these photos where the shaded and unshaded areas are.

In addition to this, pedestrians appear to experience a 'wind tunnel effect' when walking through the Mall due to the tall buildings. Bosselmann (1998) notes that in cooler climates, streets with tall buildings are less comfortable than those lined with four-storey buildings. He states that buildings up to four stories high with streets 66 feet wide by produce shelter however, experience 25% to 50% increased strength of winds, normally encountered in an open field (Bosselmann, 1998).

5.3.2 Legibility

Each block of the Sparks Street Mall has clear signage towards the ends of the street close to the intersections. Other than that, directional signage to guide users to amenities, tourist attractions and connections to other areas of Sparks Street Mall are

quite rare (e.g. connection to Queen Street from The Hardy Arcade as discussed in Section 5.2.3)

Furthermore due to the scale and bulk of buildings alongside the Mall, focal points are lost. O'Neill (2003) also identified that the first three blocks of the Mall look and feel identical, unlike Block 4 and 5 where the user may even feel that they are no longer on the same street (refer to Figure 5.7). Observation of Blocks 4 and 5 indicate that they were underused and lacked social and retail activity.



Figure 5.7 Left: Block 4 (Bank Street) and Right: Block 5 (Kent Street)

A statement made by the City of Ottawa in a 1999 report confirms the lack of legibility and effect on the overall image of the site, as it states:

The street has become crowded with kiosks, fountains, and steel structures used as cafés in summer. Most of the time there is sufficient space for comfortable pedestrian movement, but at peak times-usually lunchtime in good weather- the street is uncomfortable crowded and claustrophobic. Yet almost any other time of the day or season, there is relatively low street and retail activity, particularly in comparison to the Market area immediately across the Canal... The retail

environment is characterized in civic studies and by business organizations as generally weak, and in decline. (1999 p. 99)

The preceding statement discusses the effects of illegibility in the Mall. An obvious suggestion would be to remove the clutter and re-arrange what is already there i.e. sculptures, outdoor kiosks, placement of bins in a more orderly manner so that they do not obstruct the Mall.

5.3.3 Seating

Seating throughout the Mall is provided in the form of benches. Ledges in the form of retaining structures were incorporated into the design of the Mall to accommodate the change at ground levels within the first three blocks. This added to the seating choice and appeared to be popular with users as shown in Figure 5.8.



Figure 5.8 Use of ledges as seating, Sparks Street Mall.

Stairs to buildings and public open spaces such as in Figure 5.9 located on the corner of Sparks Street Mall and Bank Street is an example of where users may chose to sit. This public open space (Figure 5.9) has the advantage of having direct sunlight as well as

shade and appeared popular at midday when the Mall is in peak use. However, the hard cement surface and cold appearance, it does not invite many users during off peak period.

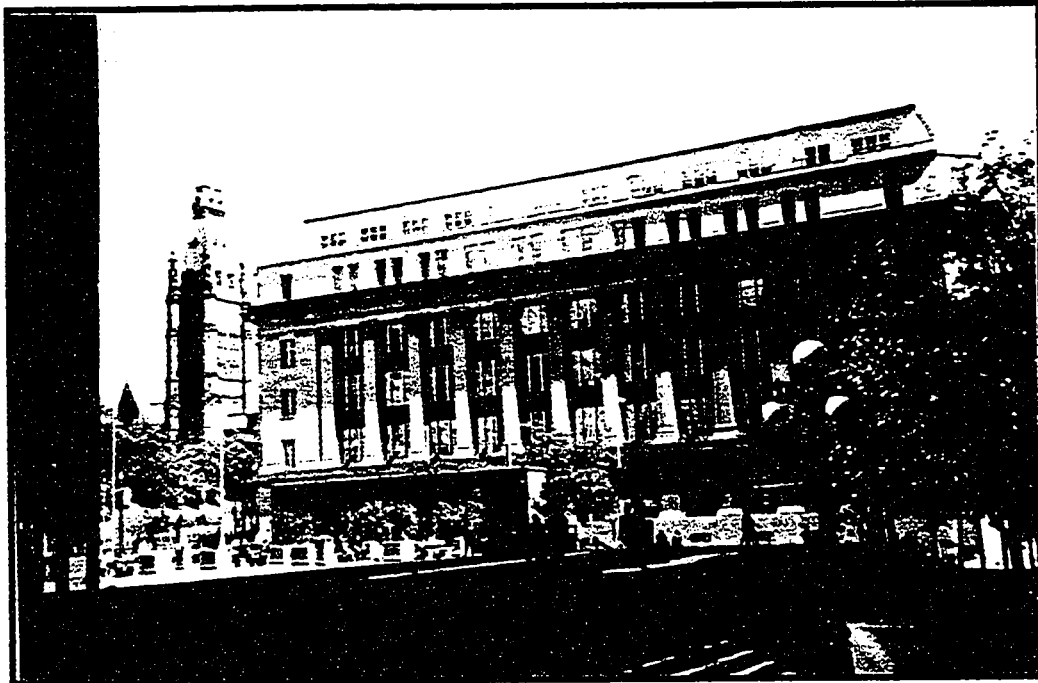


Figure 5.9 Open space on corner of Bank Street and Sparks Street Mall.

Table 5.3 indicates the seating requirement and provisions in the Mall. Using Whyte's ratio method, it was calculated that the minimum seating requirement for each block is 115.6m.

Table 5.3 Seating Space in Sparks Street Mall (in metres)

	Block				
	1	2	3	4	5
Primary Benches	90	162	90	16	250
Secondary Ledges	0	0	0	460	61
Total seating (m)	90	162	90	476	311
Required (min)	115.6	115.6	115.6	115.6	115.6
* Refer to Appendix G for full calculations					

Based on Table 5.3, it is evident that the seating provisions are inconsistent throughout the Mall. The calculations identified that Blocks 1 and 3 were below the required

standards for seating space in comparison to Blocks 2,4 and 5 where an over supply of seating occurs. An over supply may result in underutilization which may exacerbate the perception of emptiness and further reduce the number of visitors to the area.

5.3.4 Aesthetics

The Mall is rich with history, which is reflected in the building facades throughout the Mall. The rich architecture (refer Figure 5.10) within the Mall enriches the aesthetic appeal.

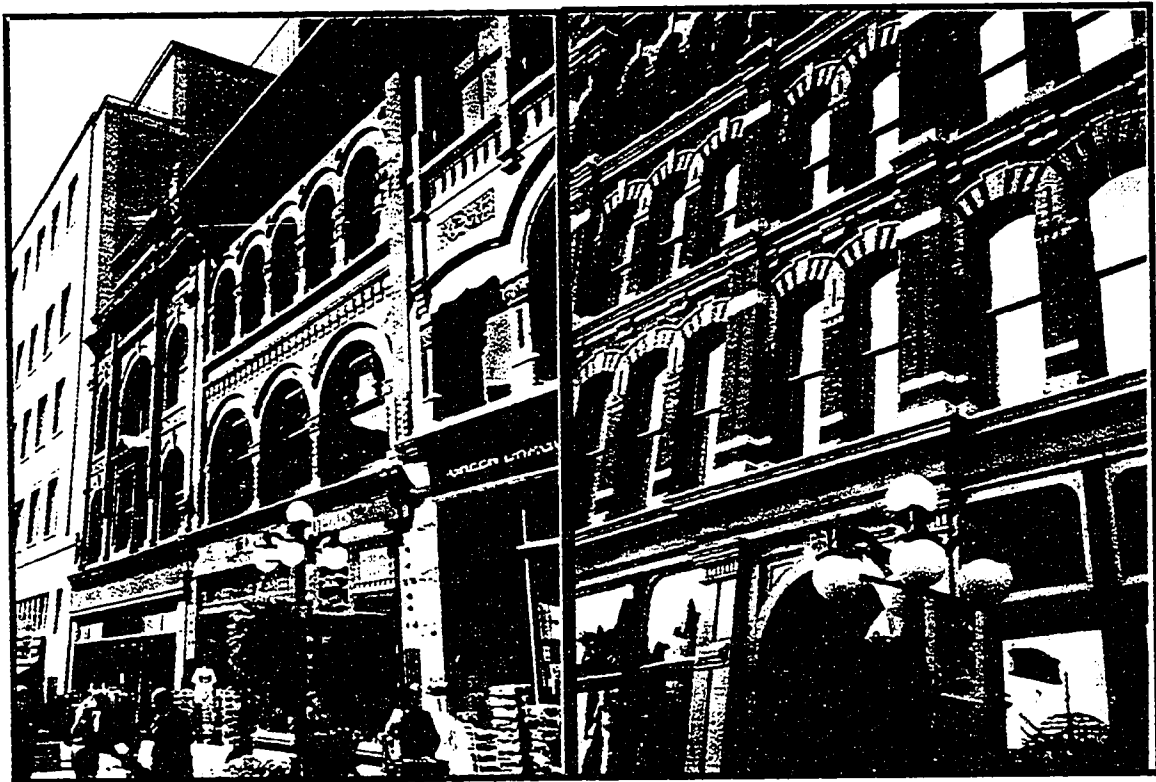


Figure 5.10 Architecture along Sparks Street Mall

As mentioned in Section 2.0, water features add aesthetic value to a given space. A water feature exists in the entry to the Mall from Elgin Street (refer Figure 5.11) however at first glance it can easily be missed. The water feature is located in a busy area and tends to become more of an obstruction that people avoid more than be attracted to.



Figure 5.11 Ineffective water feature does not encourage comfort or pleasure (NCCWatch, 2003)

In addition to this, there are no barriers surrounding the water feature to prevent water from spraying pedestrians as they pass by. From observation study it was clear that users avoided the area to prevent themselves from getting wet. This is a disadvantage of incorporating water features within a public open space as discussed by Marcus and Francis (1990) in Chapter 2.0.

5.3.5 Safety/Security

Sparks Street has electronic surveillance cameras as well as security personnel who patrol the area regularly. The use of outdoor kiosks and the ability for businesses to extend their eating facilities to the outdoor area also ensures that there are more 'eyes on the street' as suggested by Jacobs (1984) (refer Figure 5.12). This provides people with the perception of safety and security i.e. they feel more secure knowing that there are people watching out for them as they walk through the Mall.



Figure 5.12 Users of kiosks provide natural surveillance to pedestrians along Sparks Street Mall

It is noted that the kiosks only operate on a seasonal basis and therefore unused by the public during colder periods. Consequently, the level of natural surveillance is reduced and these structures may become hiding grounds for antisocial behaviour.

5.3.6 Maintenance

On first impression, Sparks Street Mall does not appear to be well maintained. Streets, benches and ledges are in some cases covered with bird droppings, which make them unusable, and cause dissatisfaction to the user. Litter bins at times overflow onto the ground and this can produce a foul odour and generally be displeasing to the pedestrian. Some of the paving is also in poor condition and may cause pedestrians to trip and fall to the ground. This would be particularly dangerous for the elderly. Overall, this reflects poorly on the aesthetic appeal of the area.

5.3.7 Amenities

Several amenities are available to users of the Sparks Street Mall. Drinking fountains, public washrooms, phone booths and information kiosks are located toward the ends of each block. There is however insufficient signage to direct users to these amenities. In addition to this, it is noted that most of the amenities are operational on a seasonal basis so the Mall may not be well serviced during the cooler climate period (O'Neill, 2003). This may affect the comfort level of the pedestrian user during the cooler climates.

5.3.8 Evaluation Summary

Sparks Street Mall does not rate highly in terms of providing comfort and image due to the poor microclimate, level of maintenance and provision of amenities. Considering that tall buildings flank the street, the area lacks sunlight and is cold. This is intensified during the cooler climates, decreasing comfort levels of pedestrians as they walk from one block to another.

The area does not appear to be clean, as some ground surfaces are covered with bird droppings and some litter bins overflow. Hence a fair rating was awarded for the level of maintenance (refer Table 5.4).

Provision of amenities is on a seasonal basis, which is a potential concern to users during the cooler climates. Amenities are important for all age groups and should be catered for throughout the year.

Table 5.4 Evaluation Summary of Comfort and Image

Sparks Street Mall			
Design Elements		Rating	
		Warm Mths	Cool Mths
Comfort & Image	Microclimate/Environment	2	1
	Legibility	3	3
	Seating	3	2
	Aesthetics	3	-
	Safety & Security	2.5	-
	Maintenance	2	1
	Amenities	2	1
Key: 1= poor; 2= fair; 3= good; 4= very good; - = no change			

5.4 Uses and Activities/Sociability

5.4.1 Activities

During the warmer months, all five blocks of the Mall entertain a high level of human interaction and participation with activities provided by the City of Ottawa (O'Neill, 2003). Special events such as Canada Day, the Annual Buskers Festival and bring a high number of visitors to Sparks Street and making it a vibrant street. Tourist information and tours such as The Haunted Walk, City Bus Tours and the Sparks Street Mall Heritage Tours all begin from Sparks Street Mall.

During colder periods, outdoor activities and performances gradually decrease and become almost non-existent once the harsh winter weather and snow covers the street. Outdoor cafés and other social inducing activities and uses are constrained by weather conditions and store proprietors are unable to extend their seating to the outer areas which affects the vivacity of the public open space during the colder periods in that the area is used less.

5.4.2 Necessary, Optional and Social Activity

The uses along Sparks Street Mall were noted in the observation study and recent plans. The Mall consists of various necessary, optional and social uses in the form of banks, government offices, post office, pubs and restaurants, some retail stores, department stores such as Zellers and souvenir stores. The way in which visitors choose to locate themselves within the Mall is shown in Pedestrian Accumulation Map at end of Chapter 5.0. Note that results for Block 3 are constrained due to the construction works to CBC and the Council works close to Metcalfe Street. As a result of this, users were forced to walk on the north side of the street.

Necessary Uses

Adjacent land uses along Blocks 4 and 5 are dominated by necessary uses like government/federal offices when compared to the first three blocks, which attract a large number of employees into the area. As a result of this, it appears that users other than employees of the area is quite low during off peak times, for example between 9:30am and 11:30am or 2pm and 4pm resulting in an underutilized street during these times. This is especially the case in Block 4, which comprises of the CD Howe Building, Bank of Canada and the Currency Museum. The Pedestrian Accumulation map clearly indicates, patronage to this area only appears to be within the open space on corner of Bank Street and Sparks Street Mall. The open space seemed to only be used between 11:30am to 2pm.

There are other necessary uses such as banks, pharmacists, medical offices along blocks 1 through to 3 i.e. services to cater to the employees in the street. These uses

have dull storefronts and do not attract users to linger in front unless they wish to take a smoke break or talk on their cell phones.

Optional Uses

Optional uses dominate within the first three blocks and constitute of souvenir, music and clothing retail stores. Souvenir stores as expected cater for tourism industry and would be more popular during the warmer periods rather than winter periods as tourists tend to travel during warmer rather than cooler periods (O'Neill, 2003).

Based on the preceding, pedestrian use of the street appears to be affected by the variety of uses directly accessible to the street. The "Door Handle" survey in Table 5.5, confirm that Blocks 1 through to 3 are the more popular portion sections of Sparks Street Mall.

Table 5.5 Door Handle Survey for Sparks Street Mall

	Block									
	1		2		3		4		5	
	North	South	North	South	North	South	North	South	North	South
Door Handles	11	9	16	8	21	12	2	2	3	10
Pedestrian Activity	Moderate		High		High		Very low		Very low	

Social Uses

The heaviest concentrations of people were found within Blocks 1 to 3 more so than in Blocks 4 and 5. It is assumed that this is because there are more social uses present in the first three blocks than in Block 4 and 5.

Blocks 1 through to 3 offer a range of pubs, restaurant chains and little cafés, which lure users to them, through aroma, music or the crowds. Therefore, users that stayed within the first three blocks chose to do so around the social uses such as D'Arcy McGee's Pub and Barrister's Restaurant (Block 1), Yesterday's, Hoops and Café de la Promenade (Block 2) and The Cock & Ale House and Bella Uomo (Block 3). It is noted that the food kiosks located in the middle of the Mall only opened for business from 11:30am onwards specifically for lunch time purposes only. Observation indicated that they were well used and increased the social atmosphere within the street.

Blocks 4 and 5 comprise of self-contained buildings such as the CD Howe Building, which offers a large food court in the basement of the building, not obvious to the street users at grade level. This attracts people more people from the offices within the building rather than from along Sparks Street Mall. This would obviously be the popular choice during the winter period. Overall Blocks 4 and 5 do not offer any social uses at grade level that encourage users to use or linger and this results in a deserted and underused mall section.

5.4.3 Discovery

The element of discovery is more pertinent during the warmer periods when the space is more useable and not so constrained by climatic conditions i.e. snow and rain. During the summer, various forms of entertainment take place that draw crowds of all ages to the area. This summer for example, they had a "mini zoo" for children to discover and pet (refer Figure 5.13). Such activities along with festivals such as the Winterlude Festival (that are provided by the City of Ottawa) attract and invite people to the area.

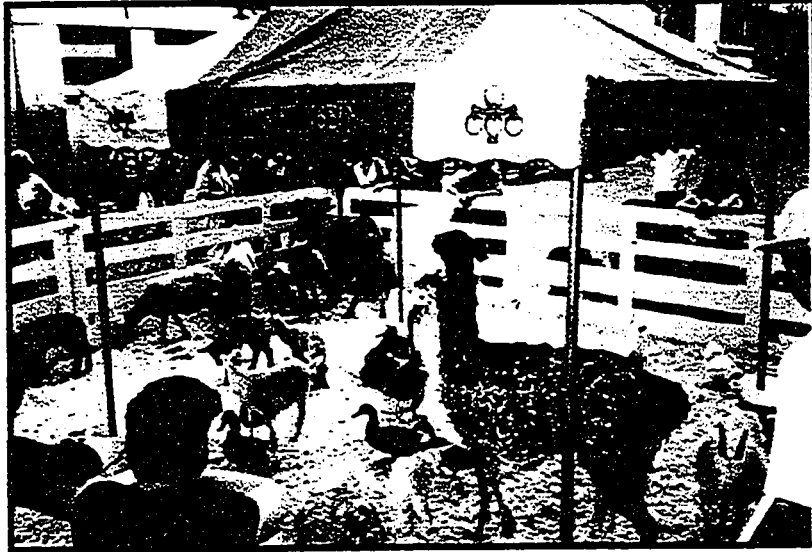


Figure 5.13 “Mini zoo” at Sparks Street Mall (Foster, P.)

Other than that, those interested in history, art and architecture would enjoy discovering the unique art in the form of sculptures (refer Figure 5.14) and building architecture found along Sparks Street Mall. It is considered a tourist destination and promoted for its historical significance. A Currency Museum also exists in Block 5 and is a tourist attraction.



Figure 5.14 “Joy” copper sculpture, Sparks Street Mall

5.4.4 Evaluation Summary

Sparks Street Mall appears to be more vibrant during the warmer months than in the cooler months. The Mall offers various outdoor performances and activities that lure people to the area more so during the warmer months than in the cooler months.

Considering that the animation within the area during the cooler months decreases, it is awarded a lower rating in Table 5.6.

The element of discovery in the area in the form of architecture and public art is quite strong, but it appears to only add value to the aesthetics of the area rather than lure people to visit the area.

Table 5.6 Evaluation Summary of Uses and Activities/Sociability

Sparks Street Mall			
Design Elements		Rating	
		Warm Mths	Cool Mths
Uses & Activities/ Sociability	Activities	3	2
	Necessary, Optional & Social Activities	3	3
	Discovery	2.5	-
Key 1= poor; 2= fair; 3= good; 4= very good; - = no change			

5.5 User Patterns

Daily Use Patterns on Weekdays

- Morning

Pedestrians in the area between 8am and 11am comprise mainly of business people or employees who work within the area. The average age (from observation refer to Pedestrian Accumulation Map at end of Chapter 5.0 and Appendix B) appeared to be between 25 and 50 years old. People's walking pace during this time was fast which

made it obvious that they were rushing and heading to their place of employment. A small number of people were seen having breakfast or a cup of coffee at the cafés in the Mall. There were also a small number of homeless individuals sleeping along the footpaths.

No form of activities such as outdoor performances exist during this time, so the area is fairly quiet and uninteresting.

Loading vehicles access the area, which may deter people from staying in the area as it conjures up safety concerns when several large loading vehicles are busy passing through the area at this time of the morning.

- **Midday**

During peak time (between 12:30pm and 2:00pm), the Mall is more vibrant with outdoor kiosks, cafés and pubs that are very busy, and music can be heard playing from within the kiosks and pubs. Entertainment however, ceases almost after the lunch period is over.

Most users during this time of day appear to be employees from the offices along Sparks Street Mall who eat their lunches and undertake necessary activities such as banking or going to the post office. As a result pedestrian use during this period would be at its highest.

It is noticeable that the age of users is around 25 to 60 years old. Most of them walk, eat, and talk in pairs or in groups. Seating throughout the whole area is well used

especially during this time of the day. Significant numbers of individuals who are on their own sit or talk on their cell phones.

Smoking is also a popular activity of users, and this is expected as a result of the recent change in by-laws in Ontario, that prohibits smoking inside restaurants, bars and cafés. Hence people that smoke tend to locate themselves close to the base of the building at various times of the day to have a cigarette. It was observed that they would often smoke in pairs or groups to talk and smoke.

Shop owners/employees of stores such as the souvenir stores and any other tourist related stores tend to gather together outside the store when they are not serving patrons or when the area is generally not that busy (between 2pm and 4:30pm) and on occasion sit on the benches directly in front of their store to talk as a group. They were often male employees. From observation, they could be mistaken for a territorial group and could deter individuals from the area.

- Evening

Pedestrians are usually on their own towards the end of the business day and appear in a rush to leave Sparks Street Mall to head home or elsewhere. Use of the area during the evening is limited. Those that do stay tend to do so around the pubs and restaurants along Sparks Street Mall. Note that the outdoor food kiosks are closed soon after lunch. Hence, the more popular areas tend to be Blocks 1 through to 3. Blocks 4 and 5 are deserted.

Use Patterns on Weekends

Saturday and Sunday use is typified by tourists, children and families i.e. everyone else other than the regular office employees. This is expected, as parents and children are able to head out over the weekend, unlike during the week when the parents are at work. Tourists, on the other hand, visit the area because the Mall is marketed as a tourist attraction and has tour booths set up within the Mall. In addition to this, the Tourist Information Centre is located along Metcalfe Street, just off Sparks Street Mall. Considering this, it is expected that tourists would pass through Sparks Street Mall on the way there.

Apart from that, users offer a different character to Sparks Street Mall in general over the weekend period because of the different age groups and ethnicity present in the area.

Seasonal Differences

As discussed, some of the amenities and provisions such as kiosks only function on seasonal basis. Considering this, the uses of the Mall are significantly different to the uses in the cooler periods. It is clear that users are encouraged to use the space during the warmer months more than in the winter months.

Due to the drop in temperature during the cooler periods, users are more inclined to sit, eat, talk indoor wherever and whenever possible. Hence the 'life' on the street is significantly reduced. In addition to this, the activities provided by the City of Ottawa to entertain users are suited to the warmer months and are generally marketed to younger children as well (e.g. mini zoo). This encourages children to use the street, which is

important, as currently they do not appear to use the area since there is no activity or purpose for them to be there.

Despite the preceding interpretation, other public places in Ottawa such as the ByWard Market do not experience a lack of use during the colder periods. Furthermore, winter festivals such as the Winterlude Festival along Rideau Canal are an annual success. Hence, major seasonal differences should not necessarily occur. This is confirmed by O'Neill who believes that "climate is not a barrier to creating a vibrant outdoor social milieu" (2003, p.47).

User Groups

The approximate ages of users and the activities that they partake in are shown in the Ecological Maps in Appendix B4 to B6. The results of the Ecological Mapping exercise indicate that young and middle aged persons predominantly use the Mall throughout the day.

During the week, users comprise mainly of employees (aged between 25 and over) who work in or near the Mall. This assumption is purely based on the attire of the pedestrians at the time of observation. In the morning (i.e. between 8am and 10am), users tend to be rushing through the Mall and using it as a thoroughfare to get from Point A to B. Hence not many people stay within the area. Those that do stay tend to be over 50+ and are either reading the paper in the cafés nearby, sitting at benches/ledges and 'people- watching' for long periods of time, or smoking.

As midday approaches i.e. 11:30am to 1pm, the Mall is livelier however, the age of users in the Mall does not change during this time of day i.e. users remain to be approximately over 25 years old. Professionals were observed to have their lunch at the cafés/restaurant, pubs and outdoor food kiosks that are available in Blocks 1 through to 3. Some were found sitting on ledges, stairs or in the open space at the corner of Sparks Street Mall and Bank Street (Block 4) eating on their own or with a friend. Block 5 was still noticeably quiet during this time.

As soon as the lunch peak period is over, the Mall is deserted and unwelcoming and by 5pm businesses and the outdoor Kiosks are closed. Those who choose to stay are young to middle aged adults and they can be seen at the pubs, restaurants, other users rush out or head home from the area. On occasions there appears to be students walking through the area but the difference in age group is negligible.

The age of users vary over the weekend but not significantly. The user groups ranged from young adults to older adults. The younger adults were dominant in the pubs, restaurant uses/activities whilst the older adults were found sitting with friends and talking or generally walking around the area.

Children are rarely seen in the Mall. Families with children appeared to be tourists and were seen in Block 1 for a short period of time, possibly to book tours for sightseeing purposes. This changes during the summer or school holiday period as activities are provided in the Mall for the children as previously discussed.

The Ecological Mapping exercise (refer Appendix B4-B6) identified that there is a strong correlation between use of space and type of activity offered. It was clear that social activities such as cafés encouraged people to stay in the area for long periods of time, hence Blocks 1 to 3 appear to have a more social atmosphere in comparison to Blocks 4 and 5.

5.6 Evaluation Summary

Table 5.7 indicates that the Mall is considered to have some good design elements but the space overall has an average rank between “fair” and “good” based on the warmer months only. The Mall, due to its linear form, provides easy connections to other parts of the city centre. The potential of short cuts within the Mall exists through the Hardy Arcade but this needs to be modified to become more inviting.

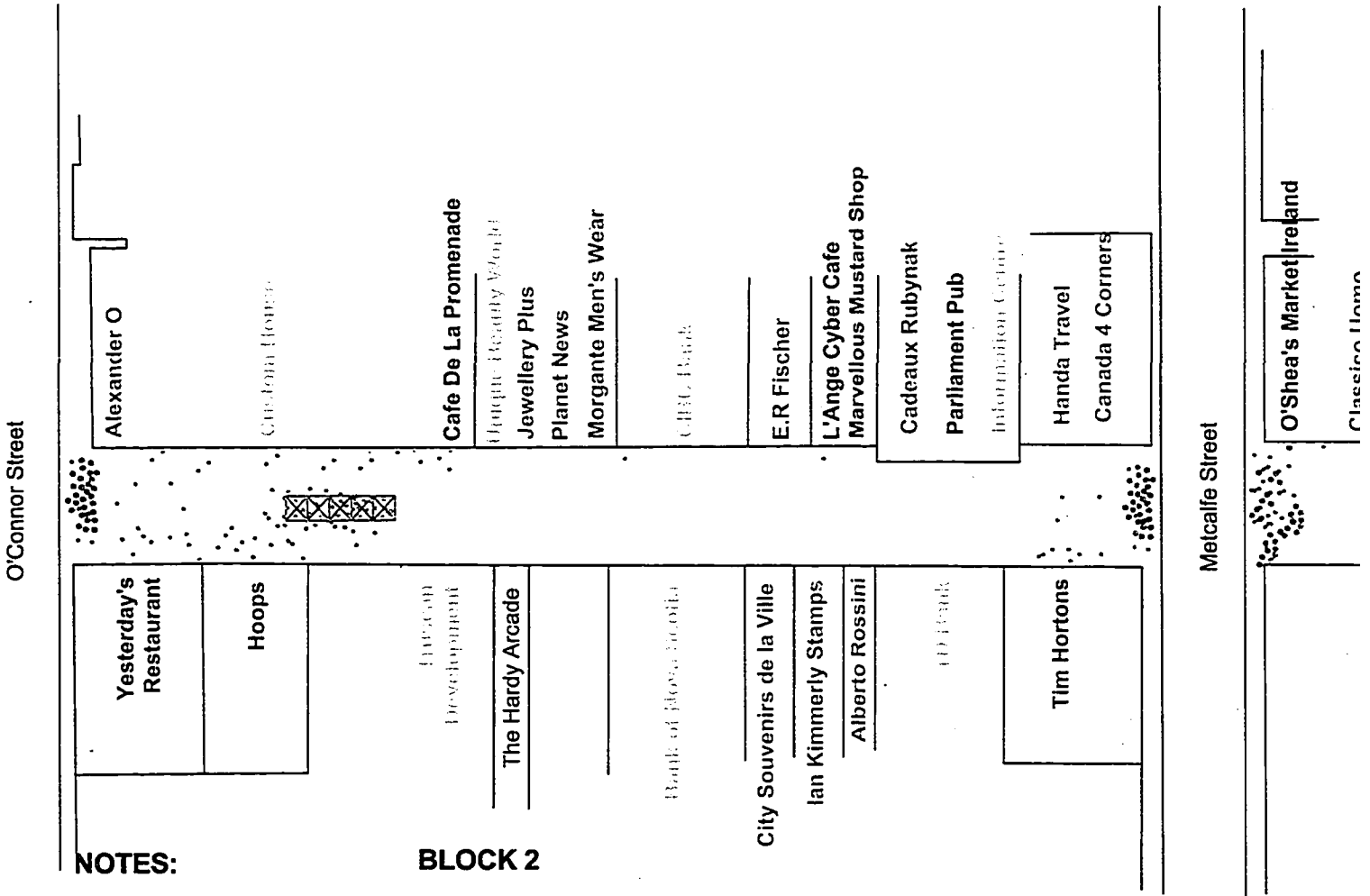
In terms of comfort and image, the Mall provides more than adequate seating and has a rich appeal through sculptures, and historic architecture that surrounds the Mall.

The level of activity and use within the Mall suggests that only a section of the Mall, namely Blocks 1 to 3 is being used to its true potential and value. Furthermore, the space does not seem to have the same allure of life during the cooler months that it has in the warmer months which is reflected by less pedestrian use. Recommendations for the Mall are discussed in the concluding chapters.

Table 5.7 Evaluation Summary of Design Elements

Sparks Street Mall			
Design Elements		Rating	
		Warm Mths	Cool Mths
Access & Linkage	Form and length	2.5	
	Focus	1	-
	Linkages to surrounds	3	
Comfort & Image	Microclimate	2	1
	Legibility	3	3
	Seating	3	2
	Aesthetics	3	-
	Security & Safety	2.5	-
	Maintenance	2	1
	Amenities	2	1
Uses & Activities/ Sociability	Activities	3	2
	Necessary Social and Optional Activities	3	3
	Discovery	2.5	-
Key: 1= poor, 2= fair, 3= good; 4= very good; - = no change			

INSET



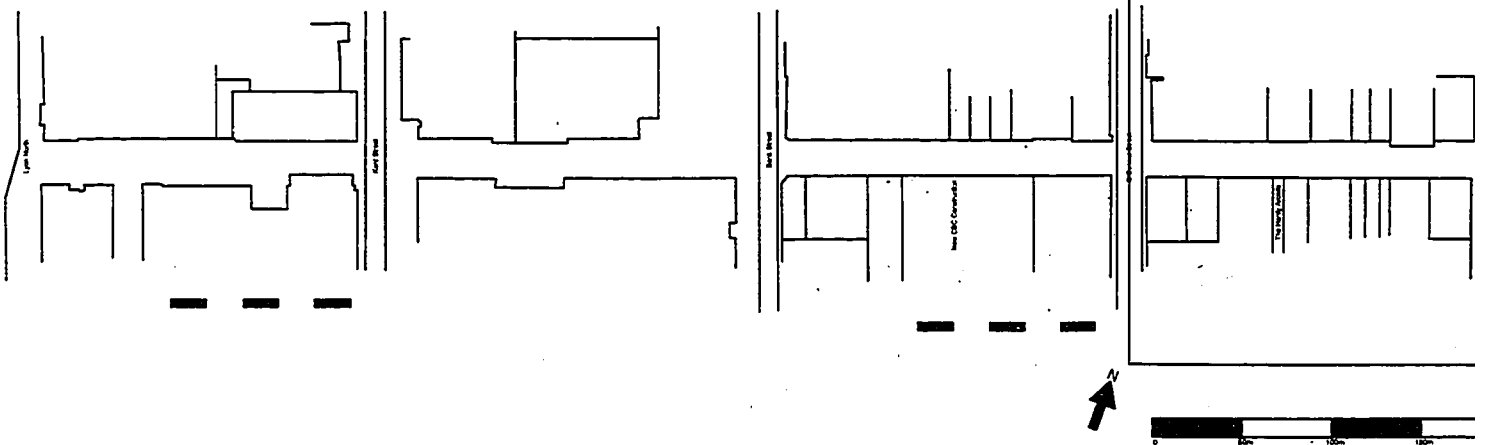
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BLOCK 2

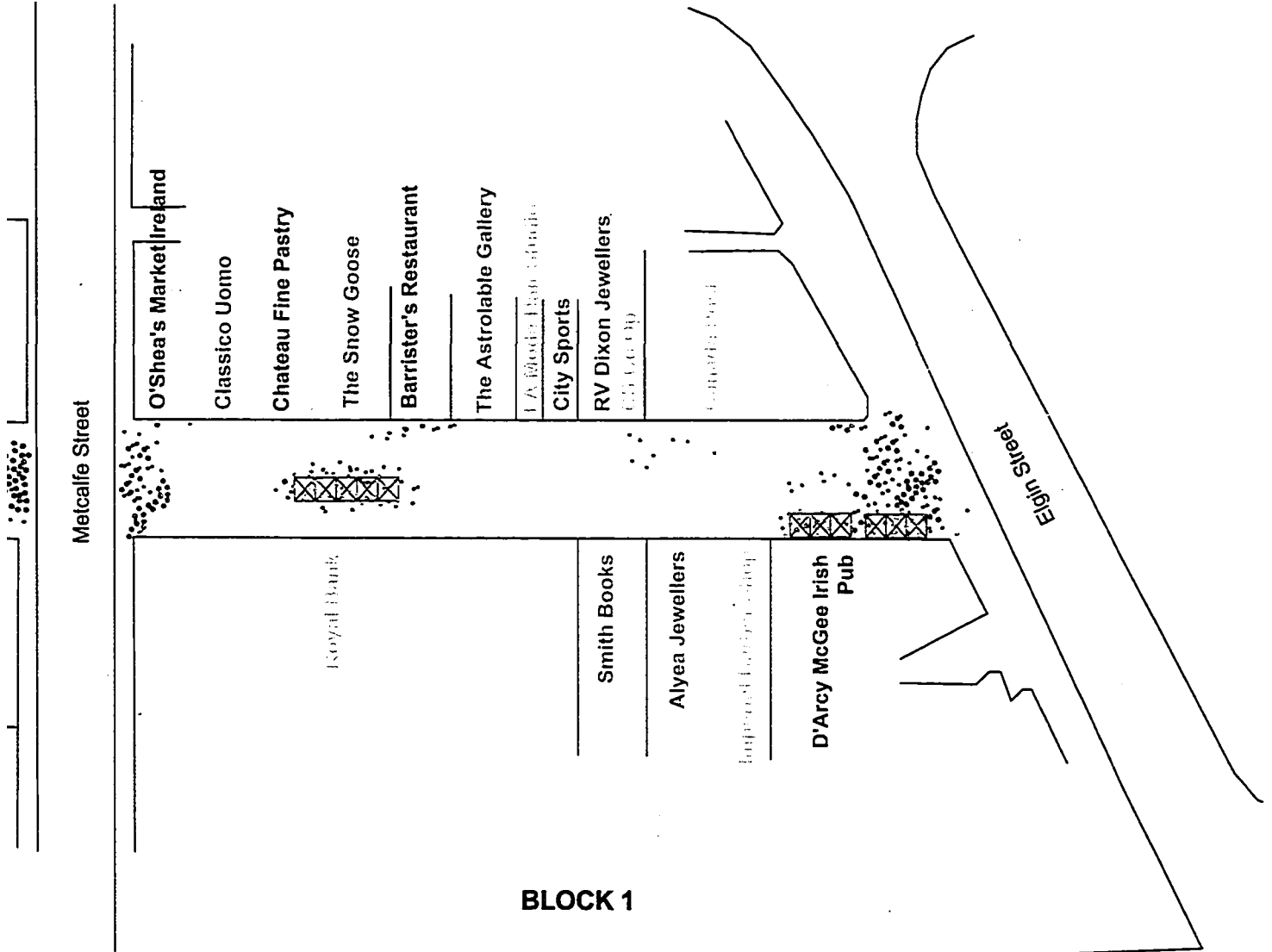
1. Note higher use surrounding social activities.
2. The Hardy Arcade does not appear to attract anyone.
3. Predominant user age is between 18 to 50 yr olds.
4. Dot density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended to provide an estimate of location of user and activities rather than the exact volume of users.

SPARKS STREET MALL

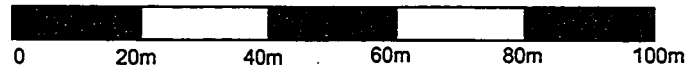
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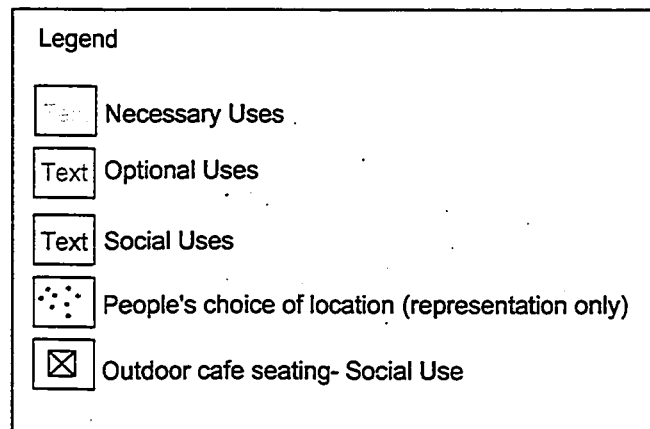
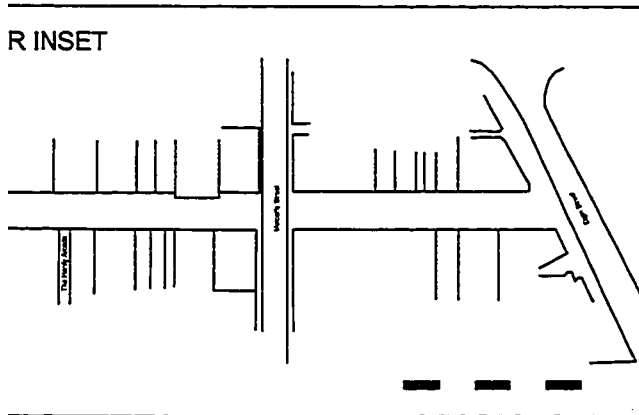
PEDESTRIAN ACCUMULATION SPARKS STREET MALL



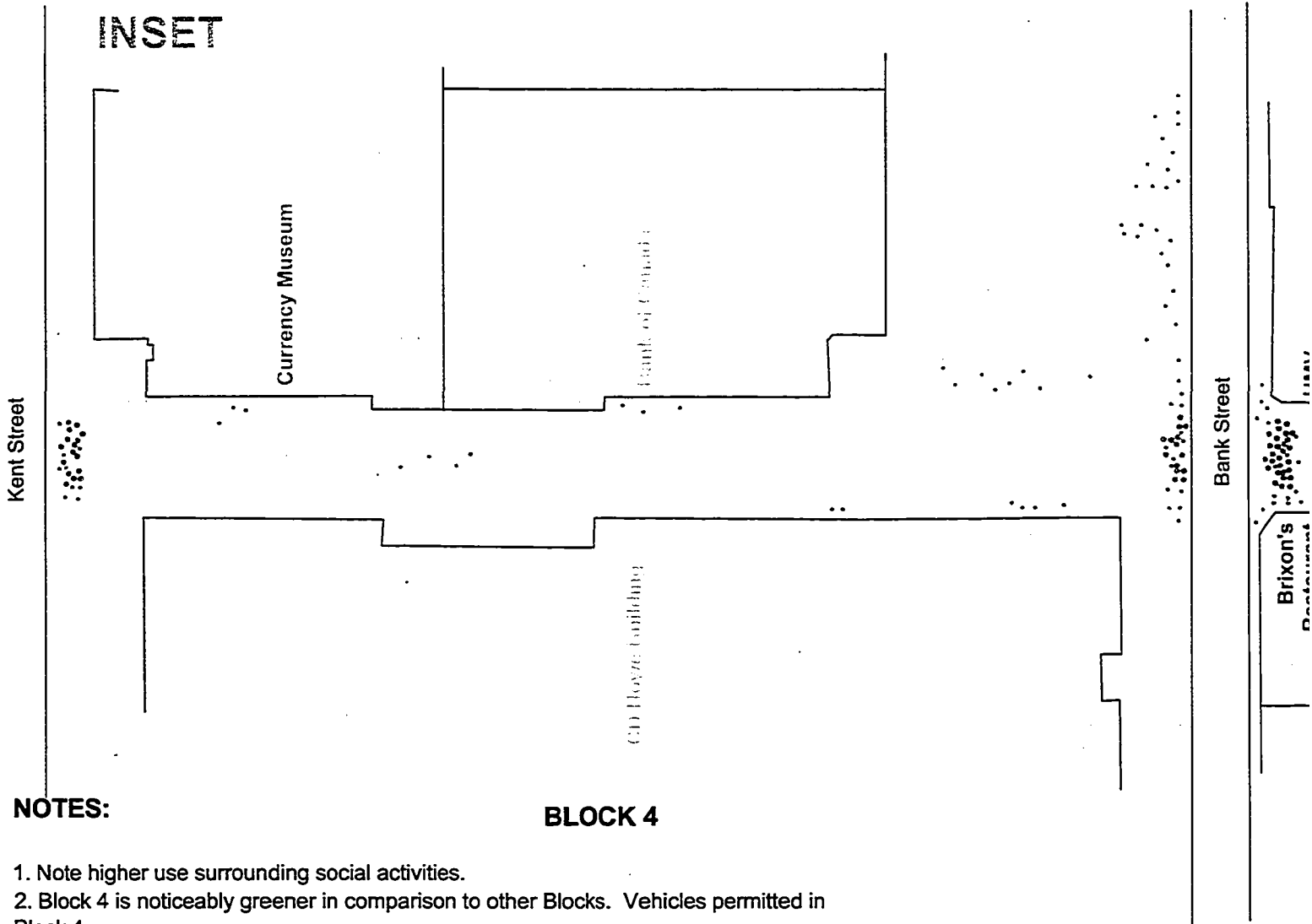
BLOCK 1



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of



Drawn by: Olivia Susai, March 2004

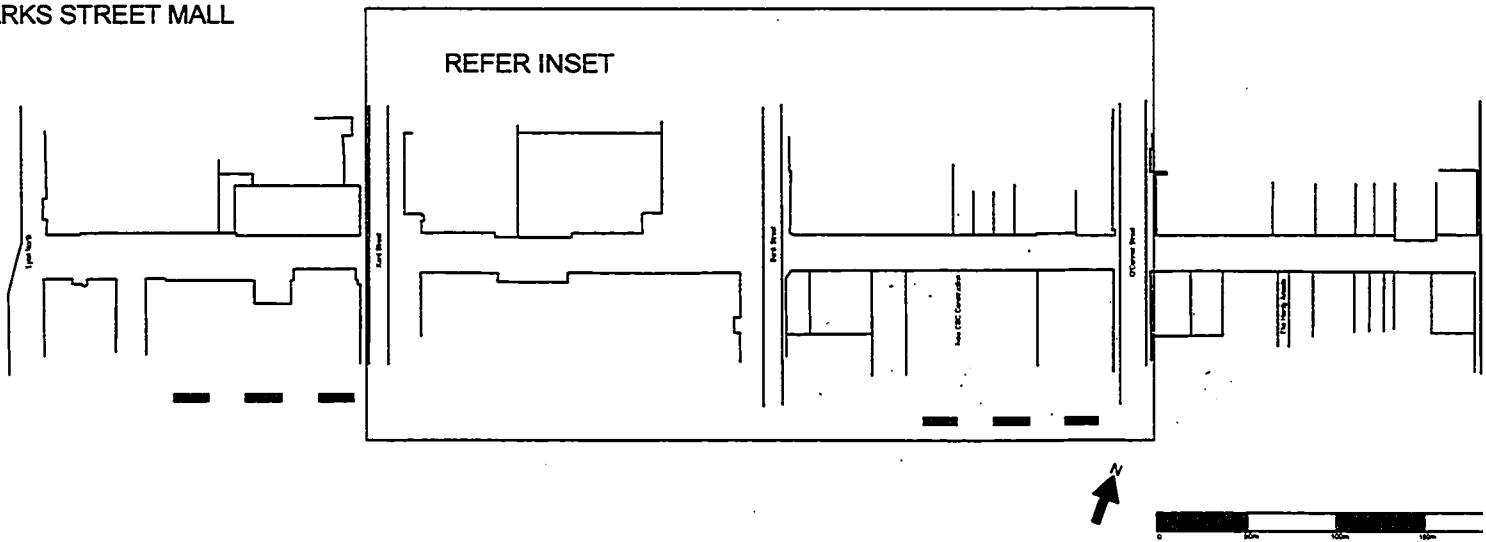


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BLOCK 4

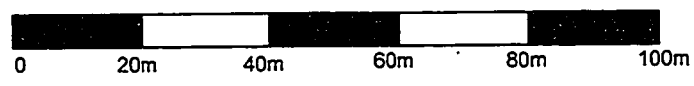
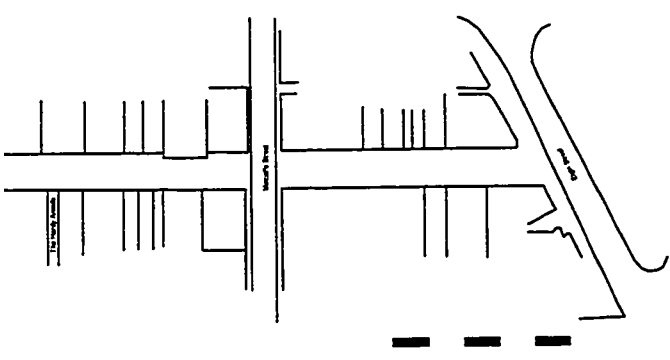
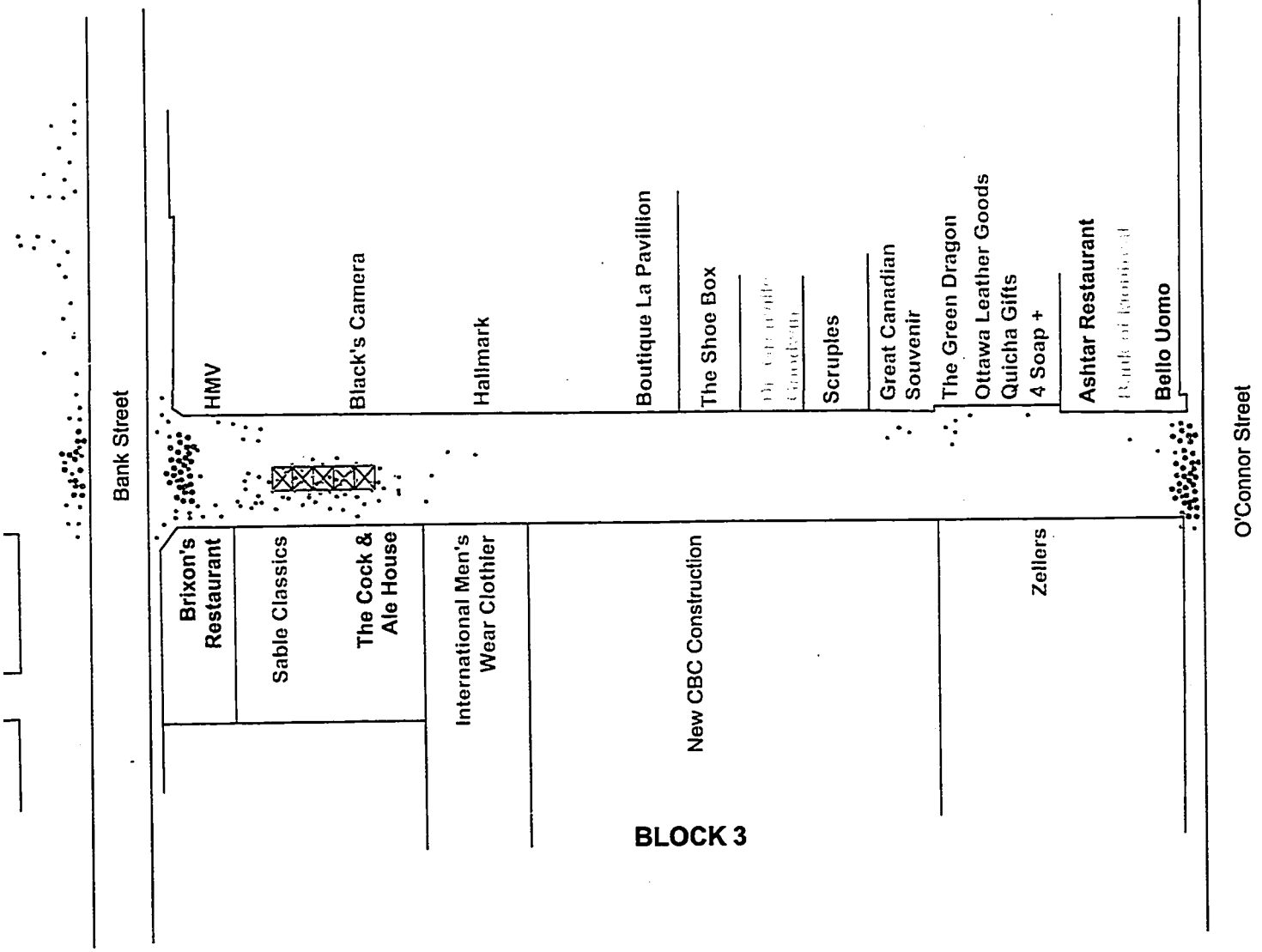
1. Note higher use surrounding social activities.
2. Block 4 is noticeably greener in comparison to other Blocks. Vehicles permitted in Block 4
3. Dot density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended to provide an estimate of location of user and activities rather than the exact volume of users.

SPARKS STREET MALL










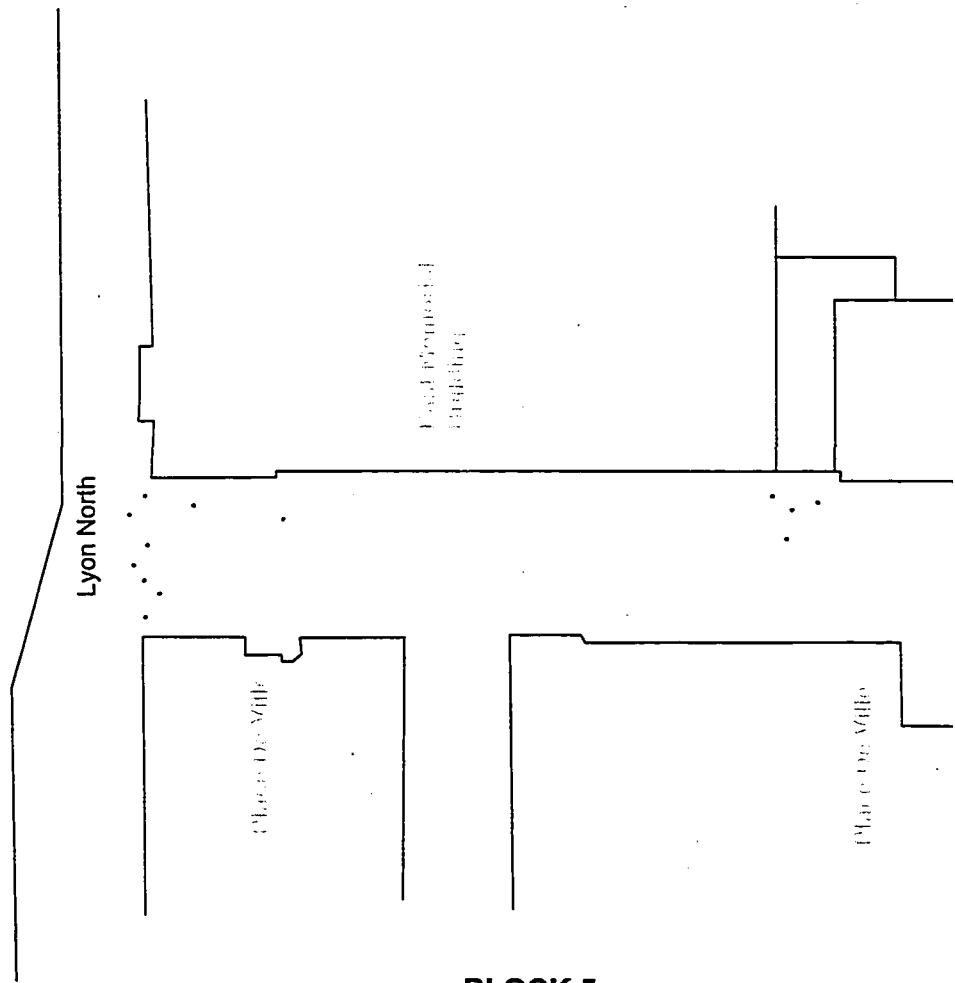
PEDESTRIAN ACCUMULATION: SPARKS STREET MALL



Legend

-  Necessary Uses
-  Optional Uses
-  Social Uses
-  People's choice of location (representation only)
-  Outdoor cafe seating- Social Use

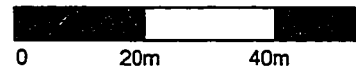
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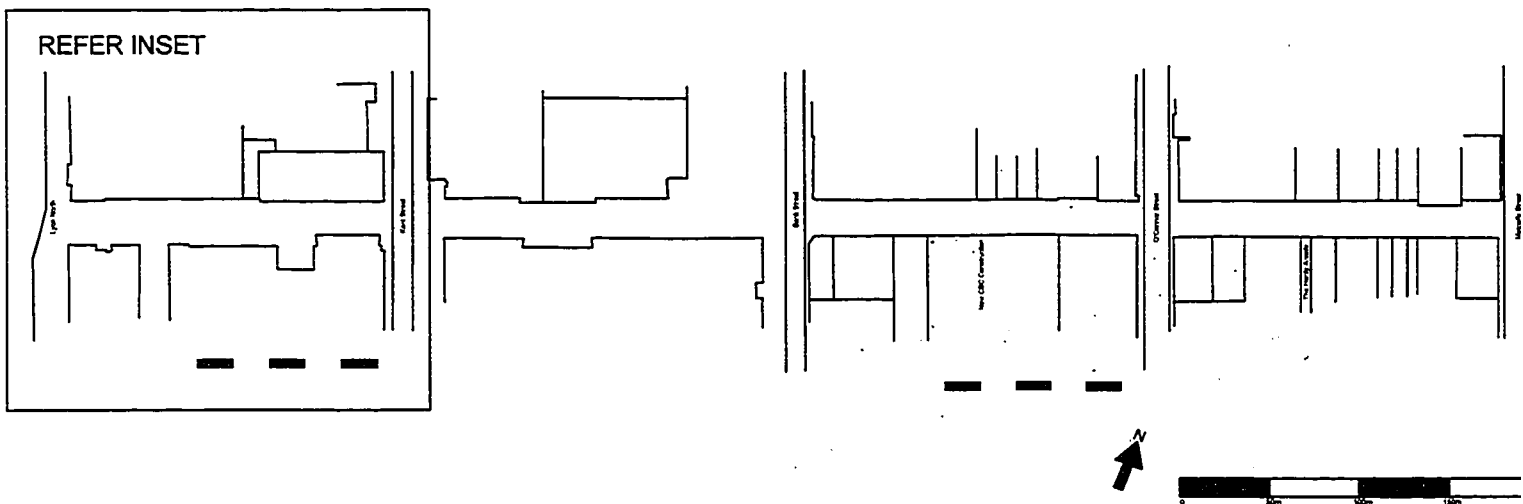
NOTES:

1. No social or optional activities available, hence low pedestrian use
2. Predominant user age is between 18 to 50 yr olds.
4. Dot density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended to provide an estimate of location of user and activities rather than the exact volume of users.

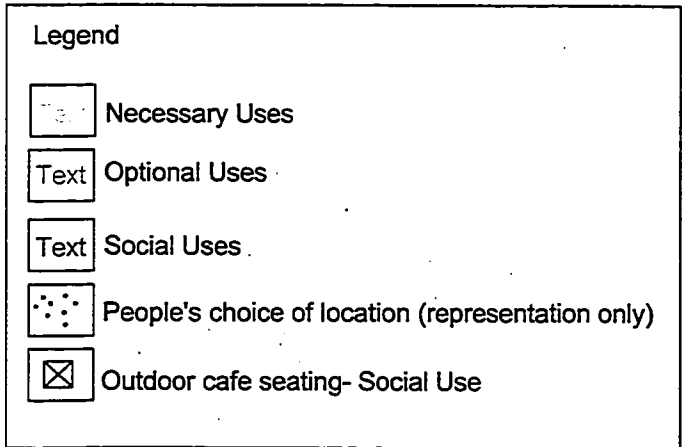
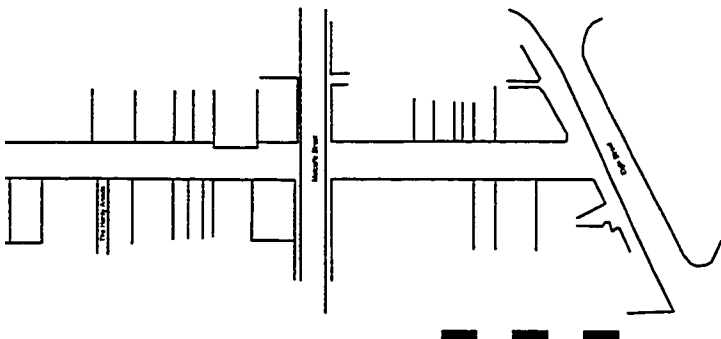
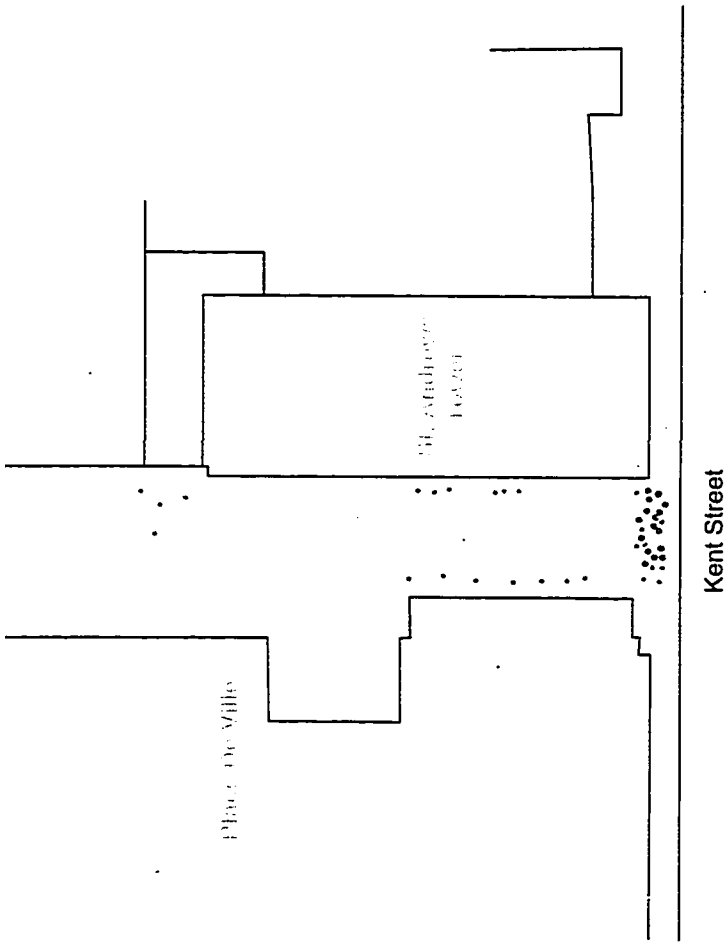
BLOCK 5



SPARKS STREET MALL



PEDESTRIAN ACCUMULATION: SPARKS STREET MALL



COMPARATIVE ANALYSIS OF SPARKS STREET AND MURRAY STREET MALLS

This chapter aims to compare the two malls based on their individual analyses in Chapter 4.0 and 5.0. Their results were collated and tabulated into three tables and compared against the three key design elements: Access and Linkage, Comfort and Image and Uses and Activities/Sociability.

6.1 Access and Linkage

Table 6.1 Comparative Analysis of Access and Linkage

Design Elements		SS	MS
		Warm Mths	Warm Mths
Access & Linkage	• Form, length and proportion	2	4
	• Focus	1	1
	• Linkages to surrounds	3	3
Key: 1= poor; 2= fair; 3= good; 4= very good; - = no change; SS= Sparks Street Mall; MS= Murray Street Mall			

Both Malls have similar form i.e. they are linear streets part of a greater gridiron street layout within the central city area. Although gridiron streets are favoured in city planning, they do not offer the aesthetic value to the pedestrian as curved streets do, since walking through the mall can be quite monotonous (Jacobs, 1993). Sparks Street and Murray Street Malls offer aesthetic value in a different way to avoid this from occurring. This will be further discussed in Section 6.3.

In terms of impact on walking, Murray Street Mall is significantly shorter than Sparks Street Mall i.e. approximately one-third the length. The observation study indicated that the whole of Murray Street Mall was well used in comparison to Sparks Street Mall. It is reasonable to assume that this is the case for two main reasons. Firstly, the shorter length enables users to walk from one end to the other with ease and comfort (especially during warmer periods), as it is a more manageable distance to cover on foot unlike Sparks Street Mall. Secondly the types of uses available within the Malls were comprised of social and optional uses that are intended to lure pedestrians from one end of the Mall to the other. However, the observation study for Sparks Street Mall indicated that users tend to only cover the first three blocks and deserted Blocks 4 and 5. Therefore, as reflected in the rating in Table 6.1, Murray Street Mall was the better of the two in terms of form and length.

There is lack of focus in both Sparks Street and Murray Street Malls, hence the equal rating. Sparks Street had potential to have good focal points but these are not visible due to the kiosk structures located in the middle of the Mall. The roof structures obscure views ahead and not allow pedestrians to see what is ahead from eye level. Murray Street Mall does not have focal points because the building heights appear similar to the surrounding buildings and do not stand out.

Both streets offer linkages to the surrounding areas but in different ways. Considering Sparks Street Mall is comprised of five blocks, pedestrians can access other areas from the intersections between each block. From Murray Street Mall however, pedestrians can access the train station from Wellington Street by an overhead pass on one direction and Hay Street Mall and Adelaide Terrace in another direction via arcades. The main

difference is obvious in that Murray Street Mall pedestrians can access other areas of the city centre without meeting traffic unlike pedestrians in Sparks Street Mall. Despite this, both Malls offer as much opportunity for pedestrians to access other areas without difficulty.

Considering the preceding elements are part of site planning, they are not affected by seasonal differences and are shown as remaining unchanged over the cooler months in Table 6.1.

6.2 Comfort and Image

Table 6.2 Comparative Analysis of Comfort and Image

Design Elements		SS	MS	SS	MS
		Warm Mths	Warm Mths	Cool Mths	Cool Mths
Comfort & Image	• Microclimate/Environment	3	3	1	1
	• Legibility	2	3	2	3
	• Views	2	1	1	1
	• Seating	4	4	1	2
	• Aesthetics	3	3	-	-
	• Safety & Security	4	4	-	-
	• Maintenance	2	4	1	4
	• Amenities	2	3	1	3
Key: 1= poor; 2= fair; 3= good; 4= very good; - = no change; SS= Sparks Street Mall; MS= Murray Street Mall					

With reference to Table 6.2, it is evident that Murray Street Mall offers a better sense of comfort and image to pedestrians. In terms of microclimate, the key difference between Sparks Street and Murray Street Malls is the height of buildings along the Mall. The tall buildings along Sparks Street Mall affect the amount of sunlight penetration resulting in too much shade during the warmer period and also a 'wind tunnel effect' during the

cooler period. Building heights along Murray Street Mall are low and allow for ample sun and shade within the area through the day. Lack of sunlight reduces the daily temperature and affects the amount of time people choose to stay within the area. Furthermore, Sparks Street Mall does not offer any shelter from rain and snow. Users do not have the opportunity to walk underneath building overhangs or arcades unlike in Murray Street Mall.

Both Malls offer signage, however these are not as effective in Sparks Street Mall as they appear in Murray Street Mall. Directional signage to tourist attractions and amenities are perhaps the most important. These are present in the arcades within Murray Street Mall but not in the Hardy Arcade in Sparks Street Mall.

Seating was well utilized in both Malls. The difference in use however appears to be affected by the change from warm to cooler periods. Considering both Malls are not protected from rain or snow, seats can get wet from the rain and snow and become unusable. As such they can affect the number of users, since seating provides comfort of which without, users will not stay within an area.

The aesthetic appeal was based on the first impressions of the Malls, historic appeal and level of maintenance. Sparks Street offered street furniture; plants and incorporated public art and water features into the street whereas Murray Street Mall offered everything except for public art. In comparing the two however, Murray Street Mall seemed less cluttered and appeared to have more room for pedestrians to move around unlike Sparks Street Mall. Sparks Street Mall has all the key elements of design, but it is disorganized. There did not appear to be a standard placement for litterbins,

landscaping, public art and other accessories to a Mall. The occasional random placements create mess and loose aesthetic appeal.

In addition to this, cleanliness is important. Sparks Street Mall in comparison to Murray Street Mall was not maintained properly. As discussed in Section 5.0, the seats and ground surfaces were covered in bird droppings and litterbins were overflowing with litter. As expected, this reduces the opportunity for users to use the seats or walk through an area simply because of the level of cleanliness and appearance.

Overall security measures to both Malls are similar, however from personal perspective there is more of a police presence in Murray Street Mall only because there is a small police post stationed in the centre of Murray Street Mall (periphery of Forrest Place). This post does not increase the aesthetic value to the area and can suggest to users that the place is unsafe since it requires a security post to be stationed there. Sparks Street has similar surveillance measures but they appear to be more discreet.

With regard to amenities, both Malls offer amenities but most of the amenities along the Mall i.e. washroom located on Sparks Street Mall are available on a seasonal basis only. Clearly this is not sufficient for pedestrians and should be modified.

6.3 Uses and Activities/Sociability

Table 6.3 Comparative Analysis between Sparks Street and Murray Street Mall

Design Elements		SS	MS	SS	MS
		Warm Mths	Warm Mths	Cool Mths	Cool Mths
Uses & Activities/ Sociability	• Activities	3	4	2	2
	• Necessary Optional & Social Activities	3	3	3	3
	• Discovery	2	2	1	2

Key:
1= poor; 2= fair; 3= good; 4= very good; - = no change; SS= Sparks Street Mall;
MS= Murray Street Mall

The level of use and sociability in Murray Street Mall is relatively good. However, this statement is applicable during the day more than at night. The area is almost deserted past 6pm weekdays and on weekends simply because there are no uses such as restaurants and bars that lure people to the Mall after that time. The nightlife within the central area is directed more towards Northbridge, rather than the Mall. Considering this, the Mall becomes deserted and perceived as being unsafe.

In the case of Sparks Street Mall, Blocks 1 through to 3 appears more used than Blocks 4 and 5 simply because of the adjacent uses available to pedestrians. Furthermore, unlike Murray Street Mall, Sparks Street Mall offers a variety of popular pubs and restaurants that operate past the regular business hours and bring people to the area past the business hours. Considering this, it is a more social area during the warm nights, in contrast to Murray Street Mall.

6.4 User Group Patterns

Table 6.4 Comparative Analysis of Users and the level of Use

Time of Use	Murray Street Mall		Sparks Street Mall	
Weekday				
	Level of Use *	Users	Level of Use *	Users
Morning	••	Middle age; older adult	••	Middle age adult
Noon	••••	All ages, mainly 18-30 year olds.	••••	Mainly young & middle age adults
Afternoon	•••	All ages, mainly 18-30 year olds.	••	Young & middle age adults
Evening	•	Mainly teenagers, few young adults, middle age & older adults	•	Few young & middle age adults
Weekend				
	Level of Use *	Users	Level of Use *	Users
Morning	••••	All age groups.	•	Young, middle & older adults
Noon	••••	All age groups	•••	All age groups (few children & teenagers)
Afternoon	•••	Teenagers, young and middle age adults	••	All age groups (few children & teenagers)
Evening	•	Teenagers, few young adults	•	Young, middle & older adults
* level of use is based on users who stay in the Mall and not passers by				
Key: Level of Use is expressed as follows: High Use: •••• Medium: •••• Use: •••• Low Use: ••• V.Low Use: •• None:-				

Table 6.4 compares the type of users in both Malls and the general level of use of the two Malls. It is evident that children and teenagers are more evident in Murray Street Mall than in Sparks Street Mall during the day. A possible reason for this is that there are performances and activities available for children throughout the week and weekend in Murray Street Mall. In comparison, in Sparks Street Mall there are seasonal activities for children to enjoy but fewer activities on a daily basis.

Similarly, there appears to be insufficient activity for teenagers to be engaged in, in Sparks Street Mall. The stores and social uses available in the Mall cater toward the young, middle and older adult age groups. The young, middle and older age groups are more likely to sit and read at a café or wine and dine with friends in comparison to teenagers. Teenagers often go to the city centre to shop, however, there are no stores in the Sparks Street Mall that provide clothing for teenagers, hence they are more likely to shop at Rideau Shopping Centre and surrounding area. Furthermore, the Sparks Street Mall contains pubs and other licensed establishments which require users to be at least 18 years old. The Murray Street Mall has a mix of uses in terms of clothing stores and food establishments (e.g. fast food restaurants such as Red Rooster and Hungry Jacks) that suit all age groups and particularly teenagers. Furthermore, the Mall is part of the shopping precinct in the Perth city centre and this lures teenagers to the area.

Table 6.4 shows that the older adult age groups are present in both Malls and appear to do so at similar times of the day. However, the level of use by this age group in the Mall is low in comparison to the young and middle-aged adults. Observation indicates that their purpose of visit is recreational. Older adults tend to be on their own and are involved in passive activity i.e. seen sitting and people watching or talking to other users. Likewise, both Malls do not offer much activity to engage seniors and other older adult groups, hence most of them visit the Mall as part of their daily walk or to sit and catch up with friends. On weekends however, their presence is more noticeable and they are often seen accompanied with children or friends and not on their own.

Young and middle-aged adults appear to be the dominant user group in both Malls. Over the week, they only emerge in the Mall during the noon period to have lunch. This

suggests that these adults work in the Mall or in close proximity. The professional attire worn by the users during this time of the day also confirms this assumption.

During the weekend however, young and middle-aged adults appear in the Murray Street Mall from morning till late afternoon. They are often accompanied with friends, family and/or partners and visit the Mall to watch the performances available, have lunch or go shopping. In Sparks Street Mall however, this age group does not normally appear till later and the level of use is not as high as that experienced in Murray Street Mall. Users in Sparks Street Mall comprise of tourists, a handful of children and older adult groups. It was evident that high uses occurred in and around socially inducing places such as the pubs and restaurants in the Mall. The optional uses did not appear to attract a high level of usage either, as they were marketed to specific markets such as jewellery stores or souvenirs.

The levels of use in both Malls appear to decrease significantly by the evening during the weekday and weekend. Murray Street Mall is a shopping precinct rather than a "nightlife" precinct and therefore the area is underutilized at this time of day. Uses in Murray Street Mall do not operate past the late afternoon; hence, there is no reason for most people to be present in the area as there is nothing for them to do. Teenagers tend to be present in this area to undertake their own group activity, which can act as a deterrent to others.

Sparks Street Mall has a similar problem in that most of the businesses close by late afternoon. However, the area is not completely deserted as it has pubs and restaurants that are open till late.

Overall, it is clear that Sparks Street Mall does not have the same allure of life that it had in the 1970s, where it lured people to the area due to the specialized commercial and retail shopping that it could offer (Orski, 1974). Sparks Street Mall is unable to compete with the large retail stores such as The Bay and Rideau Centre, both of which are located in close proximity to the Mall, resulting in reduced patronage to the Sparks Street Mall.

6.5 Successful Features: Murray Street Mall vs Sparks Street Mall

Murray Street Mall	Sparks Street Mall
<ul style="list-style-type: none"> • Good level of connectivity • Comfortable length of mall • Arcades and roof covers protects pedestrians when it is raining • Accessible to the physically challenged • Well maintained • Information booth and maps (hand out) for visitors • Good quality and a sufficient provision of amenities • Sufficient seating space • Rich in architectural variety • Variety of outdoor café type establishments • Good mix of necessary, optional & social uses 	<ul style="list-style-type: none"> • Good level of connectivity • Accessible to the physically challenged • Rich architectural variety • Well marketed for tourism • Sufficient seating space • Open space at corner of Sparks Street and Bank Street provides opportunity to enhance the aesthetic appeal

6.6 Unsuccessful Features: Murray Street Mall vs Sparks Street Mall

Murray Street Mall	Sparks Street Mall
<ul style="list-style-type: none">• Lack of focus• Lack of directional signage at grade level• Lack of public art, water features• Lack of nightlife	<ul style="list-style-type: none">• Mall is too long• Blocks 4 and 5 are underused resulting in lack of social activity• Normal vehicles are permitted access to Blocks 4 and 5 segregating these two blocks from Blocks 1 to 3.• Poor design of open space at corner of Sparks Street and Bank Street• Lack of amenities during colder climates• Mall is poorly maintained• Lack of sunlight penetration to ground's surfaces• Tall buildings and narrow street creates 'wind tunnel effect'• Little protection for pedestrians against sun/rain• Lack of passive/active activities during cooler climates

CONCLUSION AND RECOMMENDATIONS

This thesis discusses the application of key design elements that originated from extensive literature review and observation of well-known public open spaces. Research suggests that when the thirteen key elements are incorporated into the design of a public open space it will subsequently become a social atmosphere. It is a space that can be experienced through use of all the senses, by all age groups and eventually fosters community. These goals reinforce the definition of public space defined in Chapter 2.0.

The literature review in Chapter 2.0 and the supporting illustrations demonstrated that effective public open spaces (i.e. spaces that are well used by people) do exist worldwide. This does not apply only to plazas and squares but also to streets and pedestrian malls.

This thesis analysed Sparks Street and Murray Street Malls and demonstrated that they both incorporate most of the key design elements discussed. However the way in which the elements are assembled, and their quality, affects the overall performance of the two Malls.

Murray Street Mall is centrally located within the city core, almost across from a major transit station. The Mall is located in the heart of the shopping precinct of the city centre. It is perceived and appears to be (through observation) a desirable space to be in, unlike

Sparks Street Mall. This in no way suggests that Murray Street Mall is a 'perfect' or ideal pedestrian mall, as it has its own unsuccessful features.

Murray Street Mall appears to be a desirable form of public open space because it is an inviting space, more so during the day than at night. Nevertheless, it appears that it is inviting because it is accessible, compact to walk around, contains attractions and incorporates uses that induce human activity throughout the day. These are some of the key components that Garvin (1996) mentioned would stimulate pedestrian use.

Sparks Street Mall is in a desirable location, close to tourist attractions and has a mix of necessary, optional and social uses. It appears to have a similar social allure as Murray Street Mall but this is limited to the first three blocks (i.e. Block 1 to 3 only). Blocks 4 and 5 were often deserted for the simple reason that they did not have optional or social uses such as retail, food establishments that invite people to walk along this section of the Mall. An open space exists on the corner of Bank Street and Sparks Street Mall and this has the potential to increase social and physical value to the area, but it appears to be utilized during the peak lunch hour only.

In general terms, Sparks Street Mall incorporated several of the key elements but not of high quality, of which as a consequence the Mall suffers since it is not conducive to a social atmosphere. Murray Street Mall, although considered to be well used also lacked in some of the key design elements which if applied, could further enhance the area.

Another possibility for the lack of use of the Mall could be the result of existing negative public perception of the area. Sparks Street Mall appeared to be used more by

businesspersons which may discourage users that do not work within the area from visiting the Mall, simply because there may be a perception that the area comprises of offices and uses suited for business personnel rather than for children, parents and the elderly. The area may be perceived to be for businesspersons only and as a result would be a dull space for other users, hence discouraging more users to the area.

These results imply that the methodology applied is useful in providing insight to public use within a public open space. It appears that public open spaces may not necessarily become heavily used even when all the identified critical design elements are applied. An obvious reason is that the needs of the users vary and therefore an understanding of the general needs of individuals is important when planning for public open spaces that are to function as social spaces. Human needs could also vary as a result of cultural differences within society. However, for the purposes of this thesis it has been assumed that cultural differences are insignificant in both case studies but this has not been tested. Some of these needs were catered for as part of the thirteen design elements. Clearly though, human needs must also be substantiated with appropriate surrounding land uses such as retail, restaurant uses.

Blocks 4 and 5 of Sparks Street Mall comprise of necessary uses that do not induce social behaviour around them. Hence, the area is only used by its employees and does not invite other users to the area. Other sections of the Sparks Street Mall, unlike Murray Street Mall do incorporate social uses, such as restaurants and pubs, which invite users to the area after business hours. This makes it more likely that the area will be used at night therefore making the Mall safer, since there is human presence (Whyte, 1988; Newman, 1973).

In terms of the attached stigma towards the area, the agencies responsible for the Sparks Street Mall need to bring back the life that the Mall once had. Agencies need to re introduce activities suited for all age groups to the area to combat negative perception of the Mall. This must also be tied in with marketing of the area to promote and encourage its use as a social space.

As in all planning cases, improvements can be made to every design. Such improvements can only be recommended after observing the space. Section 6.0 listed the successful and unsuccessful features of both the Malls and as a result recommendations to these Malls are listed in the paragraphs to follow. These recommendations surfaced from the apparent deficiencies that exist in access and linkage, comfort and image and uses and activities/sociability.

Based on the preceding, several recommendations could be put forth to improve Sparks Street and Murray Street Malls, which may be useful for future planning of the area.

Murray Street Mall Recommendations

- Increase public art/sculptures into the Mall just as Sparks Street Mall has done.
- Street paving within the mall is quite dull. It should be made more interesting by incorporating different coloured tiles/ public art into it.
- Add more directional signage throughout the mall especially at grade level.
- Add social uses such as pubs and restaurants within the Mall to encourage use during the night.

Sparks Street Mall Recommendations

- Shorten the length of the Mall by converting Blocks 4 and 5 into vehicular street with generous sidewalks or prohibit vehicular access to the area and allow mobile food stalls to be set up in the open space at corner of Sparks and Bank Street.
- Permit more frequent busking within the Mall to encourage street performances and introduce live music/acts throughout the day and night.
- Provide maps and information boards through the mall so that current and new users know what is available to them.
- Consider softening the existing hard surface of the public open space at the corner of Sparks Street Mall and Bank Street by introducing small lawn areas. This gives users more seating options during the warmer months and part of the cooler months (prior to snowfall).
- Re-arrange and incorporate sculptures, public art with small clusters of seating spaces. Sculptures, water features or public art should perhaps be relocated where blank building facades exist across seating provisions.
- Remove the water feature at entry of Block 1. It does not appear to be a water feature and creates a mess rather than bring aesthetic pleasure.
- Remove kiosk/outdoor-seating areas in the middle of the Mall and relocate them closer to the applicable eating place. For example, the kiosk for Barristers Restaurant should be located as outdoor seating area around Barristers restaurant rather than as a structure in the middle of the mall. Removing permanent structures from the middle of the mall will open the mall up and provide the opportunity to improve seating arrangements or increase street planting

-
- “Green” the mall by providing more orderly landscaping.
 - Improve the aesthetics of street furniture, especially the litterbins. The City of Ottawa should consider having a theme and implement a street furniture strategy for the area or for the public spaces within the city centre. It is a tourist area and therefore first impressions matter.

Sparks Street Mall may never return to the level of success it had in its glory days in the 1960s, but by introducing activity, improving its amenities and alleviating the negative public perception it currently has, it may re-emerge as a popular public place.

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APPENDIX A EVALUATION INDEX

Seating:

Primary Seating (benches, chairs)

Type	Number	Possible Space	Seating	Material

Secondary Seating

Type	Number	Possible Space	Seating	Material

Accessible Water (functional and non-functional)

Water Medium	Visual	Touchable	Drinkable

Amenities (washrooms, bins, bicycle racks etc.) Map amenities

Type	Number	Used/Unused- why?

Accessibility: caters to disabled i.e. blind/physically challenged, map change in levels/surfaces

Proximity to Public Transit: map transit stops/centers

Lighting/Safety: Map sources of lighting, map light coverage at night and shaded areas during day (refer to sun). Map secluded and exposed spaces

Legibility: Map links to other parts of city

1. Is signage available to direct people?
2. are there focal points to orientate yourself?
3. are areas segregated?

Identity and Focus: List features that contribute to site identity, Incl. Art, historic elements, architecture, natural features, location and focal points

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Edges: map walls, flower beds, hedges that separate private from public realm

Intricacy: does it possess a diversity of behavioural settings?

Trees:

Type	Size	Spacing	Tree type- Deciduous, mixed, coniferous

Maintenance and Management:

Level of Maintenance: is street clean?

Presence of management: note presence of security (and times that they tend to appear), street maintenance crew e.g. cleaners etc.

Location:

Are there competing parks/squares or other attractions nearby?

Attraction	Distance

Land uses: note surrounding landuses i.,e. social, necessary and optional uses that border the street

APPENDIX B ECOLOGICAL MAPPING CODING INDEX

Gender/Activity Letter:

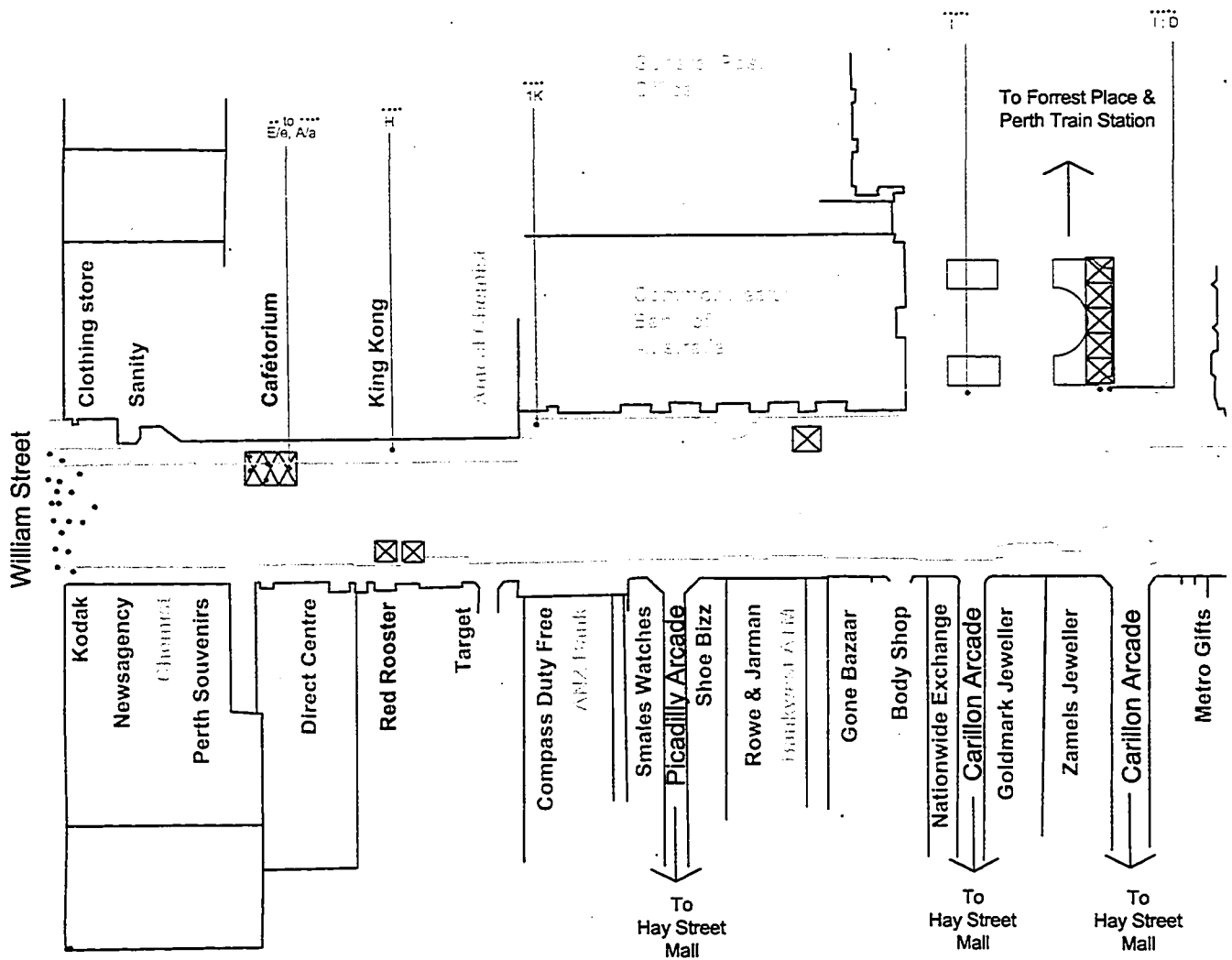
Male	Female	
A	a	Eating/Drinking
B	b	Smoking
C	c	Talking on cellular phone
D	d	Talking to other users
E	e	Reading
F	f	Cycling
G	g	Shopping
H	h	Standing
I	i	Sitting
J	j	Walking
K	k	Homeless person/someone begging
L	l	Other

Age Dots:

0-12	.	Child
13-17	..	Teenager
18-33	...	Young Adult
34-50	Middle Age Adult
50+	Older Adult

- NB. 1. Results are shown in Appendix B1 to B6
2. Dots on Ecological Maps represent density and **not** individual persons.

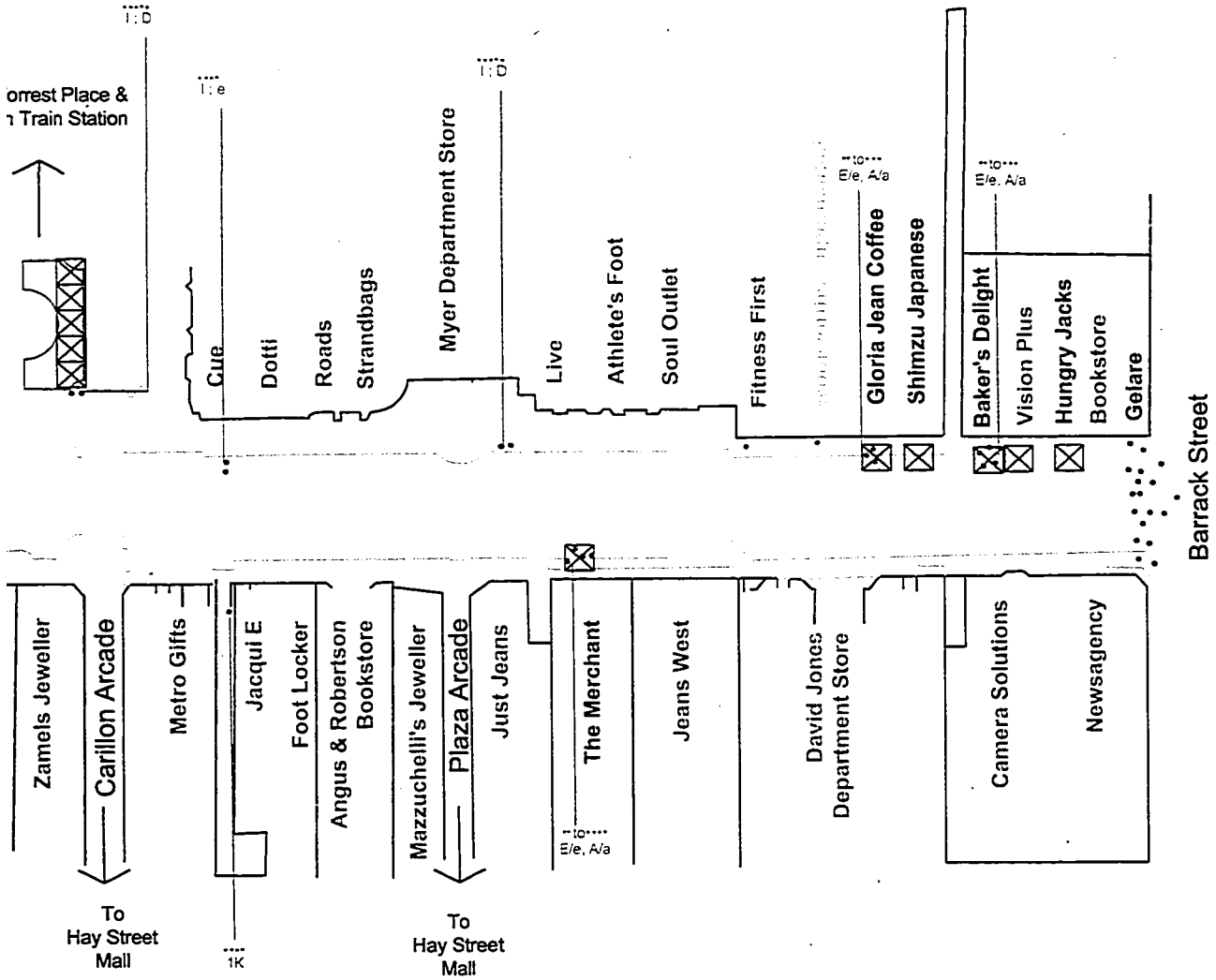
**APPENDIX B1
ECOLOGICAL MAP
Murray Street Mall: Morning Sample**



NOTES:

1. Note high use surrounding social activities.
2. Mall is used mainly as thoroughfare during morning therefore not many users stay within the area
3. Antisocial behaviour occur in secluded corners/laneways.
4. Older age groups present during this time of day
5. Loading vehicles present on site until 10am
6. Dot Density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended as an estimate of location of user and activities rather than the exact volume of users.

ECOLOGICAL MAP: MURRAY STREET MALL Morning Sample



Legend

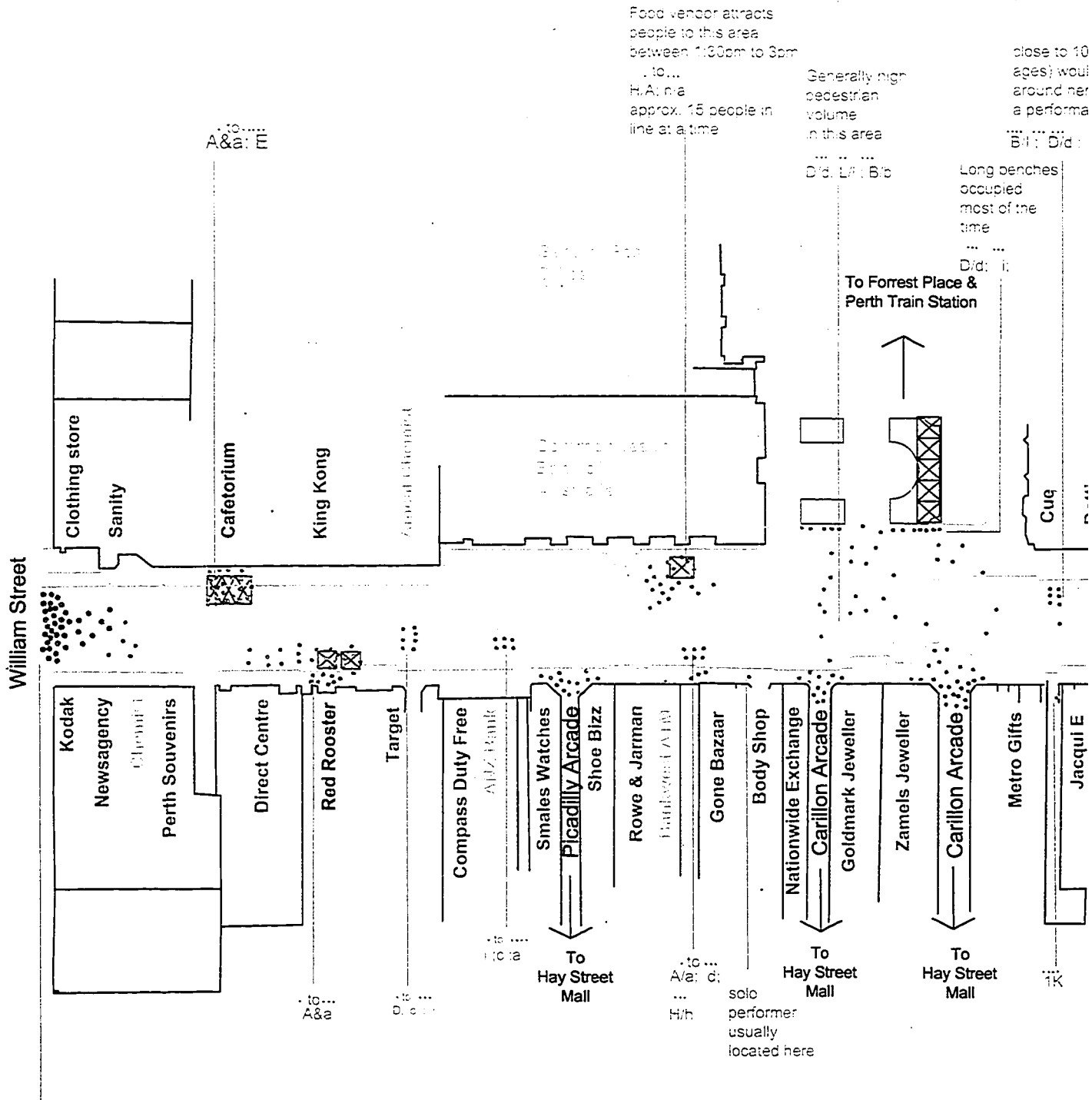
- Necessary Uses
- Optional Uses
- Social Uses
- People's choice of location (representation only)
- Outdoor cafe seating- Social Use
- Raised lawn/grass (warmer period)/flower bed (cooler period)
- Building overhang and pedestrian over pass

g which are intended to provide



Drawn by: Olivia Susai, March 2004

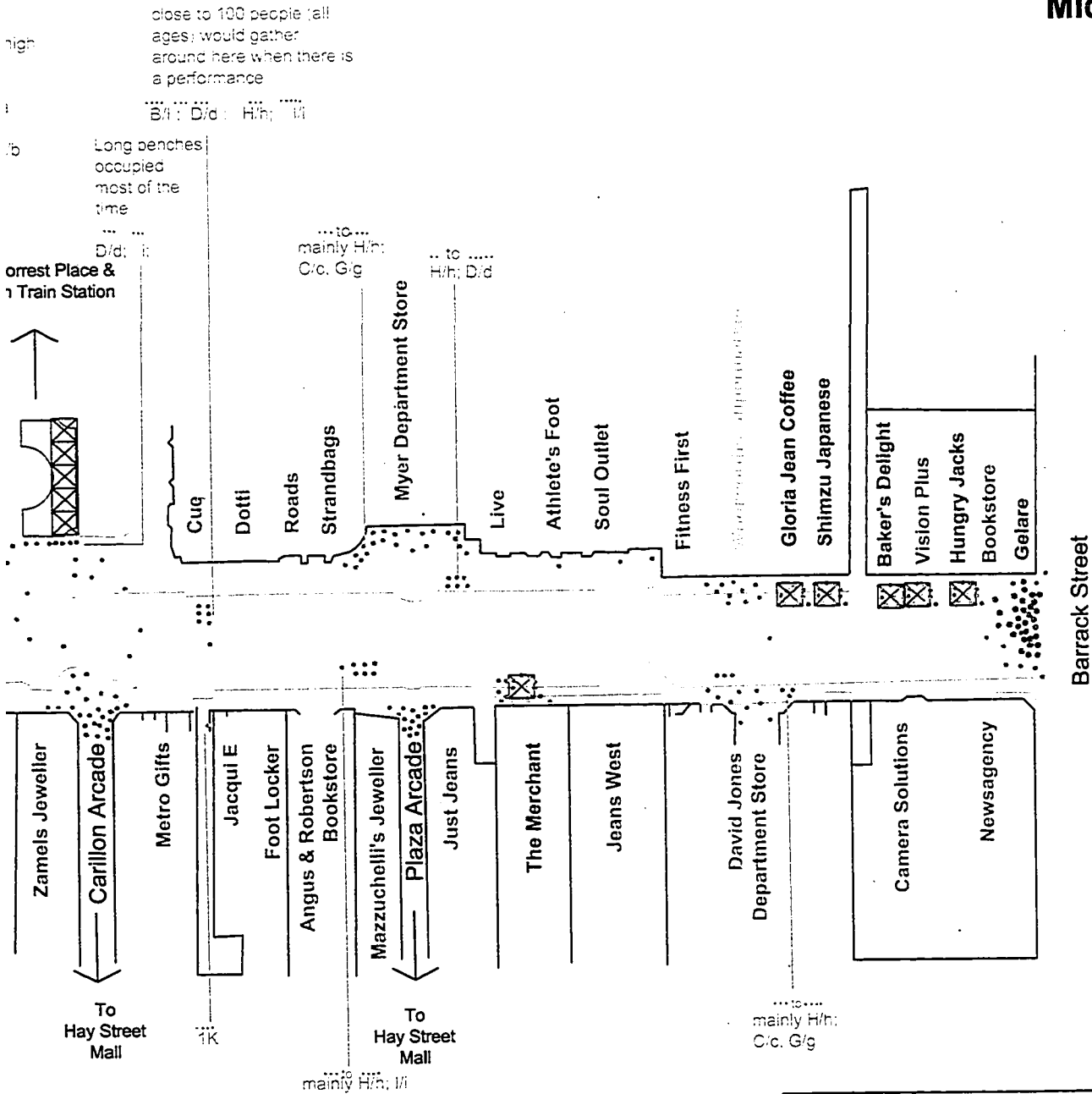
APPENDIX B2
ECOLOGICAL MAP
Murray Street Mall: Midday Sample



NOTES:

1. Note higher use surrounding social activities.
2. User activity around entrances are similar i.e. standing, talking to others or on cell phones.
3. All age groups present around the mall. Predominant user age is between 18 to 50 yr olds.
4. Dot Density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended to provide an estimate of location of user and activities rather than the exact volume of users.

ECOLOGICAL MAP: MURRAY STREET MALL Midday Sample



Legend

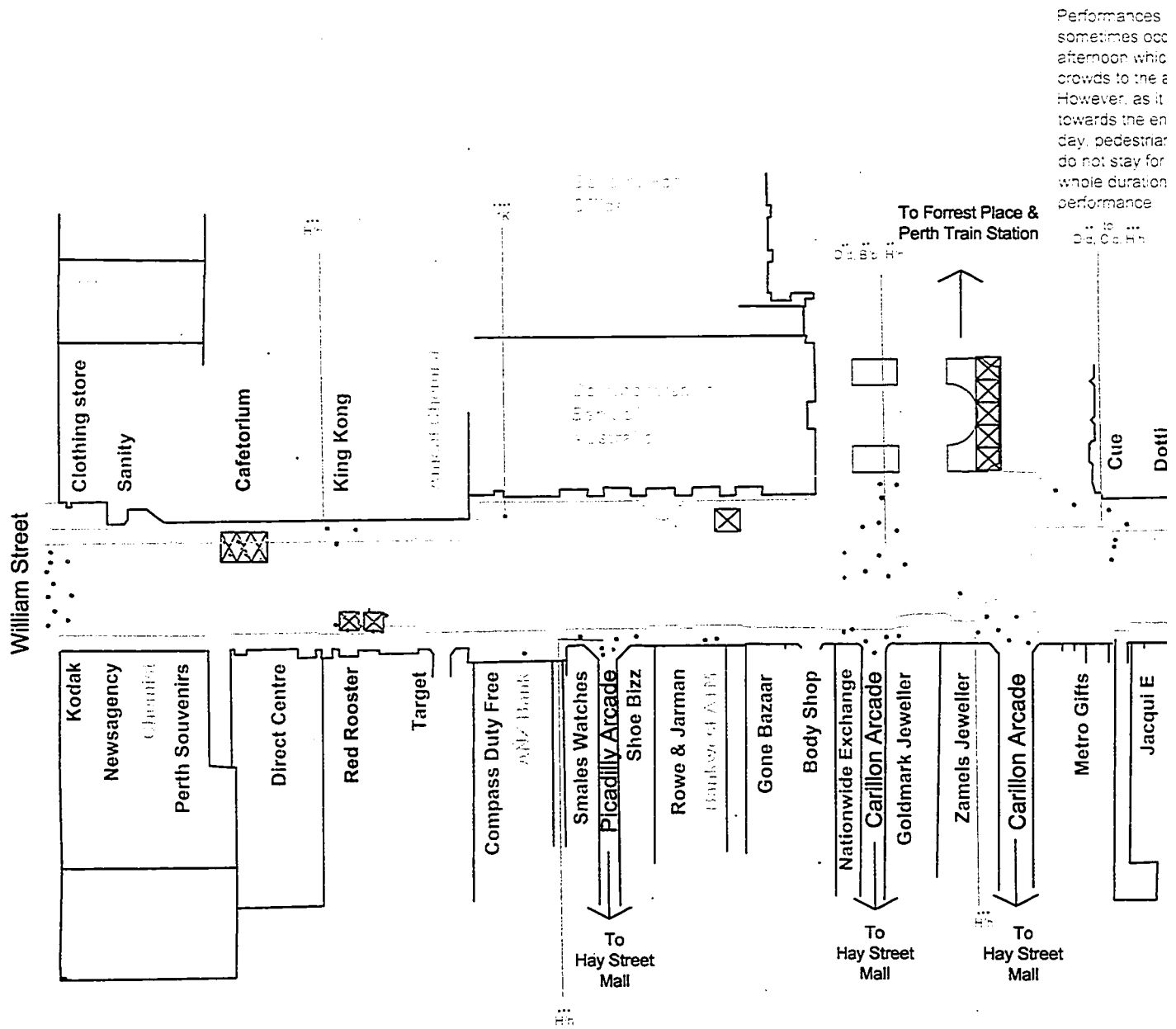
- Necessary Uses
- Optional Uses
- Social Uses
- People's choice of location (representation only)
- Outdoor cafe seating- Social Use
- Raised lawn/grass (warmer period)/flower bed (cooler period)
- Building overhang and pedestrian over pass



Drawn by: Olivia Susai, March 2004

**APPENDIX B3
ECOLOGICAL MAP
Murray Street Mall: Evening Sample**

c



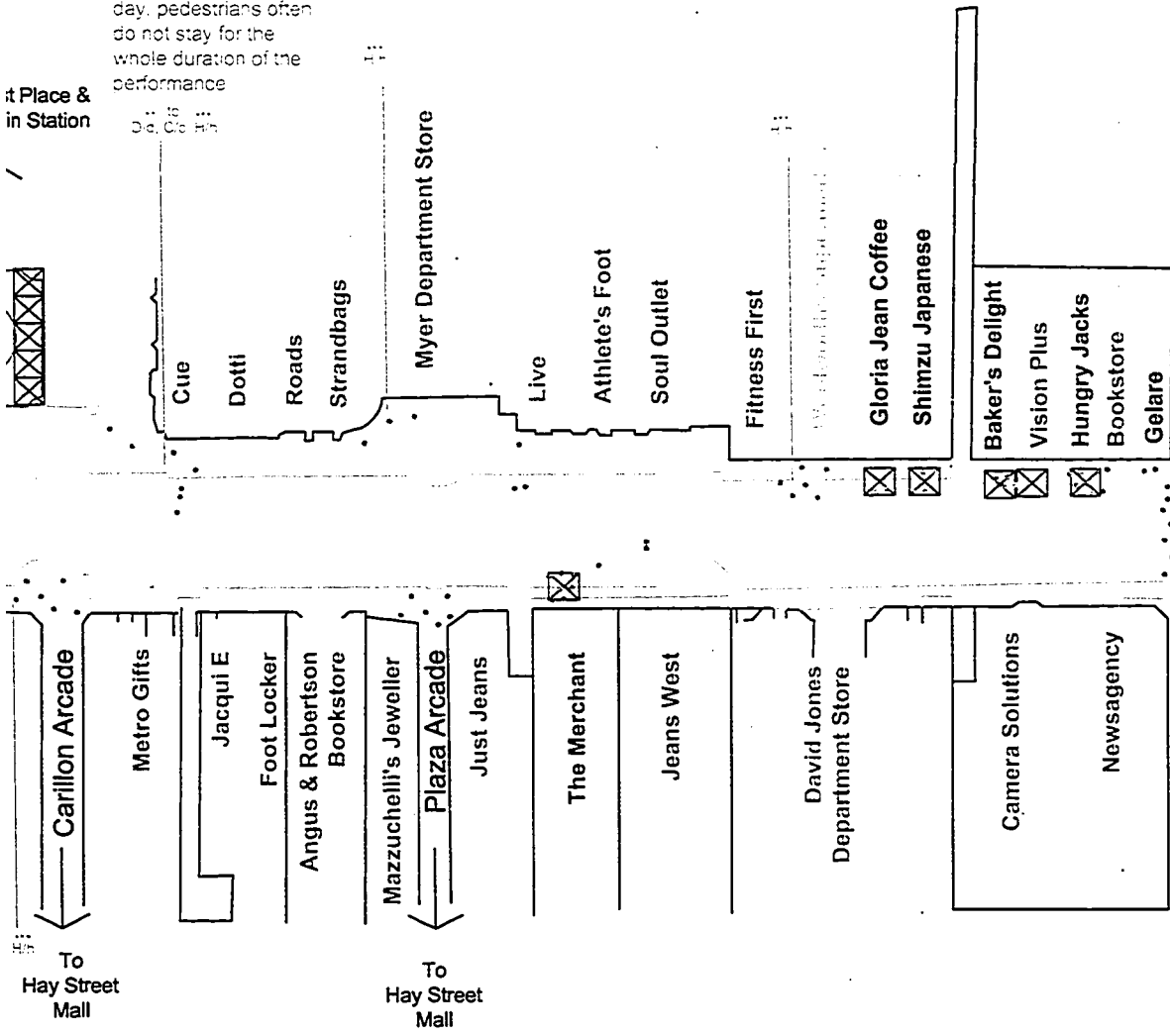
NOTES:

1. Mall is used mainly as thoroughfare during late afternoon/evening therefore not many users stay within the area
3. Antisocial behaviour occur in secluded comers/laneways.
4. Teenagers in groups present during this time of day
5. Dot Density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended to pr an estimate of location of user and activities rather than the exact volume of users.

ECOLOGICAL MAP: MURRAY STREET MALL Evening Sample

Performances sometimes occur late afternoon which draws crowds to the area. However, as it is towards the end of day, pedestrians often do not stay for the whole duration of the performance

Place & in Station



Legend

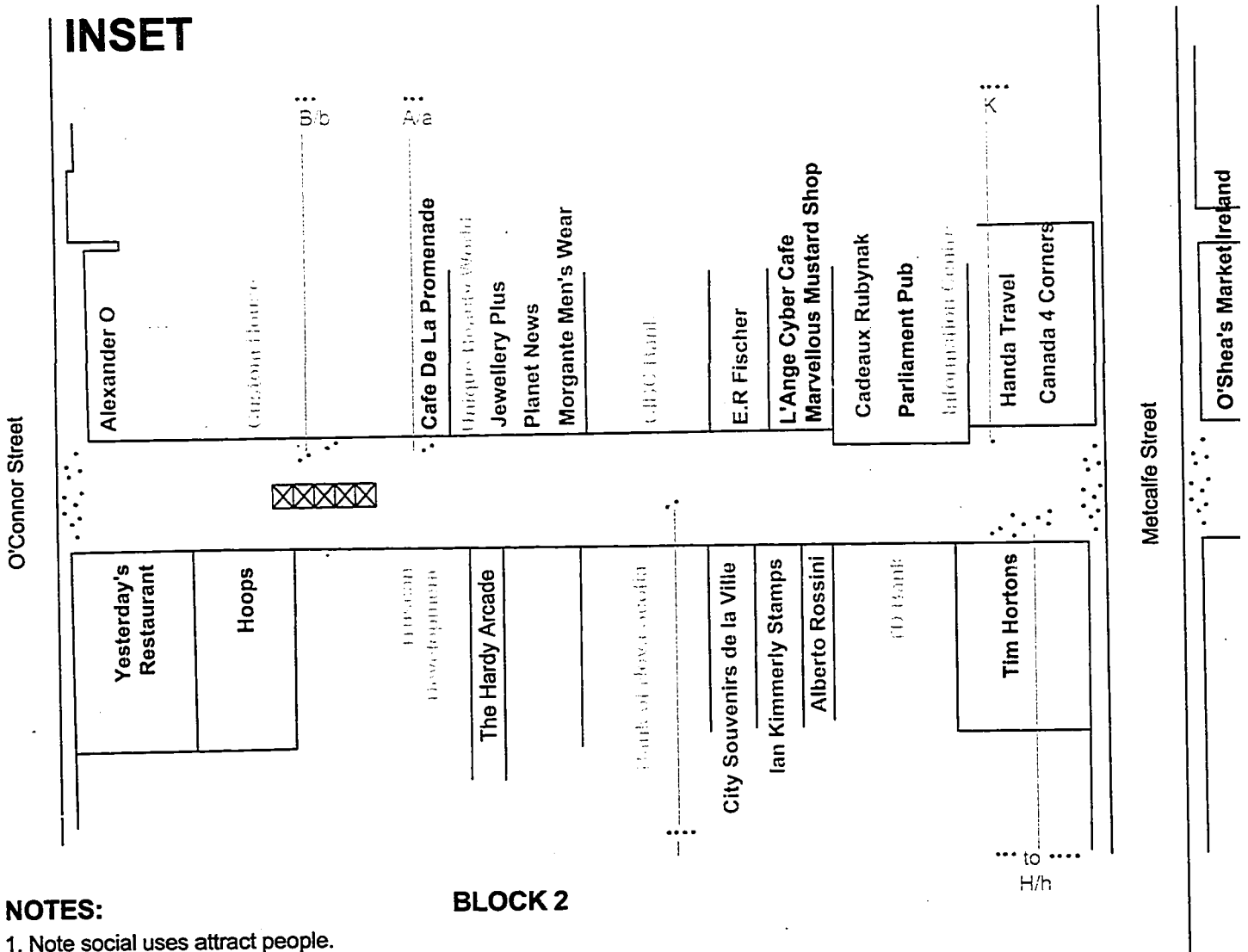
- Necessary Uses
- Optional Uses
- Social Uses
- People's choice of location (representation only)
- Outdoor cafe seating- Social Use
- Raised lawn/grass (warmer period)/flower bed (cooler period)
- Building overhang and pedestrian over pass



Drawn by: Olivia Susai, March 2004

**APPENDIX B4
ECOLOGICAL MAP
Sparks Street Mall: Morning Sample**

INSET

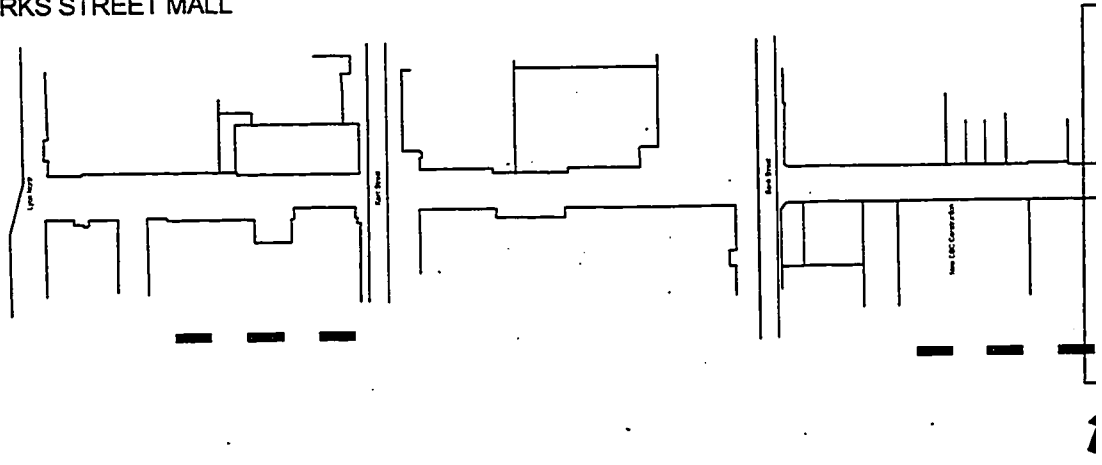


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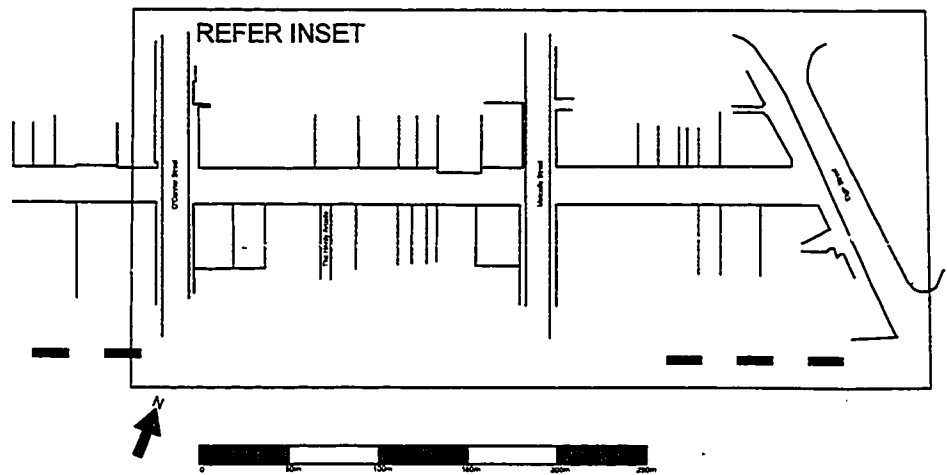
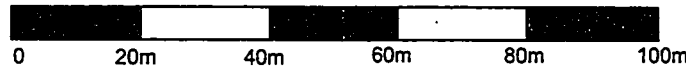
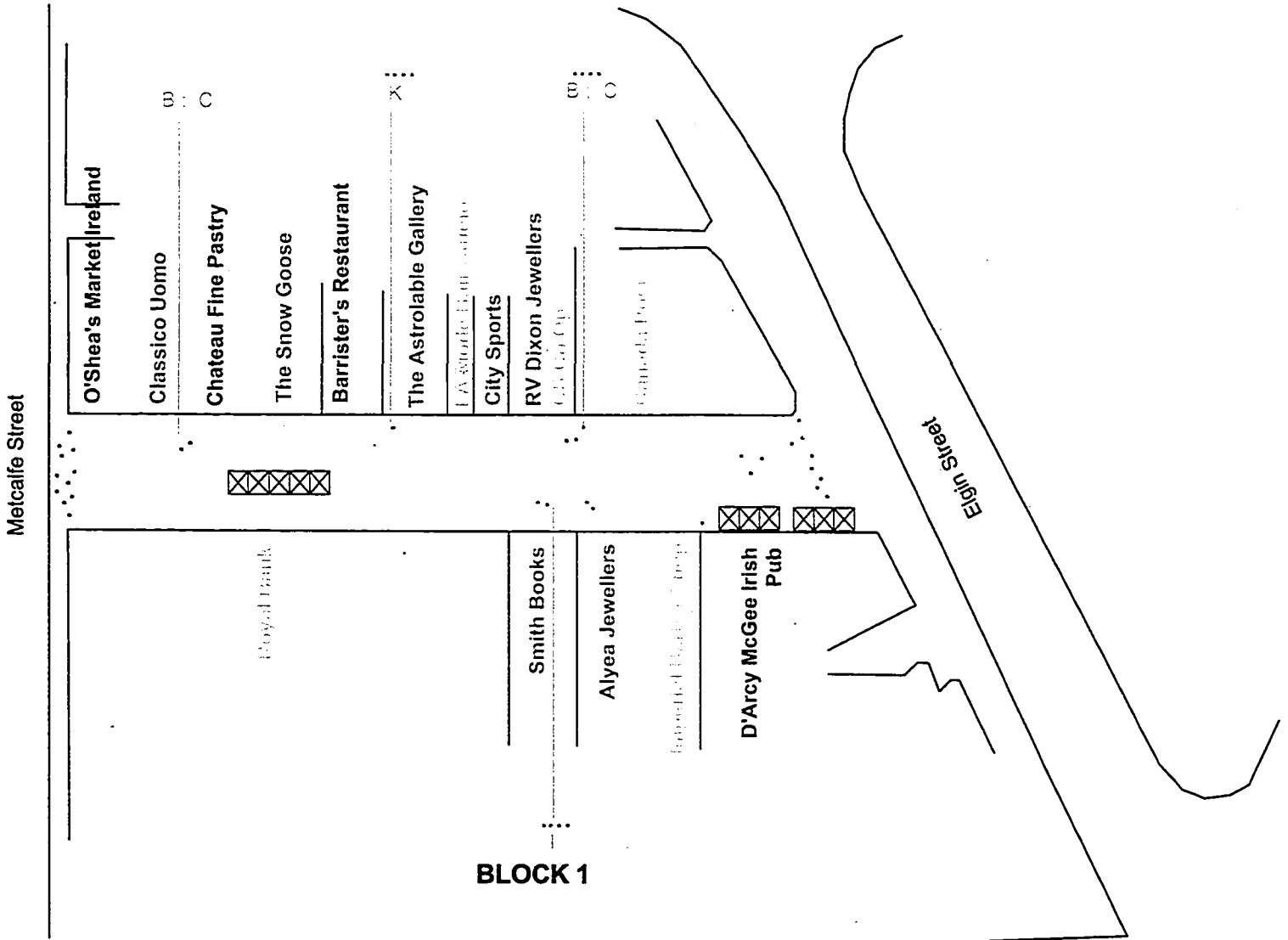
BLOCK 2

1. Note social uses attract people.
2. The Hardy Arcade does not appear to attract anyone.
3. Mall is used as thoroughfare in morning.
4. Dot density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended to provide an estimate of location of user and activities rather than the exact volume of users.






SPARKS STREET MALL



ECOLOGICAL MAP: SPARKS STREET MALL Morning Sample

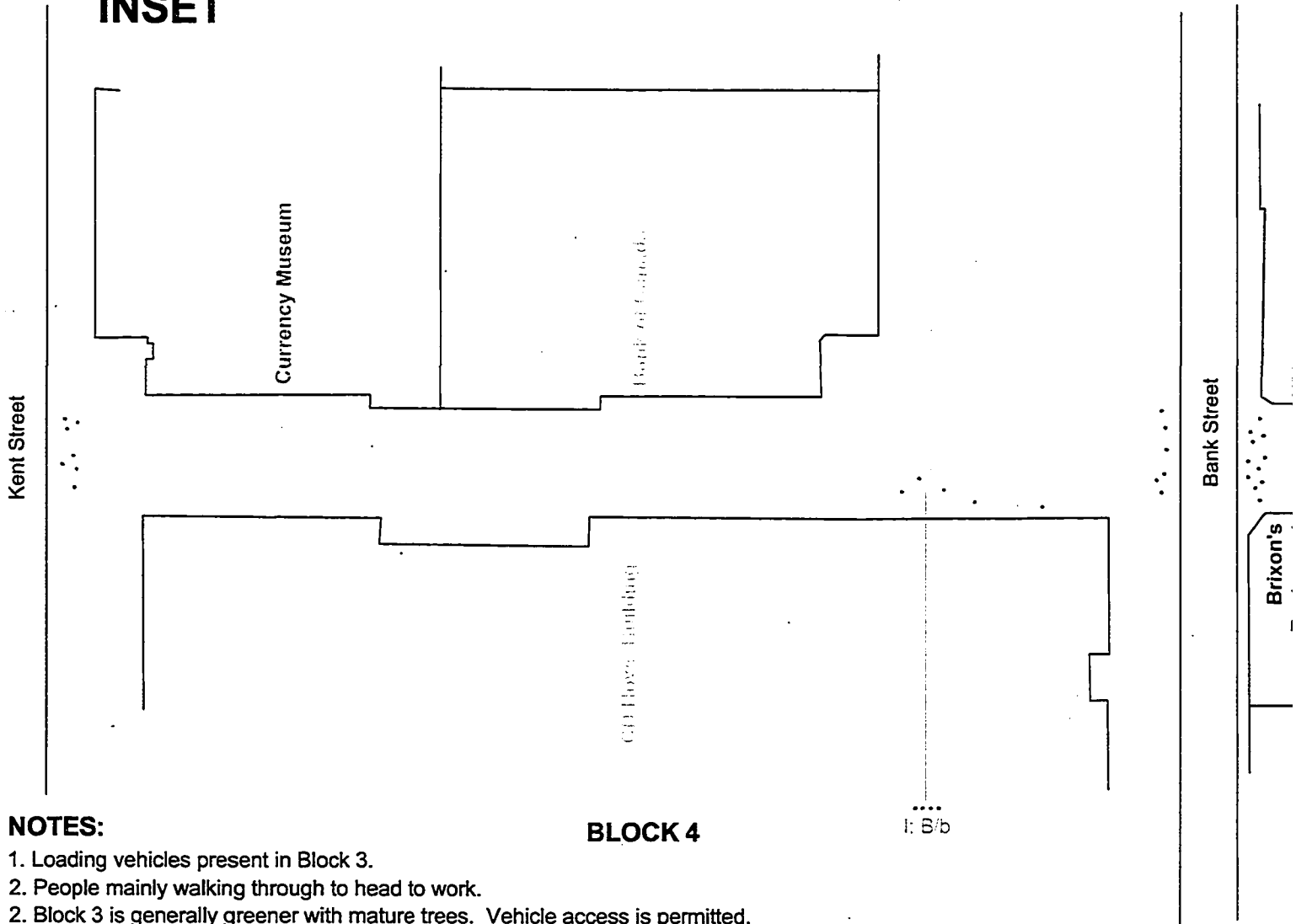


Legend

-  Necessary Uses
-  Optional Uses
-  Social Uses
-  People's choice of location (representation only)
-  Outdoor cafe seating- Social Use

Drawn by: Olivia Susai, March 2004

INSET



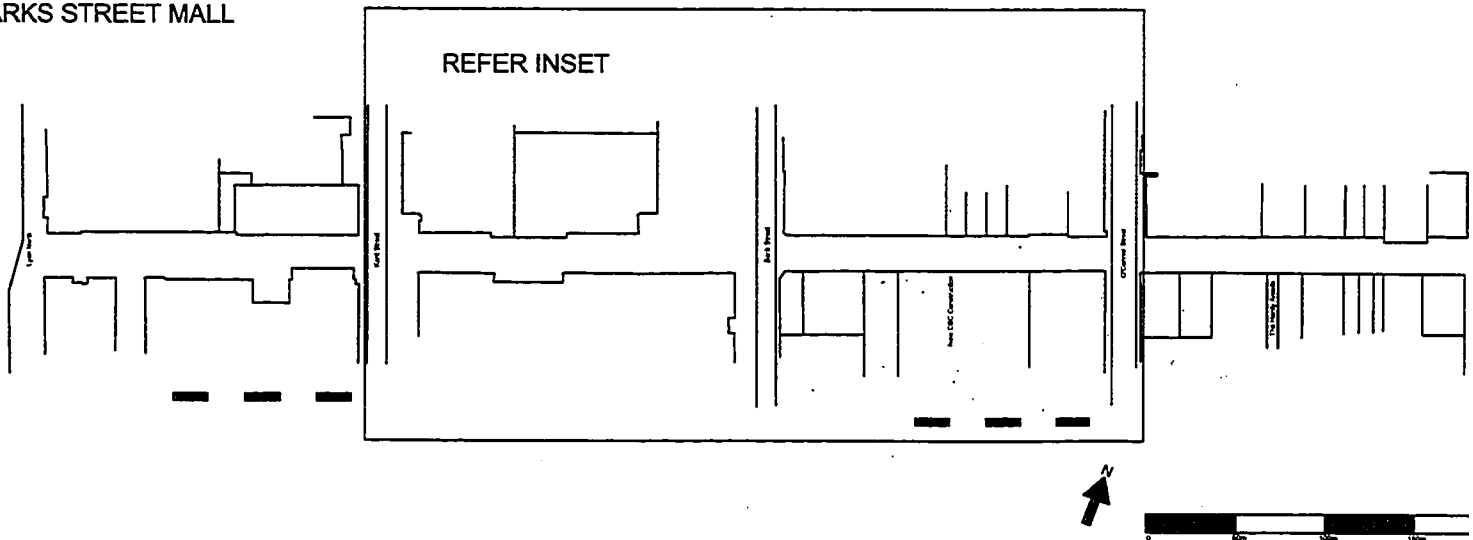
NOTES:

1. Loading vehicles present in Block 3.
2. People mainly walking through to head to work.
2. Block 3 is generally greener with mature trees. Vehicle access is permitted.
3. Dot density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended to provide an estimate of location of user and activities rather than the exact volume of users.

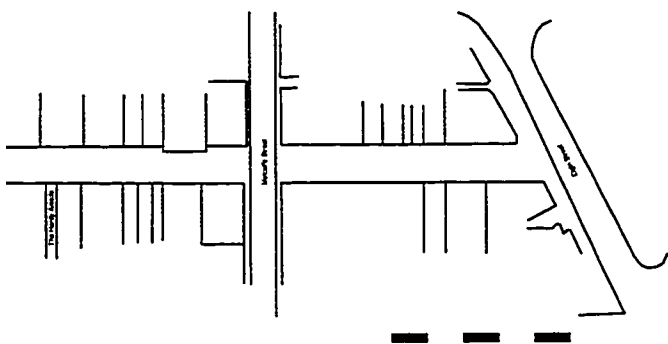
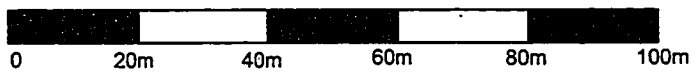
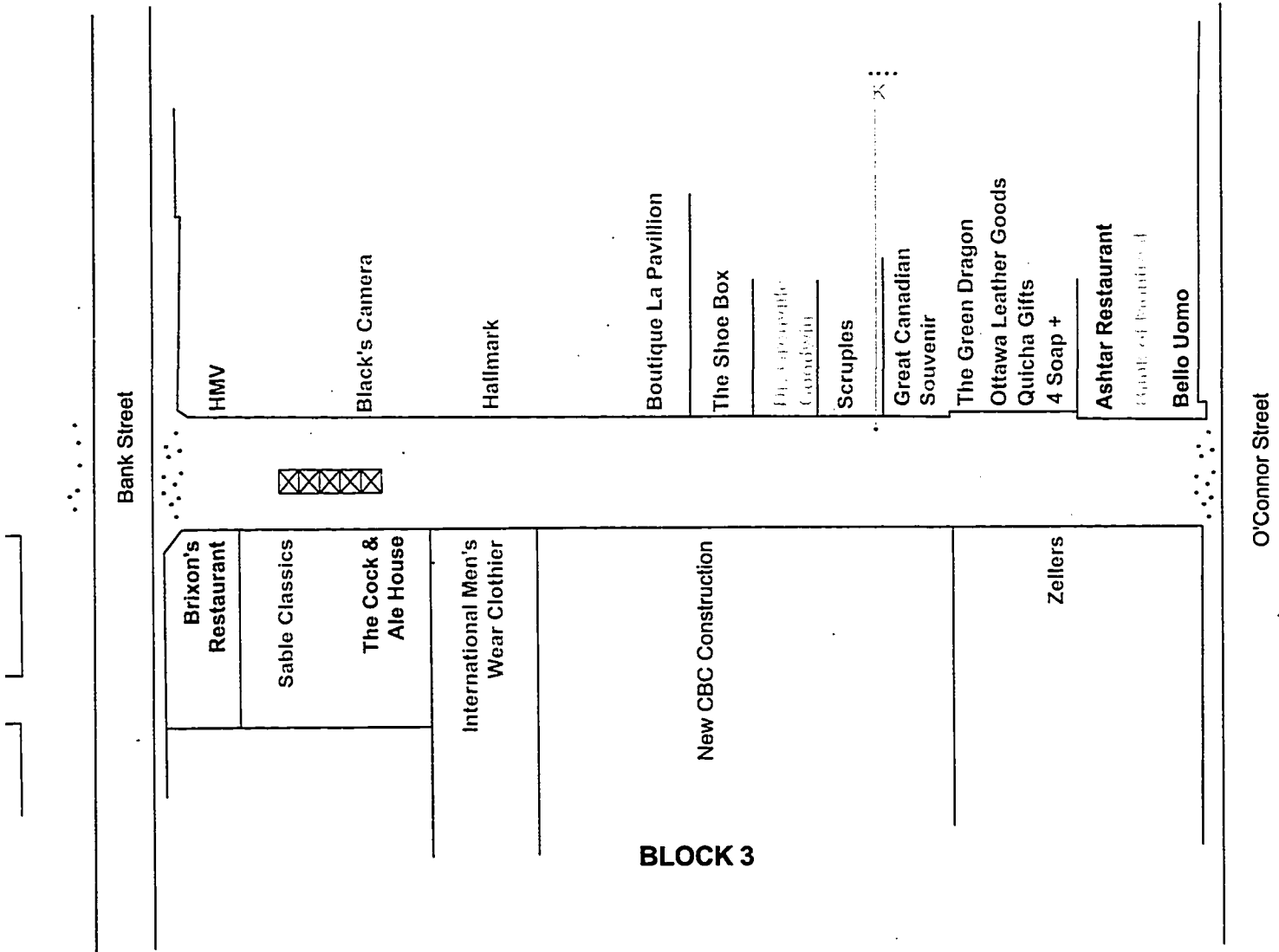
BLOCK 4

I: B/b

SPARKS STREET MALL



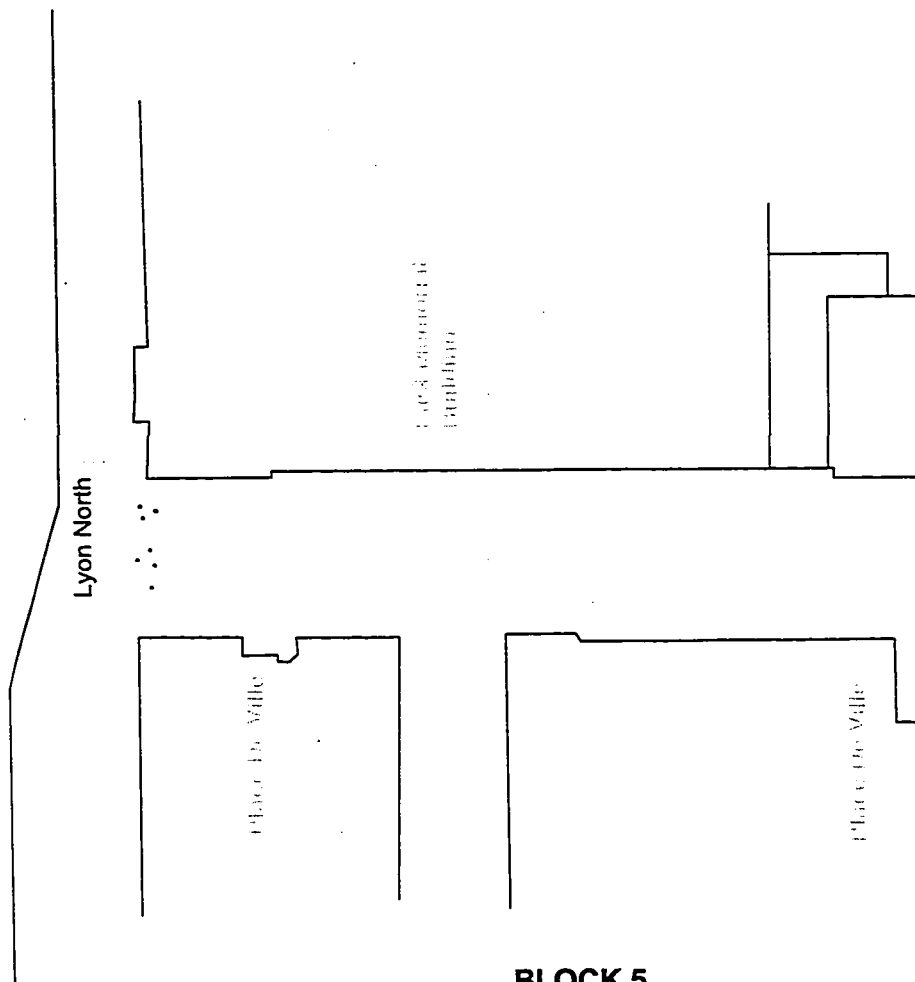
ECOLOGICAL MAP: SPARKS STREET MALL Morning Sample



Legend

- Necessary Uses
- Optional Uses
- Social Uses
- People's choice of location (representation only)
- Outdoor cafe seating- Social Use

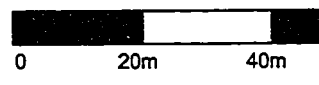
INSET



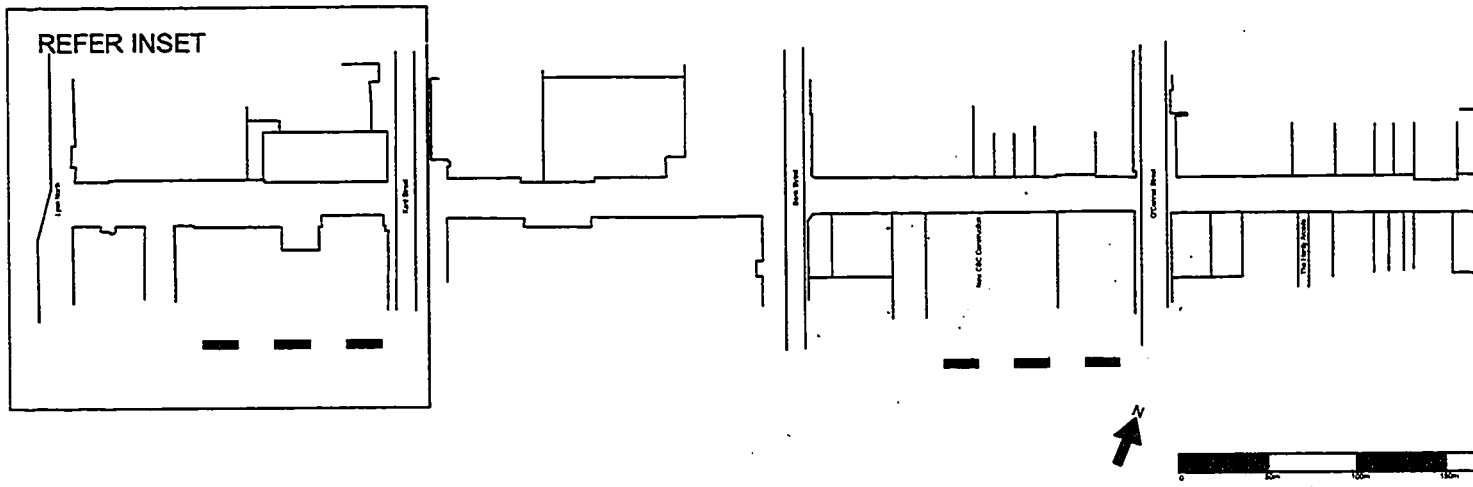
BLOCK 5

NOTES:

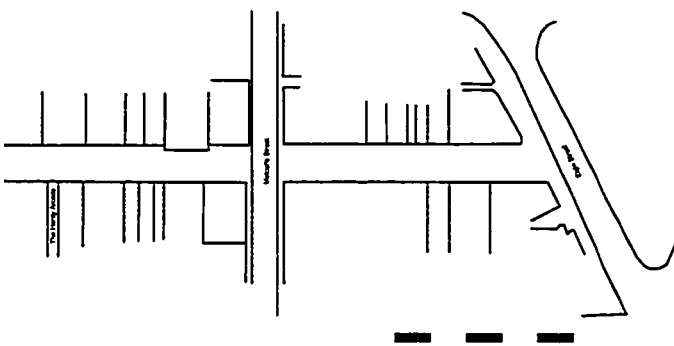
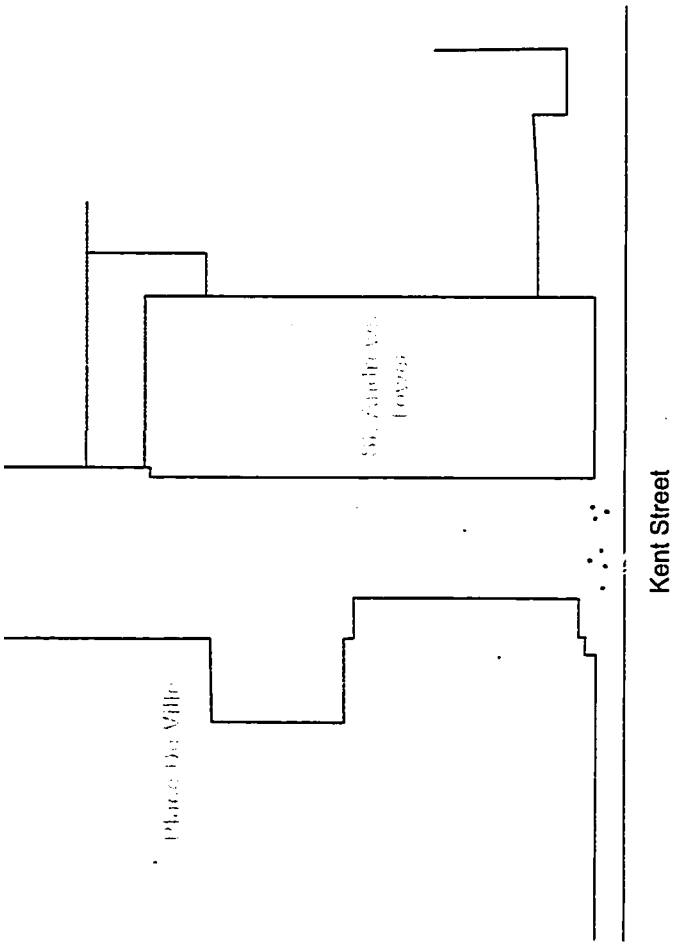
1. No optional and social activities results in underused area.
2. Dot density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended to provide an estimate of location of user and activities rather than the exact volume of users.








SPARKS STREET MALL



ECOLOGICAL MAP: SPARKS STREET MALL Morning Sample

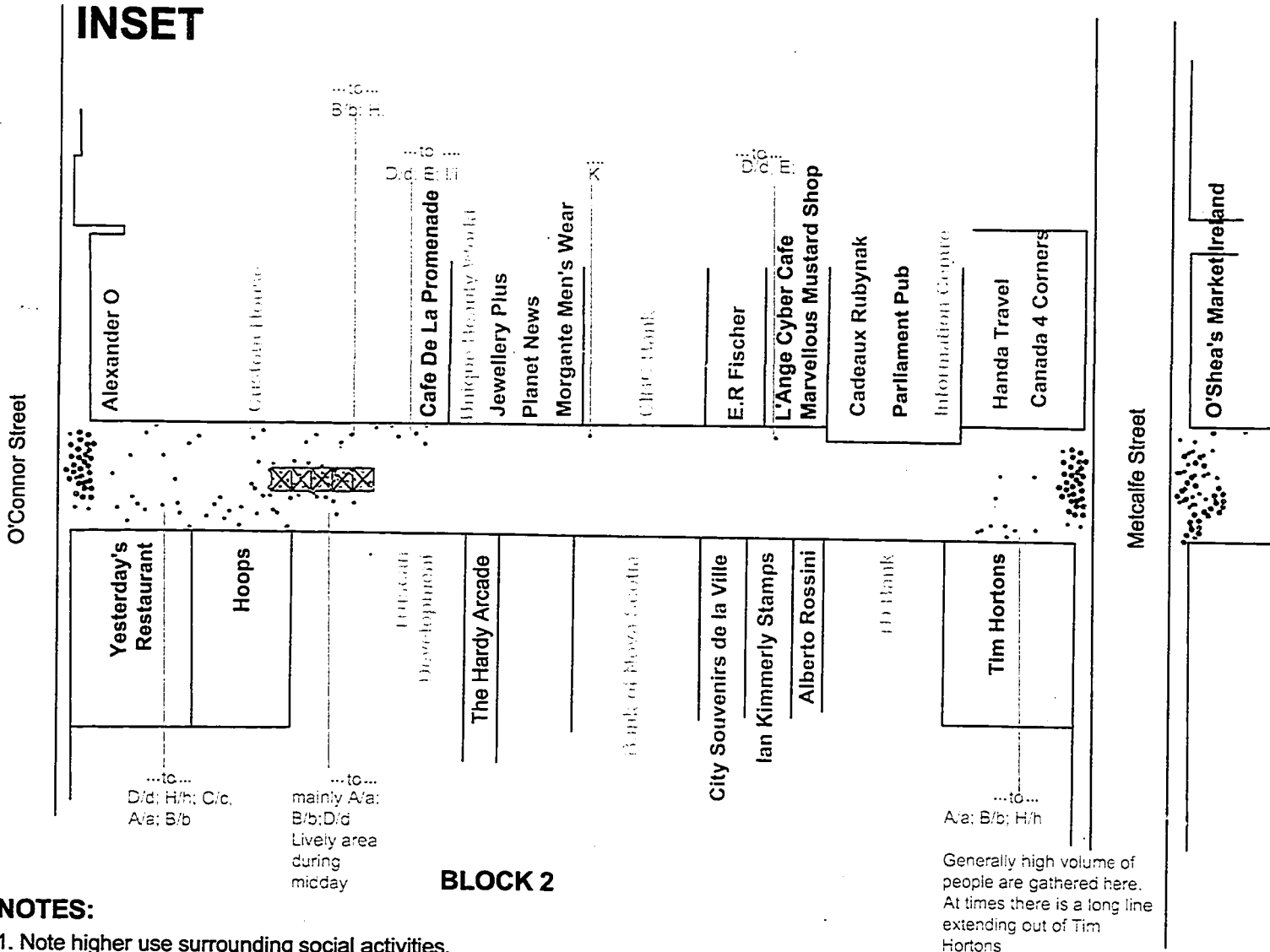


Legend

-  Necessary Uses
-  Optional Uses
-  Social Uses
-  People's choice of location (representation only)
-  Outdoor cafe seating- Social Use

**APPENDIX B5
ECOLOGICAL MAP
Sparks Street Mall: Midday Sample**

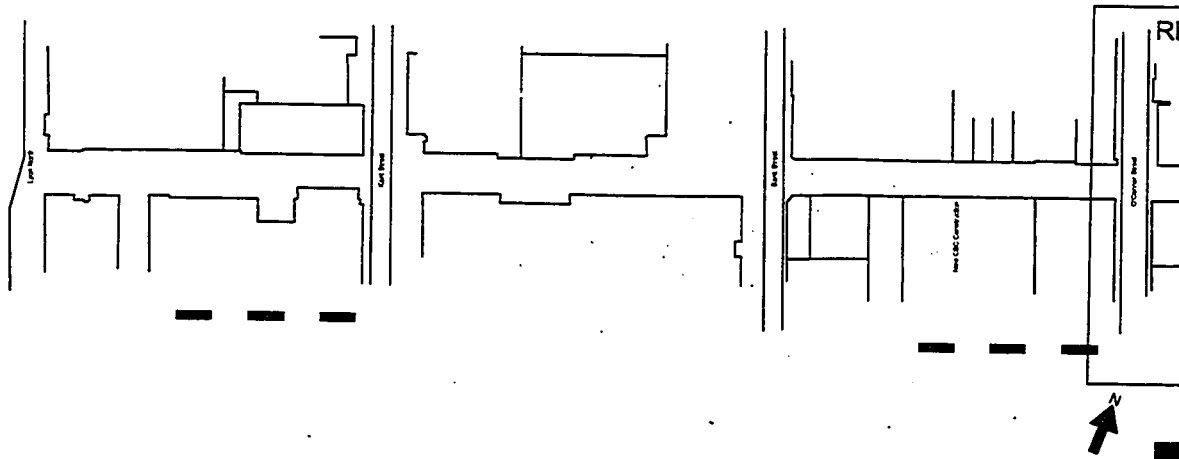
INSET



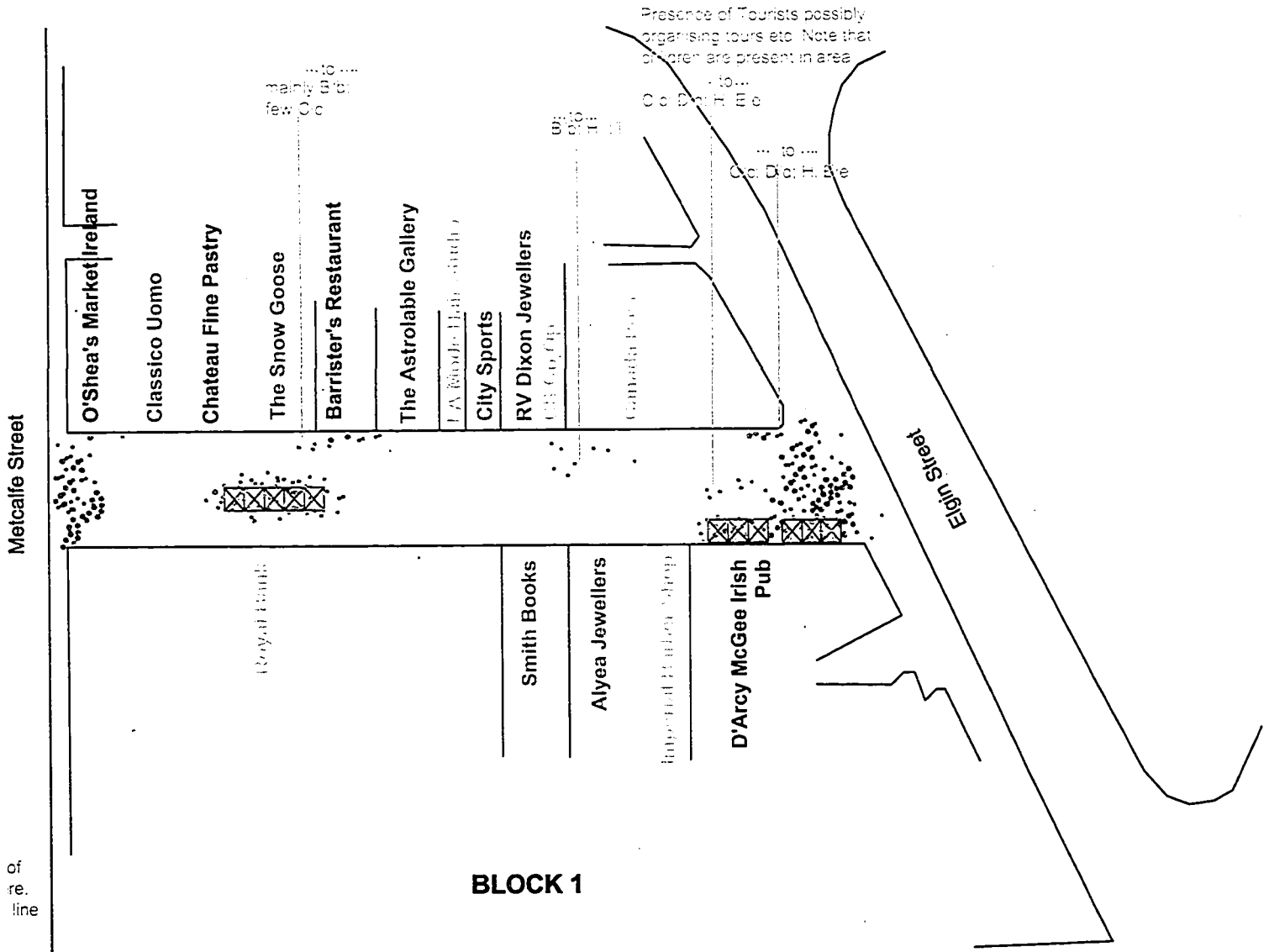
NOTES:

1. Note higher use surrounding social activities.
2. The Hardy Arcade does not appear to attract anyone
3. Predominant user age is between 18 to 50 yr olds.
4. Dot density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended to prov an estimate of location of user and activities rather than the exact volume of users.

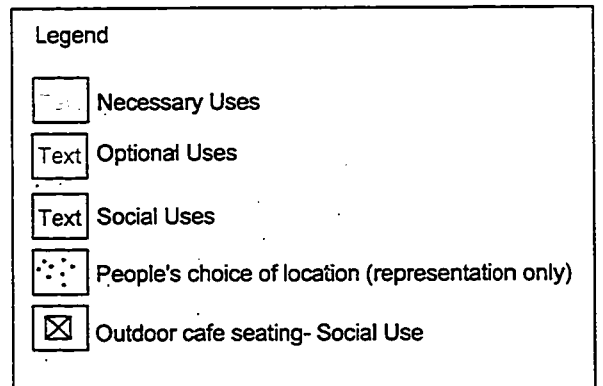
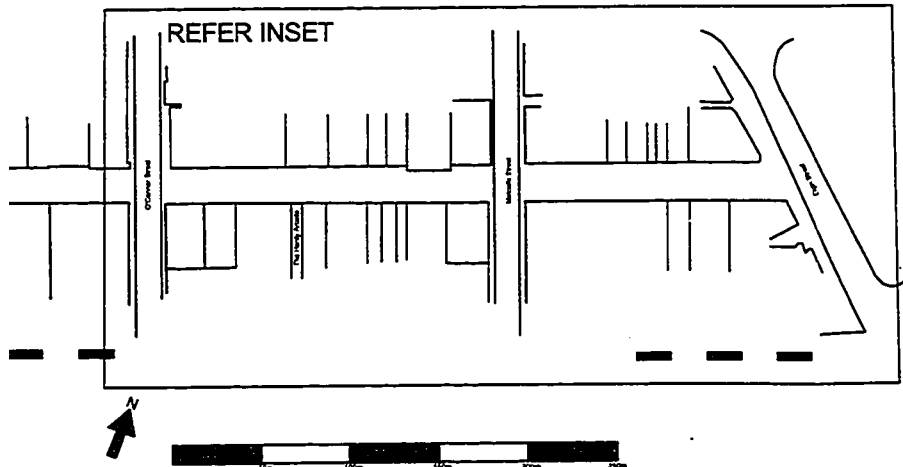
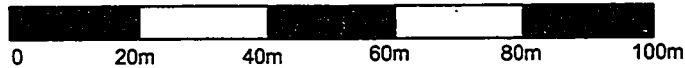
SPARKS STREET MALL



ECOLOGICAL MAP: SPARKS STREET MALL Midday Sample

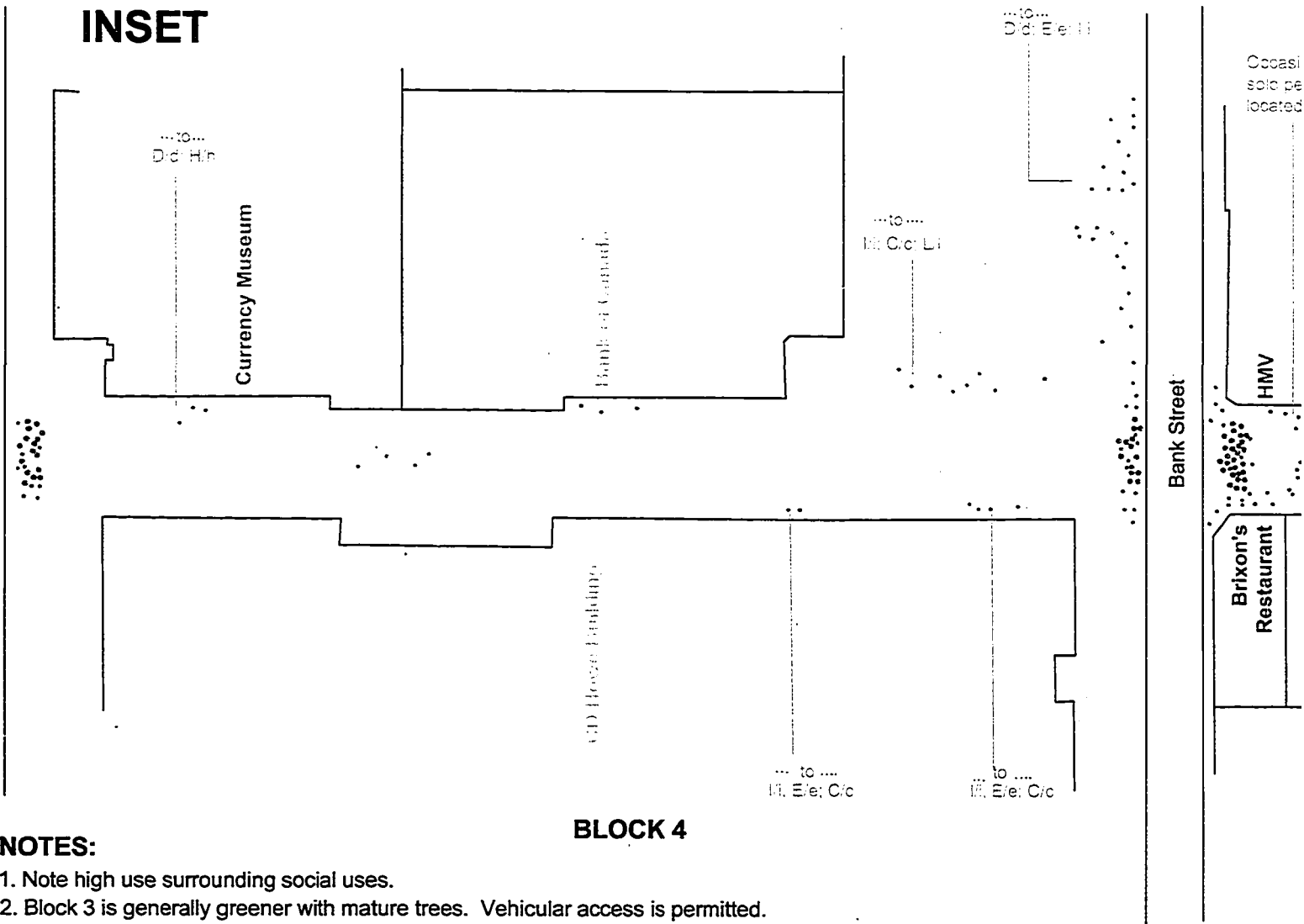


intended to provide



Drawn by: Olivia Susai, March 2004

INSET

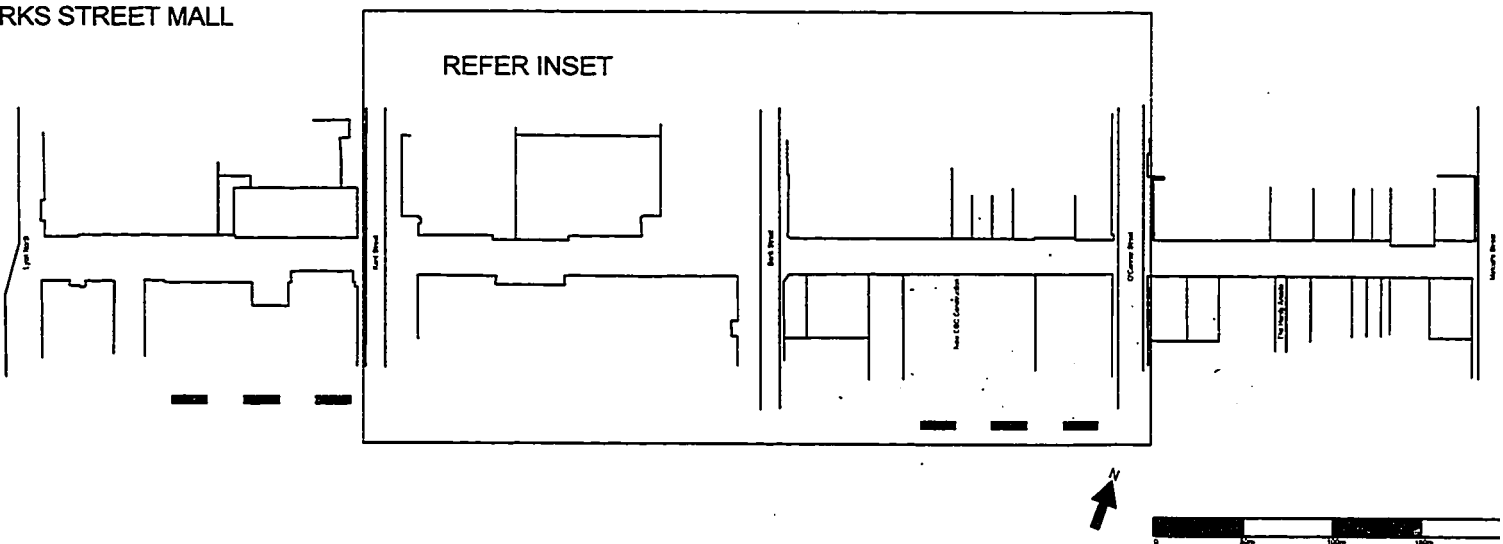


BLOCK 4

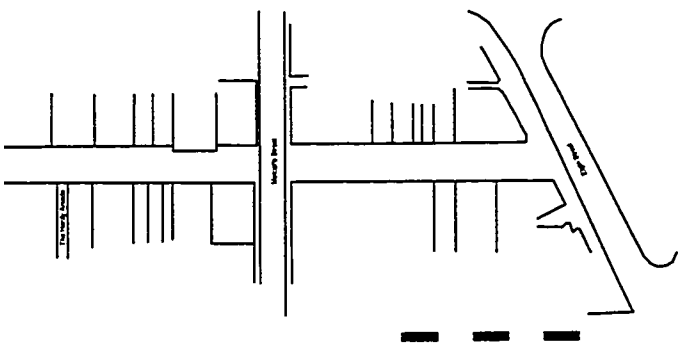
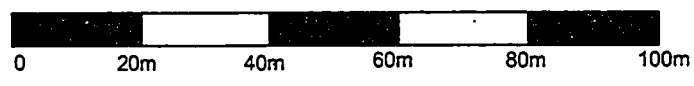
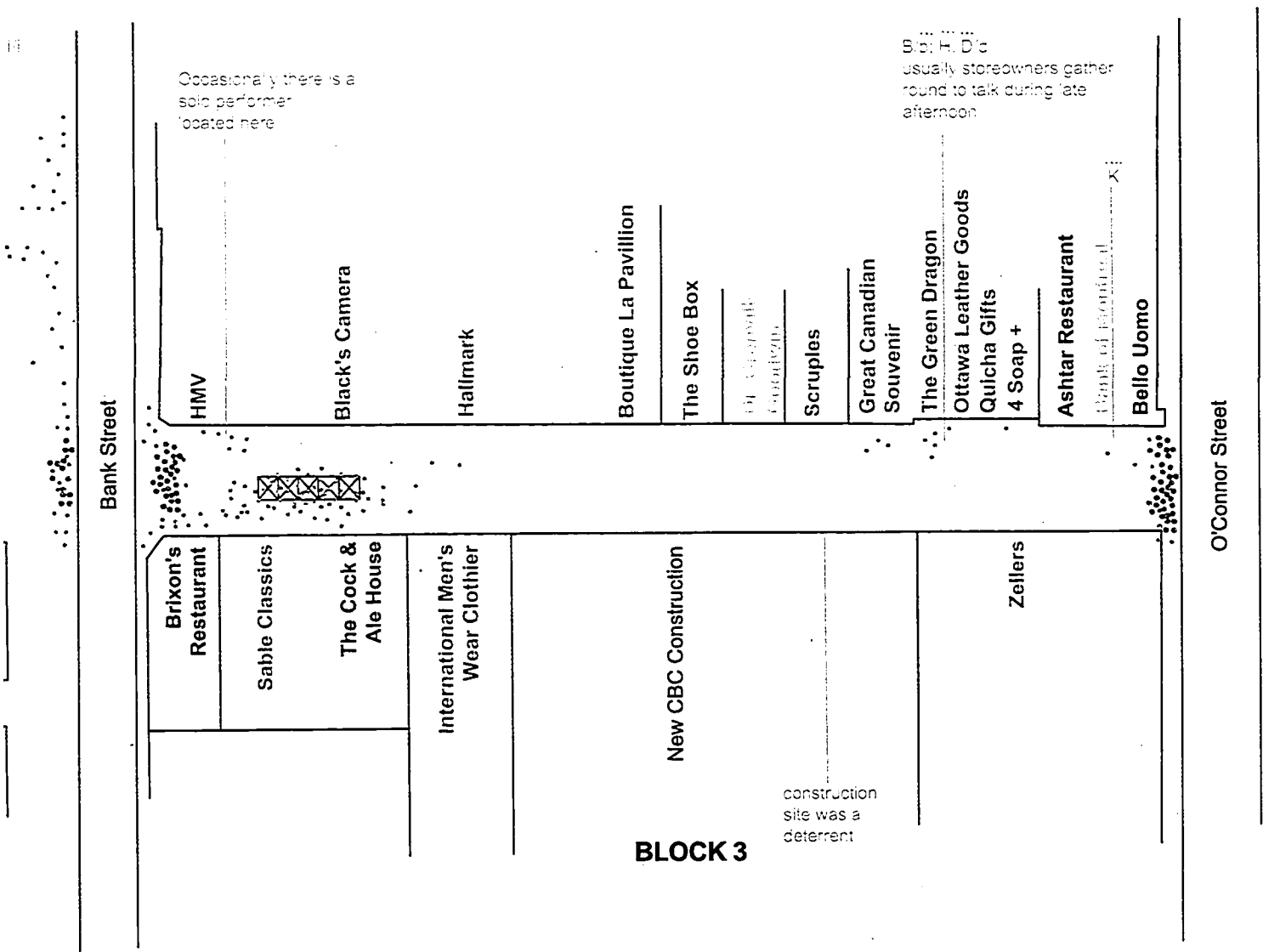
NOTES:

1. Note high use surrounding social uses.
2. Block 3 is generally greener with mature trees. Vehicular access is permitted.
3. Dot density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended to provide an estimate of location of user and activities rather than the exact volume of users.






SPARKS STREET MALL



ECOLOGICAL MAP: SPARKS STREET MALL Midday Sample

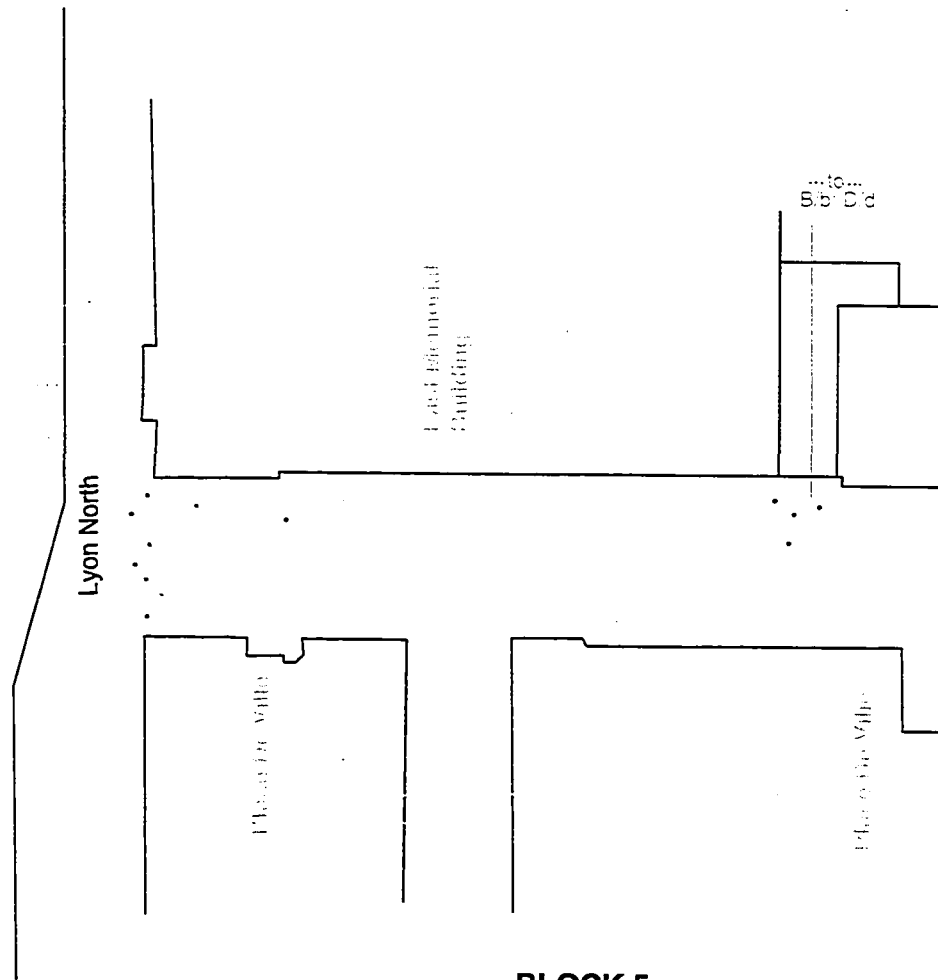


Legend

-  Necessary Uses
-  Optional Uses
-  Social Uses
-  People's choice of location (representation only)
-  Outdoor cafe seating- Social Use



INSET



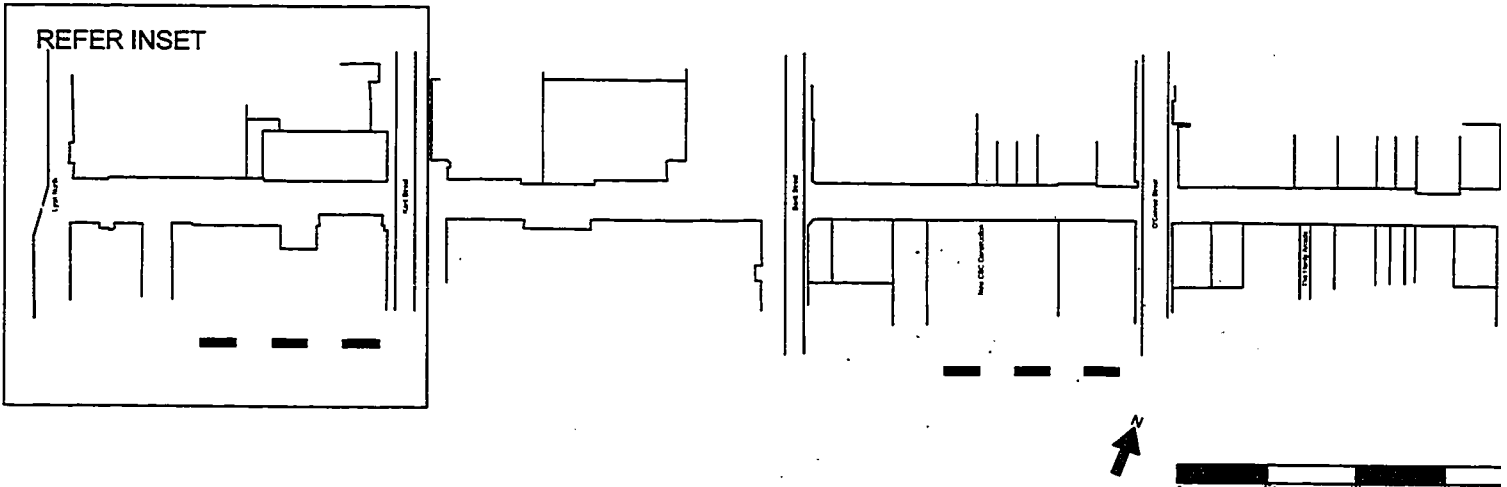
NOTES:

1. No optional and social activities results in underused area.
2. Dot density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended to provide an estimate of location of user and activities rather than the exact volume of users.

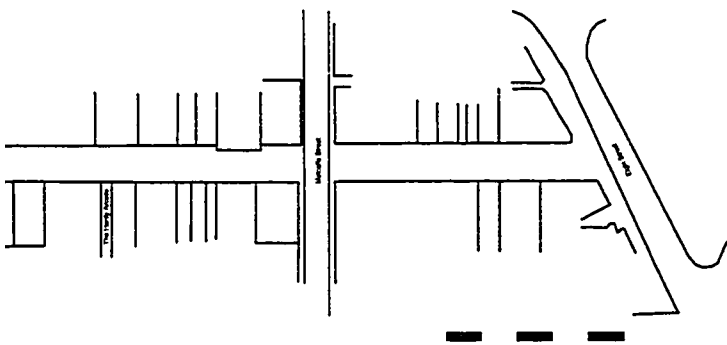
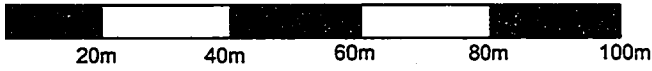
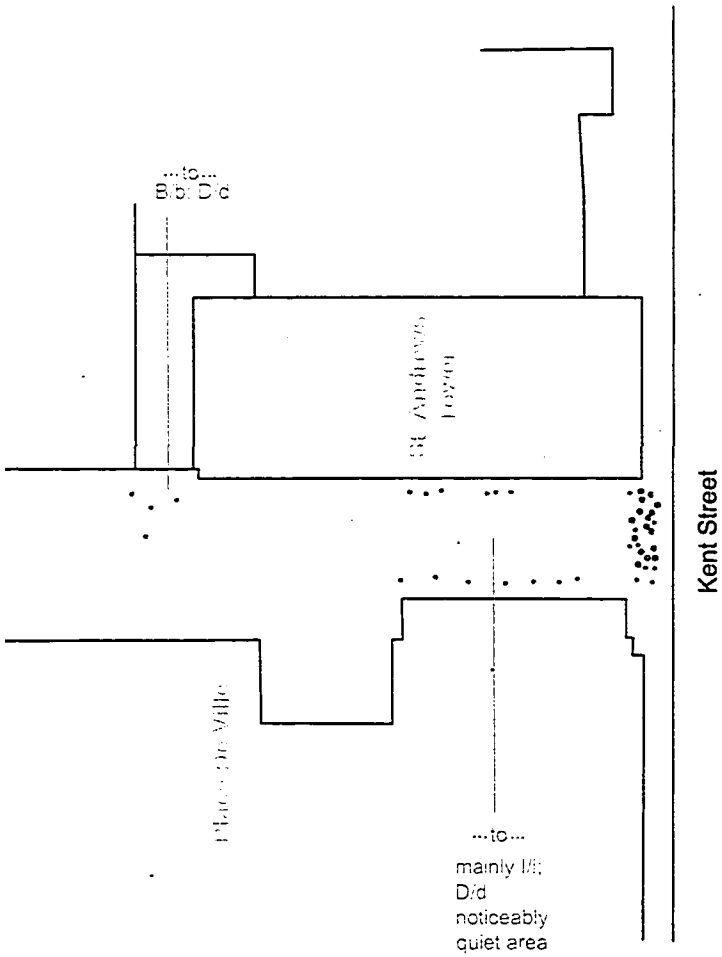
BLOCK 5



SPARKS STREET MALL



ECOLOGICAL MAP SPARKS STREET MALL Midday Sample

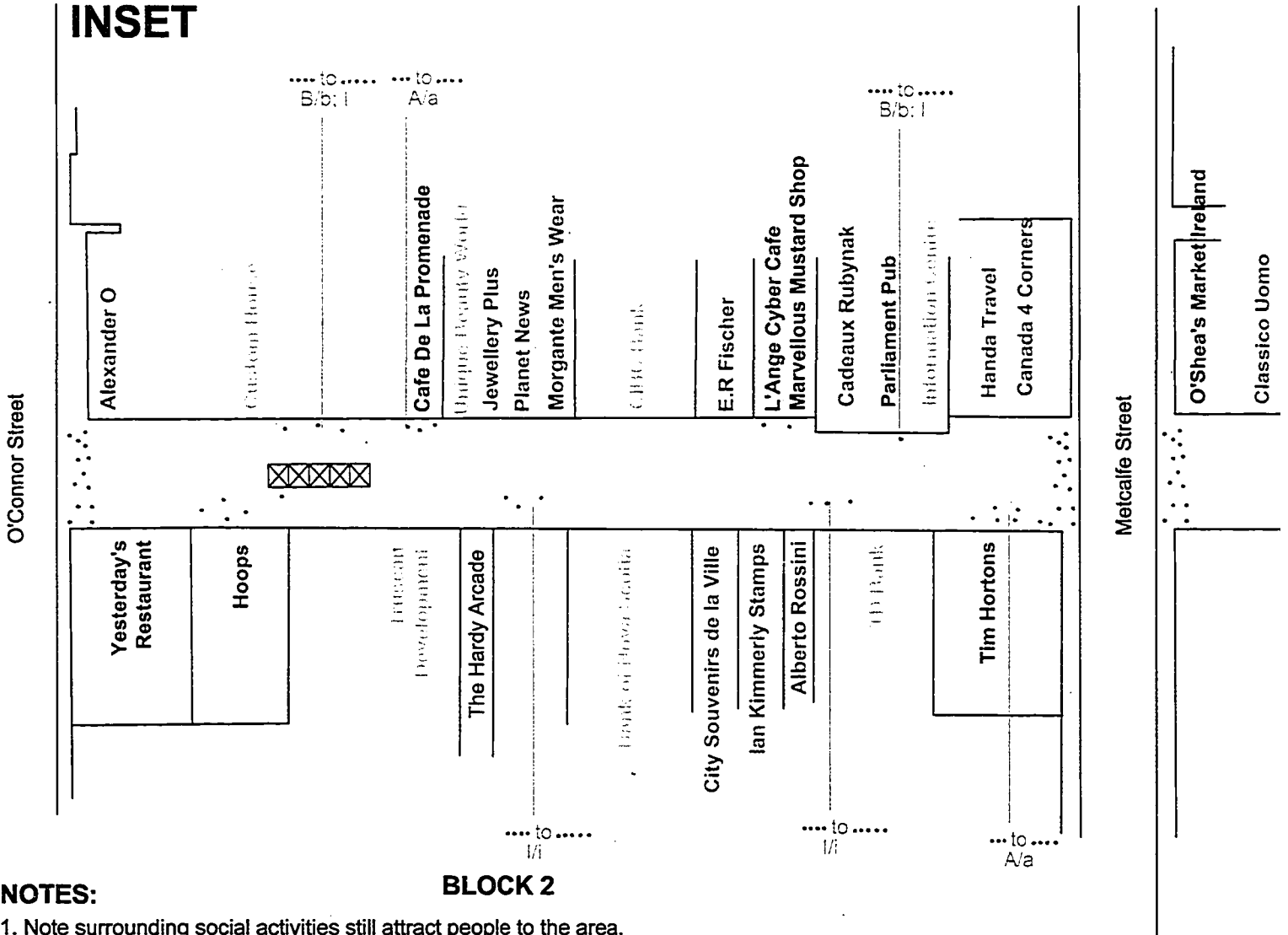


Legend

- Text Necessary Uses
- Text Optional Uses
- Text Social Uses
- People's choice of location (representation only)
- ☒ Outdoor cafe seating- Social Use

**APPENDIX B6
ECOLOGICAL MAP
Sparks Street Mall: Evening Sample**

INSET

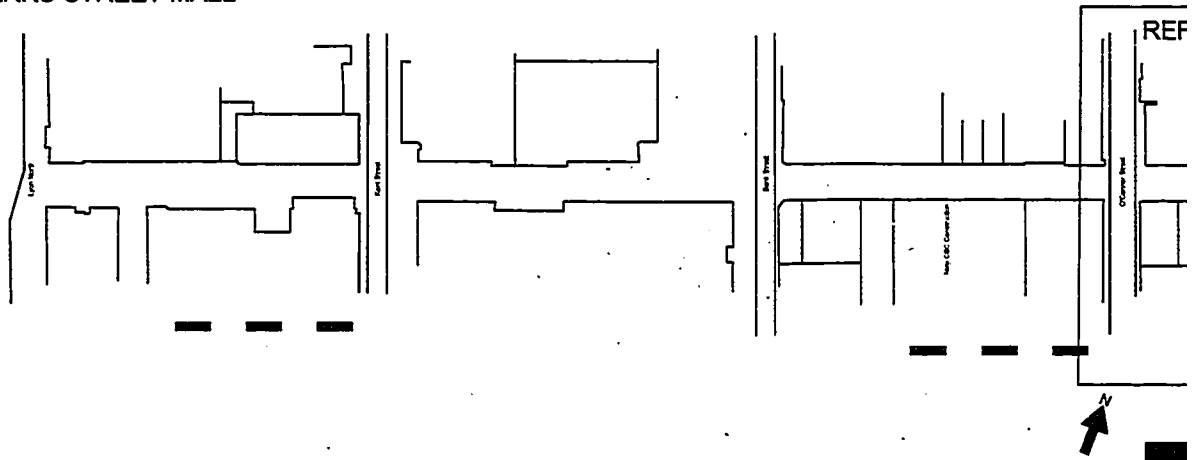


NOTES:

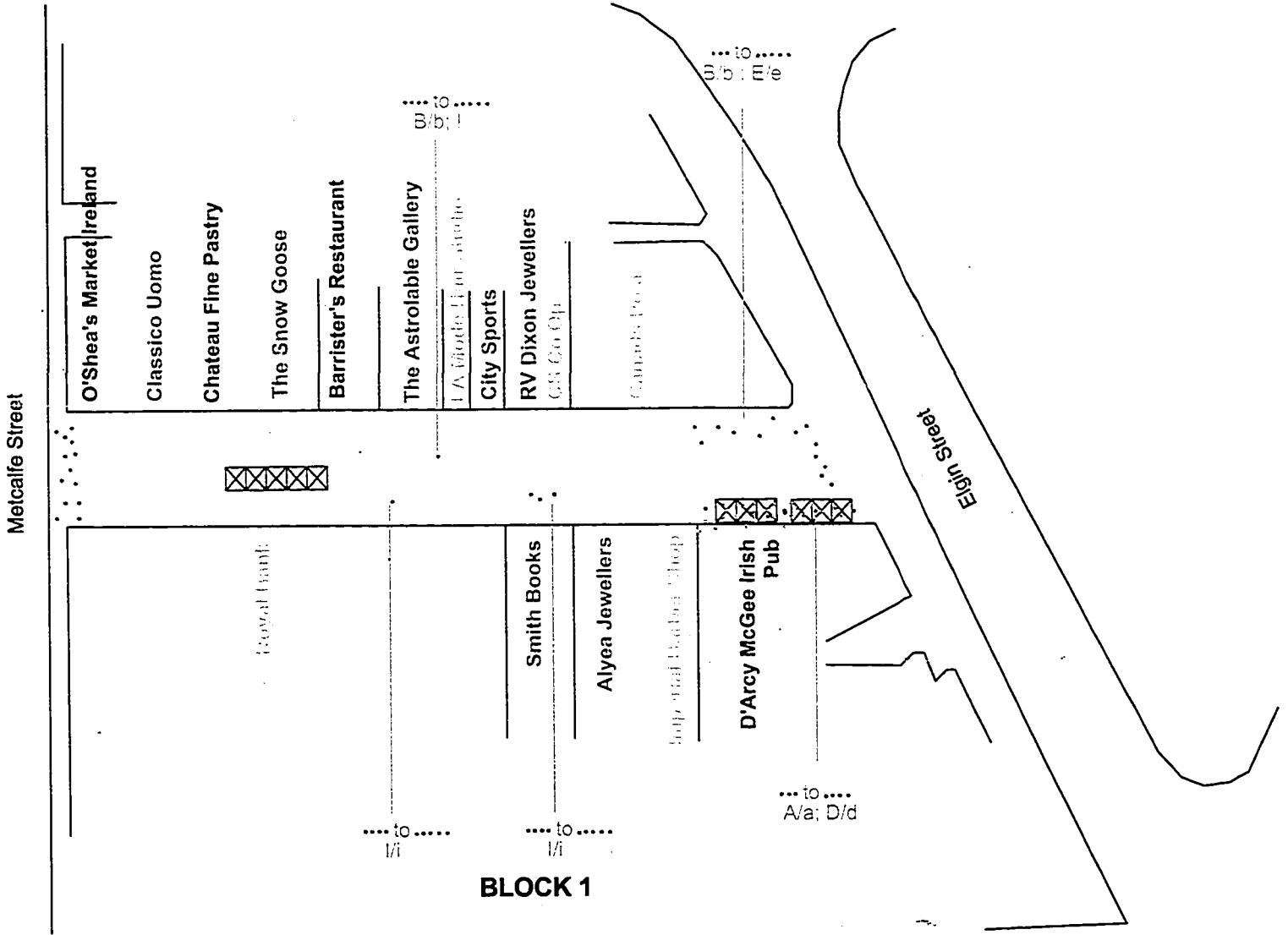
BLOCK 2

1. Note surrounding social activities still attract people to the area.
2. People are generally heading home or out during this time of day.
2. Outdoor Kiosks along centre of Mall close soon after lunch time.
3. Predominant user age is between 18 to 50 yr olds.
4. Dot density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended to provide an estimate of location of user and activities rather than the exact volume of users.

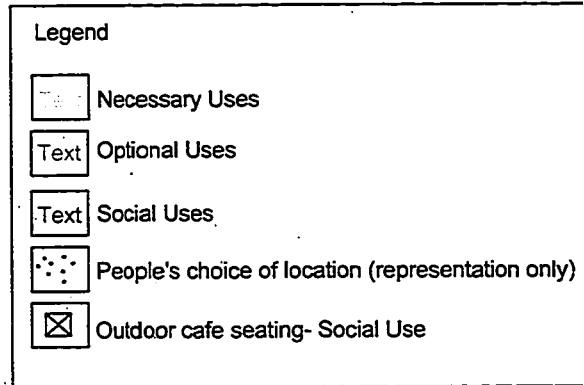
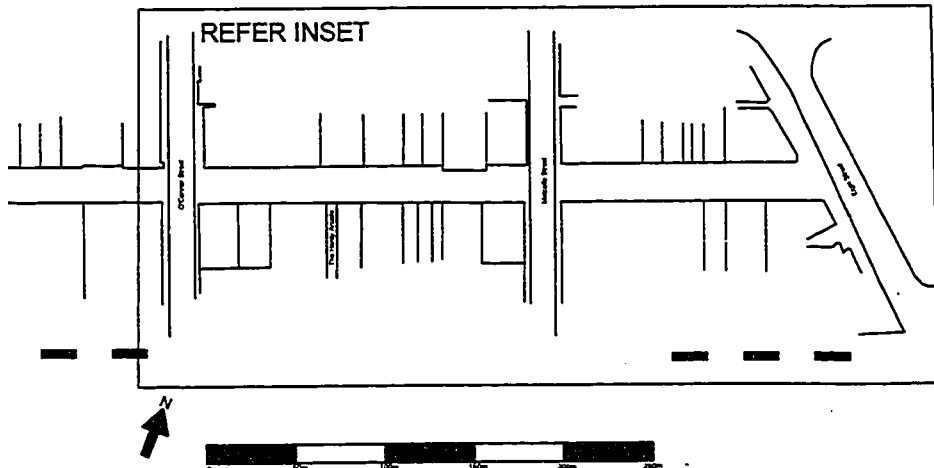
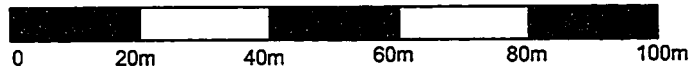
SPARKS STREET MALL



ECOLOGICAL MAP SPARKS STREET MALL Evening Sample

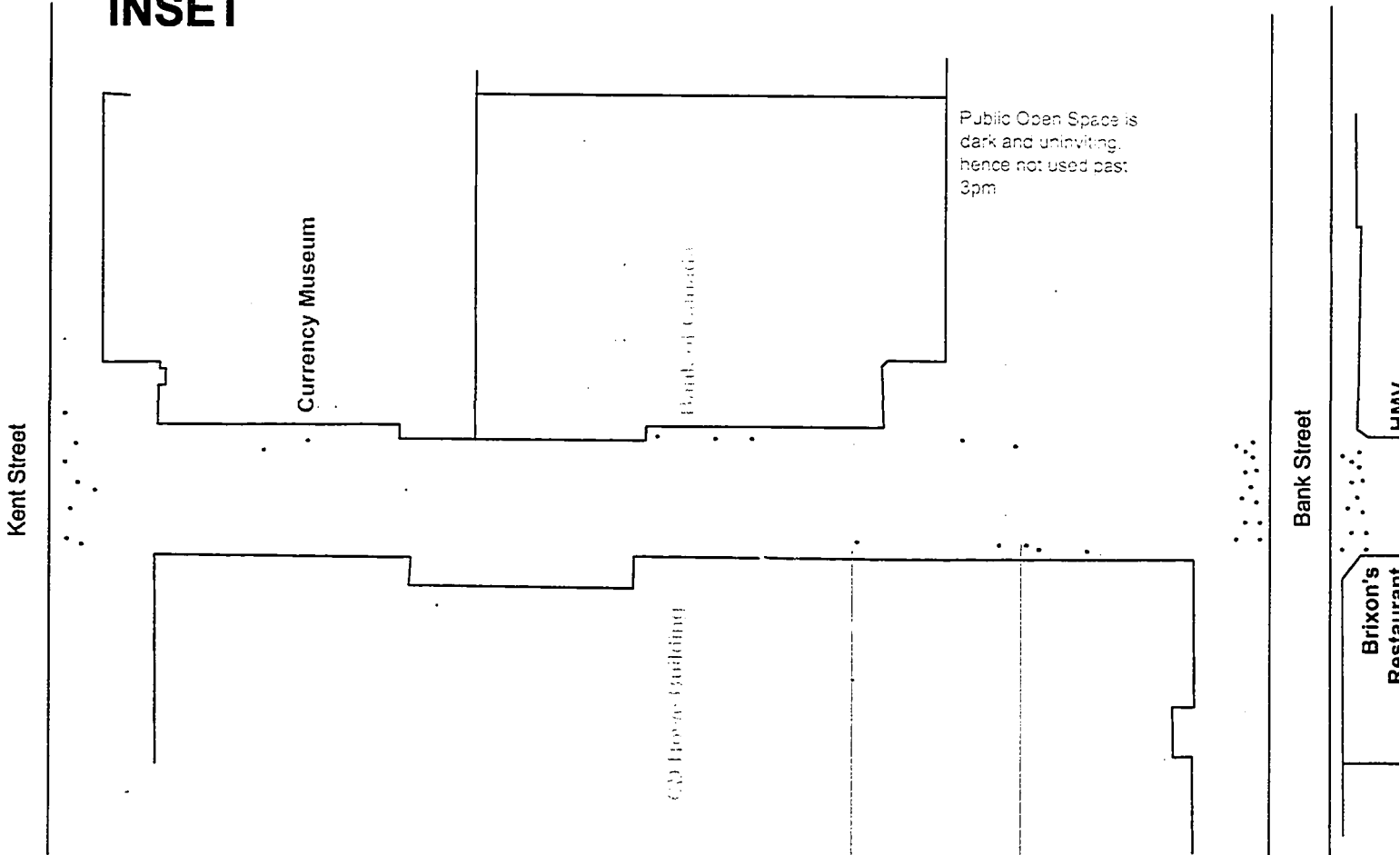


ire intended to provide



Drawn by: Olivia Susai, March 2004

INSET

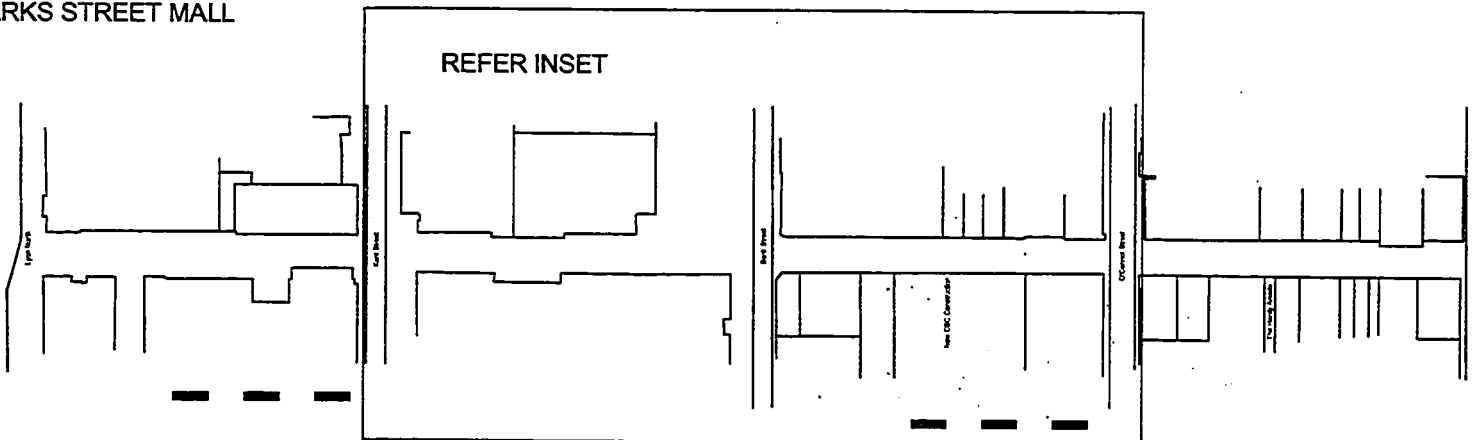


NOTES:

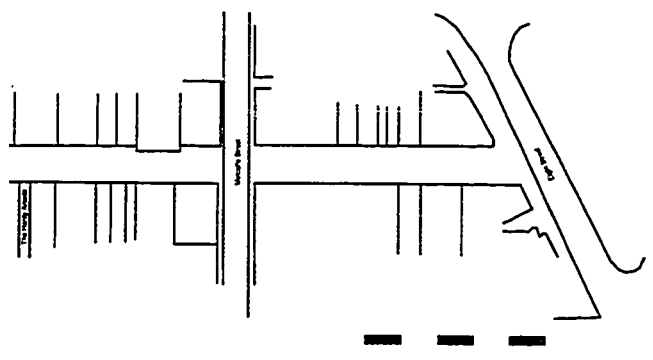
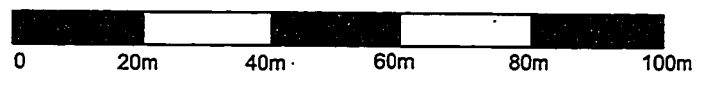
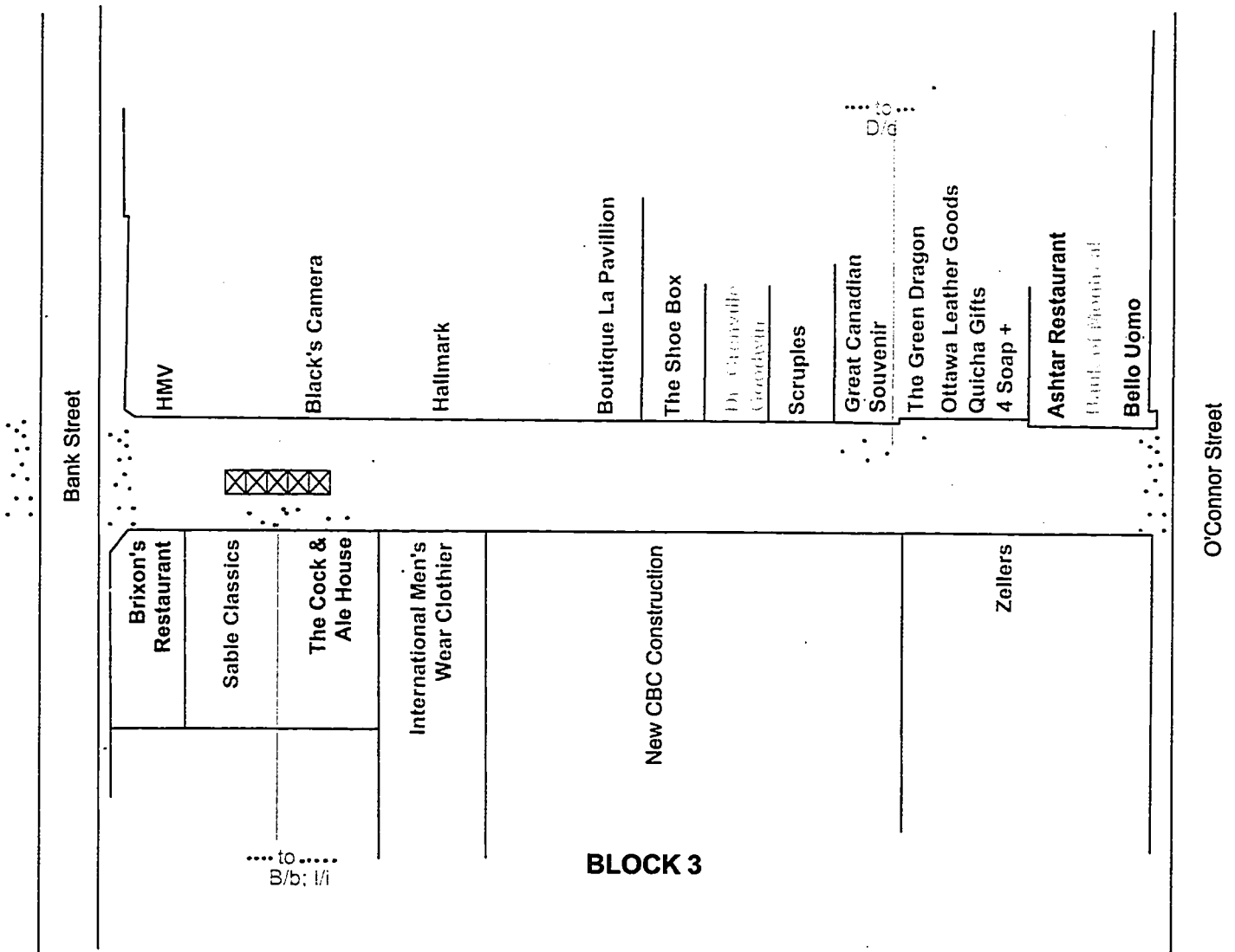
BLOCK 4

1. Block 4 is almost deserted by late afternoon. Public Open Space at corner is uninviting.
2. People are generally heading home or out, Mall becomes more of a thoroughfare.
3. Outdoor kiosks located in centre of Mall are all closed after lunch.
4. Dot density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended to provide an estimate of location of user and activities rather than the exact volume of users.






SPARKS STREET MALL



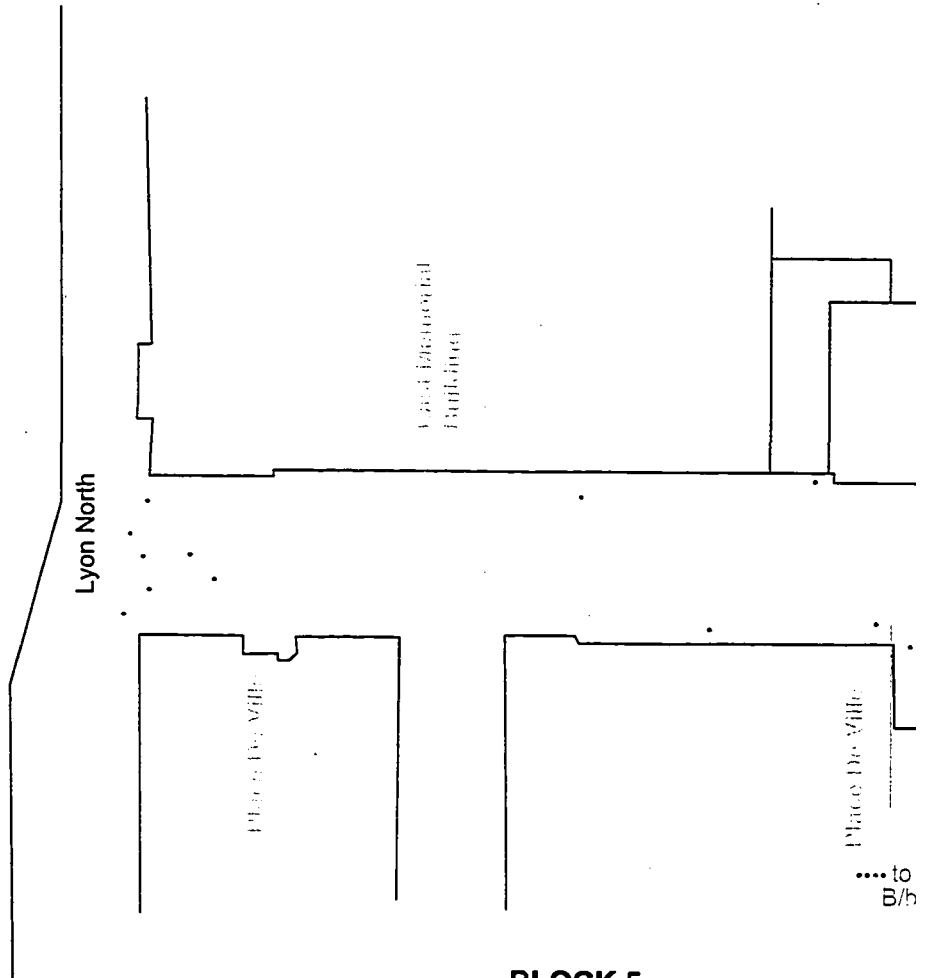
ECOLOGICAL MAP: SPARKS STREET MALL EVENING SAMPLE



Legend

-  Necessary Uses
-  Optional Uses
-  Social Uses
-  People's choice of location (representation only)
-  Outdoor cafe seating- Social Use

INSET



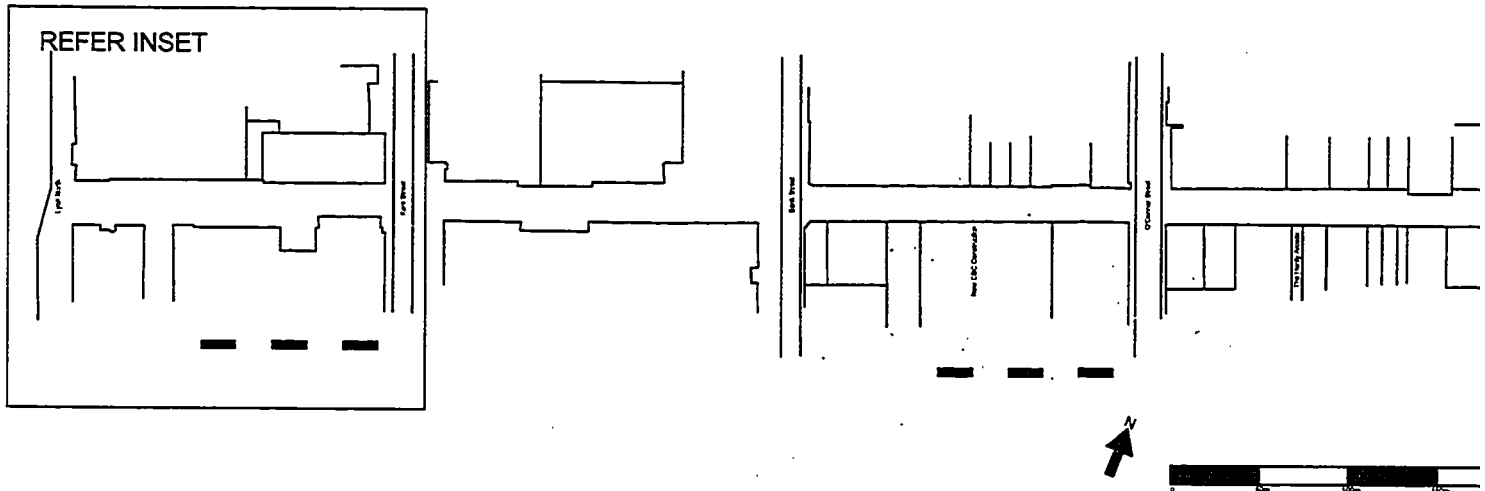
NOTES:

1. No optional and social activities results in underused area.
2. Dot density derived through the summation of 3 snap-shot measurements i.e. morning, midday, evening which are intended to provide an estimate of location of user and activities rather than the exact volume of users.

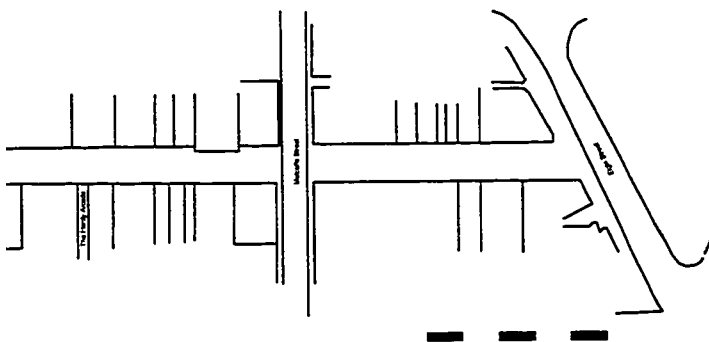
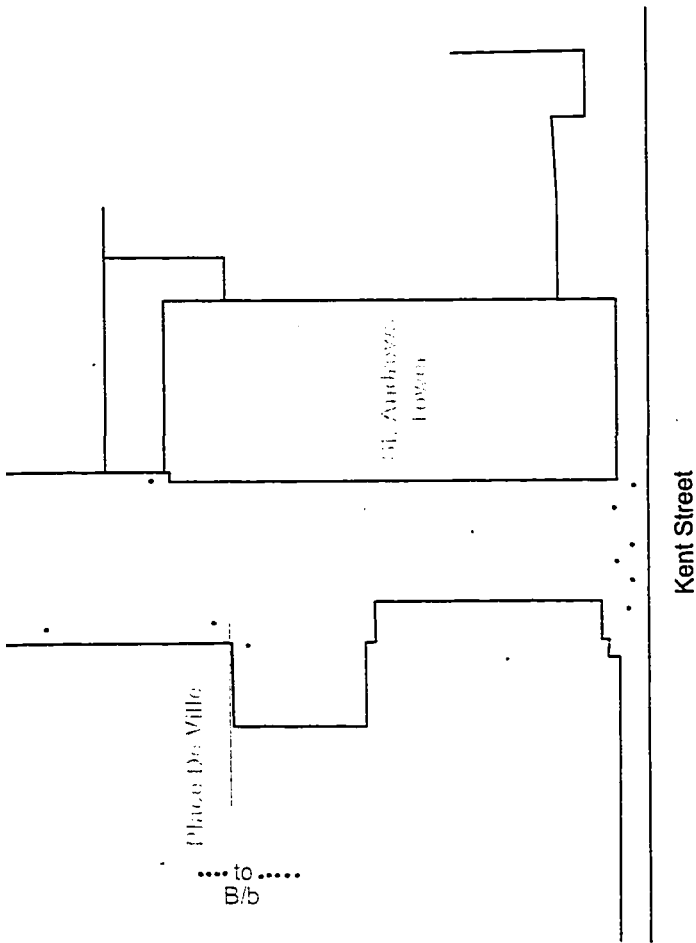
BLOCK 5








SPARKS STREET MALL



ECOLOGICAL MAP: SPARKS STREET MALL Evening Sample



Legend

-  Necessary Uses
-  Optional Uses
-  Social Uses
-  People's choice of location (representation only)
-  Outdoor cafe seating- Social Use

APPENDIX C

HISTORICAL CHRONOLOGY OF MURRAY STREET

1820s

- 1828 Street was named after George Murray, Secretary of State for the Colonies. [1]
- 1829 Perth is proclaimed as a Town selected by Governor Stirling on 12 July 1829 [5]

1830s

- 1838 Murray Street first used on the L & S Plan. [1]

1860s

- 1863 St Mary's Cathedral Square constructed in Victoria Square. It forms the vista at end of Murray Street [7]

1870s

- 1879 Poor House converted to Government Printers Office [7]

1880s

- 1883 Sale of Murray Street Lots 1-18 [1]
- 1885 Construction of Central Railway Station at Wellington Street in several stages. It closes the vista from Forrest Place with the Horseshoe Bridge creating a meandering boundary to the station forecourt [7].

1890s

- 1891 Government Printers Office converted to Telecom Museum [7]
- 1896 Germans buy Murray Street land to build a clubhouse. [10]
- Construction of Royal Perth Hospital Complex (Administration Building) designed by George Temple Poole. [10]
- 1898 Central Railway Station is completed. [7]

1900s

- Circa 1900 Central Fire Station constructed by Cavanagh & Cavanagh [7]
- 1903 Horseshoe Bridge is constructed connecting William Street across the railway lines in eastward loop, gaining height, leading to a complex of public buildings which include the State Library, Museum and Art Gallery and Old Gaol House [7]
- 1905 Boans Department Store (now Myers) is constructed by Hobbs, Forbes & Smith [7]
- 1909 Construction of nurse's quarters adjacent to Royal Perth Hospital [7]

1910s

- 1910 Opening of Melrose Theater, 258 Murray Street, Perth. [7]
- 1911 Commonwealth Government acquired the Central Arcade site for General Post Office, Commonwealth Bank and Custom's Depot [7]
- 1912 New street (Forrest Place) was constructed between Wellington Street and Murray Street opposite Central Railway Station [7].
- 1914 Construction of General Post Office and Commonwealth Bank began in neoclassical design. [7]
- 1916 Town Planning Association formed in Perth [7]

1920s

- 1920 Perth City Council Office locates along Murray Street. [5]
- 1923 Street between Wellington Street and Murray Street officially named Forrest Place by Lady Forrest and opened by the Governor General, Lord Forrester [1]
- 1924 Construction of Padbury Building [7]
- 1928 Town Planning Development Act and formation of Metropolitan Town Planning Commission under the chairmanship of the Architect Harold Boas [7]

1930s

- 1933 Development of Ahern's Department Store. Store fronts onto Murray Street and Hay Street. [38]
- Commonwealth Bank is officially opened on 22 March 1933 [1]

-
- 1934 Additions to Boans Department Store is made. [7]
- 1937 Plaza Arcade constructed. [7]
- 1939 Construction of new premise for Bank. Comprises of 5-storeys and basement level at a cost of £27 887. [11]
- Erection of theatre and Picaddily Arcade for Australian Machinery Investment Co Ltd for £75 000. [5]

1940s

- 1949 Perth Hospital Nurses Quarters constructed, 15 Murray Street, Perth. [8]

1950s

- 1953 Scale of freehold property between Government Stores Department & PWG Telephone Department to Commonwealth Government. [12]
- 1959 Freehold of property on which Coles & Co. Ltd is built reverts to Saw Family for £140 000, which is 11 times, more than the price for which the property was sold in 1924 (£12 500). [13]

1960s

- 1960 McCallums Building near Pier Street purchased for £62 500. [14]
- March 1960 State School Teachers Union Building opened by the Governor. [2]
- 1962 General Agency House closed down due to liquidation. It was initially sold for £75 000 to General Agency Co and was built 2 years ago for Standard Insurance Co. [15]
- Major reconstructions to Plaza Arcade to cost of £75 000 involves Coles & Co Ltd. vacating premises in Murray Street. Reconstruction to be done in two stages. First stage finished by Christmas 1962. [16]
- 1963 Architects drawing and description of proposed Commerce House. [18]
- 1965 History of this hostel- Horseshoe Coffee Palace, built by Mohamed Bux, now known as the Hospital Fund Building. [5]
- 1966 YMCA building developed along Murray Street. [7]
- 1968 Council Chambers is demolished. [19]
- City Arcade formed [7]

1969 Revised proposal for arcade development [20]
Revised plans for development of arcade site. [21]

1970s

- 1970 First pedestrian bridge in Central Perth. [5]
- Opening of Hay Street Mall and proposal for Murray Street Mall. Hay Street is closed to traffic and turned into pedestrian mall. [7]
- A four level arcade with cinema and 14-storey office known as City Arcade is constructed. [7]
- Fire gutted Coventry Motors resulting in \$200 000 loss. [23]
- Tyru House is purchased from Dunlop Australia for \$180 000 by Perth Businessman Alan Bond. [22]
- 1974 Proposal made to extend Murray Street through Havelock Street to Thomas Street. [24]
- Musgroves Ltd- a four-storey building exploded in flames wrecking the R & I Bank on one side and Moore Department Store on other side. [26]
- 1975 Old Fire Station to be preserved. The proposed new City No. 1 Station and Brigade Headquarters are to be on the same block. [7]
- Political rallies are banned in Forrest Place. [1]
- 1976 National Trust classifies the view from Pier Street along Murray Street. [27]
- Government Printing Office at corner of Murray Street and Pier Street, Moreton Bay Fig Tree, the Young Australian League Building and Central City Fire Station. [33]
- Government Printing Office site is earmarked for new City Telephone Exchange. [28]
- Pedestrian Study of Perth Central Area undertaken. [1]
- 1978 Perth City Council converted Forrest Place to pedestrian mall [29]
- 1979 Perth City Council will retain and upgrade the controversial crosswalk outside Boans in Murray Street. Council reversed Town Planning Committee recommendation for scrapping it. Council decided to ask Main Roads Department to install traffic signals at both crossings. It will approve the widening of the footpaths where necessary. [31]

Central Railway Station is paved [8]

1980s

- 1982 First 'sleep cheaper' hotel (334 Murray Street). It is the first of an Australia-wide chain. The 200 guest rooms will cost approximately \$39,260 each to build. [32]
- No acceptable tenders received for Piccadilly Arcade which needed upgrading. It was later sold for \$5.3 million. [34]
- 1983 Piccadilly Arcade to have \$800 000 facelift and upgrade. [35]
- Murray Street Fire Station to get a facelift. [36]
- Old Central Hotel is demolished [1]
- 1984 Perth City Council expects portion of Murray Street (between Barrack and William Street) to be closed by next Christmas. Minister for Transport, Mr Grill agreed to the closure as part of the Transport Strategy Study. PCC has long planned for this Mall to be parallel to Hay Street Mall as many of the shops on Hay Street Mall are serviced from Murray Street. [37]
- Boans became subsidiary of Myer. [1]
- 1986 State Government agreed to lease the site adjacent to Myer from Perth City Council for a period of 99 years. Initial premium was \$3 million to be followed by an annual peppercorn rent [1]
- Coles purchased Myer and sold to Armstrong Jones Australian Growth Fund. [1]
- Oct 1987 Council adopted in principle to close Murray Street. [1]
- Feb 1988 Decision to close Murray Street is ratified and Murray Street Mall is opened [1]

1990s

- Feb 1995 First stage of Murray Street streetscape enhancement plan. Footpaths widened at intersections and other major pedestrian crossing points and avenues of shaded trees planted along side street. Designed seats and benches were added under the new trees. [3]

2000s

- July 2000 Proprietors and staff of Murray Street shops and cafes argue that heroin users and their anti-social behaviour are driving away prospective customers. [6]
-

Sources:

1. Ainslie, De Vos (Ed) 1988. Forrest Place-Revitalising the City's Heart-Historical Perspective. Planning Department WA.
2. Building & Construction. 15. 7.60 p.17
3. City of Perth. (1995) Public Information Update, February 1995
4. Commerce Business School Review, Summer 2001, p.1-6
5. Education Department of Western Australia. 1981. *Living History in Western Australia-Walking in Perth City*. Western Australia. Government Printer WA.
6. Flint, John. Smack Pack troubles Mail Traders. *The West Australian*. 9 July 2000, p. 28
7. Molyneux, Ian. 1981. Looking Around Perth-A Guide to the Architecture of Perth and Surrounding Towns. Western Australia. Wescolour Press.
8. Seddon, G. 1986. *A City and Its Setting*. Western Australia. Fremantle Arts Centre Press.
9. *The Sunday Times*. 4 August 1929, p.24
10. *The West Australian*. 9 July 1896, p. 4
11. *The West Australian*. 19 January 1939, p.32
12. *The West Australian*. 7 March 1953, p.1
13. *The West Australian*. 31 October 1959, p.2
14. *The West Australian*. 13 February 1962, p.20
15. *The West Australian*. 1 June 1962, p. 7
16. *The West Australian*. 9 June 1962, p.86
17. *The West Australian*. 20 June 1962, p.1
18. *The West Australian*. 2 February 1963, p. 17
19. *The West Australian*. 12 November 1968, p.19
20. *The West Australian*. 23 January 1969, p.9
21. *The West Australian*. 29 January 1969, p.8
22. *The West Australian*. 11 March 1970, p.2
23. *The West Australian*. 12 October 1970, p. 6,9
24. *The West Australian*. 12 February 1974, p.8
25. *The West Australian*. 18 June 1974, p.3
26. *The West Australian*. 14 September 1974, p.1, 12
27. *The West Australian*. 20 February 1976, p.12
28. *The West Australian*. 7 August 1976, p.26
29. *The West Australian*. 9 June 1978 p. 42
30. *The West Australian*. 6 December 1978, p. 9
31. *The West Australian*. 16 October 1979, p.3
32. *The West Australian*. 3 April 1982, p. 3
33. *The West Australian*. 7 April 1982, p. 63
34. *The West Australian*. 5 June 1982, p. 2
35. *The West Australian*. 5 March 1983, p. 7
36. *The West Australian*. 14 September 1983, p.23
37. *The West Australian*. 27 February 1984, p. 5
38. *Western Mail*, 5 January 1933, p.13

APPENDIX D

HISTORICAL CHRONOLOGY OF SPARKS STREET

Last Updated: October 5, 2002 by David Gordon and Jeffrey O'Neill.

1820s

- 1821 Sparks land grant – bought for approx. £ 95. [14] p.35
- 1827 Lt. Col. John By expropriates 80+ acres of the Sparks Estate without compensation. The Barracks Hill Bulge included much of the land from the Rideau Canal to Bank Street. This was the best commercial land in Sparks' freehold. [14] p. 31-32.
- 1827-28 Sappers' Bridge was constructed by the Royal Engineers connecting Rideau Street with the Ordnance-owned lands on the west bank of the canal. [16] p.5

1840s

- 1842 Dalhousie district created with Bytown as capital. [14] p.39.
Courts and Jail built on land donated by N. Sparks. [14] p. 40
- 1842 The Bank of Montreal opened an agency at 144 Wellington Street. [16] p.18
- Mar. 1842 N. Sparks attempts to retake his ordinance lands by force. [14] p. 31
- Late 1840s N. Sparks recovers his ordinance lands through legislative action.
[14] p. 32
- 1845 A lengthy court case returned the lands off of Barracks Hill to Sparks. [16]
- 1847 Bytown incorporation bill passed by Canada legislature.
- 1848 Sparks subdivided the north section of his farm into building lots and laid out plans for Sparks Street as far as Bank Street. [16] p.5
- 1848 Sparks Street planned along present lines – wooden sidewalk along south side only." Cemetery transferred to Rideau Street East. [13] p. 75

1850s

- 1850 Dalhousie District becomes Carleton County. [14] p.39
- 1854 Mr. Sparks sold the west half of lot 17 to Andrew McCormick, who built a combined house and business on the site. [16] p. 39
- 1855 Bytown becomes the City of Ottawa. [14]
- Dec 31, 1857 Ottawa announced as capital of United Canadas. [14] p.56

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- Oct 16, 1858 City passes by-law preventing the erection of wooden buildings within certain limits and sets the maximum height of buildings at 3 stories. [16] p. 65
- 1859 Bate Building is constructed (109-11 Sparks St.). [16] p.123
- 1859 A map shows that only a few of the lots along Sparks Street as far as Bank Street had been sold and only nine actual buildings had been erected along the north side of the street. [16] p.6

1860s

- 1860 Horse-car was on Sparks & Sussex Drive. [14] p. 104.
- Oct 1865 First civil servants move to Ottawa. [14] p. 61
- 1866 First session of the Parliament of the United Canadas in Ottawa begins. [14] p. 61
- 1868 E.R. Fisher Building constructed (115 Sparks St.). [16] p. 128
- 1869 The city directory indicates that 235 of the 352 businesses in the city were located in Lowertown. [16] p.6

1870s

- 1870s City directories show that many people lived in the downtown core. [16] p.11
- 1870s Centre Theatre (108-116 Sparks St.) constructed. [16] p.1
- 1870 'Bankers Row' was located along the south side of Wellington Street between Metcalfe and Bank Streets. [16] p.17
- 1870-71 Montcalm Telegraph Building (93 Sparks St.) constructed. [16] p.113
- 1871 The Merchants' Bank occupied a rental structure. [16] p.17
- 1871 Robinson Block (65 Sparks St.) constructed. [16] p. 96
- 1871 Nelms Building (67 Sparks St.) constructed. [16] p.100
- 1871 CKO Radio Building (69-71 Sparks St.) constructed. [16] p.102
- 1870-71 Canada's Four Corners building constructed (Block 2).
- 1871-72 Birks Building constructed (Block 2).
- Nelms & O'Brien Buildings constructed (Block 1).
- 1872 Dufferin Bridge was constructed, linking Rideau and Wellington Streets. [16] p.6
- 1874 City of Ottawa horse-drawn passenger railway begins operation on Sparks Street. Summer on rail; winter on sleigh. [14] p. 102
- 1874 Bally Shoes building (144-146 Sparks St.) constructed. [16] p.15

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- 1874 Waterworks operating in UpperTown; sewer construction underway. [14] p. 104
- 1874-75 O'Connor/Sparks building constructed (Block 2).
- 1875 Photo – Sparks Street at Elgin. [9]

1880s

- 1883 Langevin Block. First federal building built south of Wellington Street (Wellington at Elgin). [9]
- May 1885 Electric lighting begins. [14] p. 102

1890s

- Jun. 29, 1891 New electric streetcar on Sparks Street. [14] p. 103-4
- 1893 Brouse Building constructed (81-83 Sparks). [16] p. 154
Last horse cars on Sparks Street. [14] p. 102
- 1894 Slater Building (177-79 Sparks Street) constructed. [16] p. 151
- Jul 30, 1895 First paving of Sparks Street begins. [9]
New electric arc lights. [9]
- 1895 Dover Building is constructed (Block 3 N).
- 1896 A.J. Stephens Building is constructed (185-87 Sparks Street). [16] p. 156
- 1898 Sun Life Building constructed, Sparks and Bank, E.L. Horwood Arch. [9]

1900+

- 1900 Mrs. Thomas Ahern drives an electric car down Sparks Street. [14] p. 146
- 1909 Saxe Building (formerly Canada Life Assurance) constructed at 75 Sparks Street. [16] p. 104

1910+

- 1910 City building codes change to allow the construction of structures up to 10 stories. [16] p.8
- Sappers and Dufferin bridges demolished and replaced by Connaught Place and new bridge. [7] p. 216
- 1910 Hope Building (61-63 Sparks St.) constructed. [16] p. 93
- 1910 Birks Building (107 Sparks St.) constructed. [16] p. 119
- Mar 10, 1910 Murphy-Gamble department store opens (C.P. Meredith architect) on Sparks Street. [9]

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- 1910-1911 Booth Building constructed (165 Sparks Street). [16] p. 146
- 1911-13 Blackburn Building (85 Sparks Street) constructed. [16] p. 108
- 1911 Chateau Laurier opens, displacing Sparks Street's Russell House as city's premiere hotel. [7] p. 253
- Oct, 1915 Centre Theatre opens for films on Sparks Street (next to Murphy-Gamble). [9]
- 1919**
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- Mar. 27 "Proposed Memorial Hall for the City of Ottawa" report by T. Adams, N. Cauchon et. al. Plan for 2000-4000 seat hall at rear of City Hall. NC papers.
- 1920**
-
- 1922 CIBC Building (119 Sparks St.) constructed. Darling and Person architects. [16] p. 131
- 1924 Blackburn Building constructed (Block 1) (10 Storeys).
Bank of Nova Scotia Building constructed (Block 2).
- 1925+**
-
- 1925 Wellington Building constructed (Block 3 N).
- 1925 Bank of Nova Scotia building (125 Sparks) constructed. John Lyle of Toronto was architect. [16] p. 136
- 1925-27 Metropolitan Life Assurance Building (180 Wellington) constructed. [16] p. 158
- Jan 10, 1925 "Propose soaring unique, colossal cenotaph in city." 1925. *The Ottawa Citizen*, January 10.
- Jan 22, 1925 Letter from WLMK to Murphy, War Memorial to go in front of post office. (WLMK papers).
- Feb 12, 1925 Conditions of Competition for National Commemorative War Monument published.
- Jun. 11, 1925 Deadline for receipt of designs for War Memorial.
- Jan. 1926 Board of Assessors selects the model "The Great Response of Canada", submitted by English sculptor Vernon March. [3]
- Jun. 14, 1926 "Civic Centre of Ottawa" plan by Noulan Cauchon of the OTPC. (PAC, NMC 4265).
- 1927 Ontario Hydro Building constructed (Block 1 N).
- Sept 15, 1927 Ottawa board of Control letter to WLMK supporting Russell House block.
- Oct 3, 1927 Russell House hotel burned down. Application made to the City for permit to erect a new hotel. Board of Control asks Federal Government to take over the

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- property and develop area bounded by Sparks, Elgin, Cartier Square, and the Canal.
- City Council Minutes, 607
- Oct 22, 1927 Mackenzie King appraises Mayor Balharrie of the FDC's plans for the Russell House Block.
Letter from Mackenzie King to Mayor Balharrie dated October 22, 1927.
SURP File: Letter from King to Mayor Balharrie appraising him of the FDC's plans for the Russell House Block. R-3257. File #64
- Nov8, 1927 Exchange of correspondence between Board of Control and Prime Minister and Federal District Commission occur in Council. Approves of plan, subject to approval of ratepayers of gradual development by the Government of the area bounded by Elgin, Nicholas, Wellington and Lisgar Streets. The Railway station and the buildings fronting on Rideau and Nicholas Streets are excepted. The City is to remove City Hall, Police and No. 8 Fire Stations. The City is to Widen Elgin Street and Nicholas Street. Sites of other buildings in area to gradually become available for park purposes, there is to be no rebuilding. City is to prevent the erection of buildings facing the park that are objectionable to the FDC. City Council Minutes, 656
- 1928 City requests Ontario legislation for development control on Elgin Street. [7] p. 220
- April 20, 1928 Parliament debates Federal District Commission Act. Amendments are made, lowering the annual grant to \$200,000, but providing a one time grant of \$3,000,000. The money is used to expropriate the Russell House site, where Confederation Square is now located.
- April 24, 1928 King makes speech in the House about the history of the national capital problem.
- June 4, 1928 Local improvement report 401C and by-law passed, under section 8 of L.I. Act. Two Thirds of the costs of widening Elgin Street are to be borne by the city. The balance of the cost to be cost graded into four property owner areas. Expropriation by-laws also passed. City Council Minutes, 316 and by-laws 6651, 6652.
- June 4, 1928 Widening of Elgin Street to Laurier Avenue commenced. City Council by-law 6651
- June 6, 1928 Henry Sproatt (architect) urges Mackenzie King to adopt the plans for Confederation Square prepared by the City of Ottawa Town Planning Commission over those prepared by the Federal District Commission. Reasoning is that the traffic diagram of the FDC's plans "is not well handled, and would result in confusion and noise." Source: Letter from Henry Sproatt (architect) to Mackenzie King dated June 6, 1929.
SURP File: Letter from Sproatt (Architect) to King recommending that the Ottawa Town Planning Commission's plan for Confederation Square be adopted over the FDC's. R-3277. File #27.
- June 16, 1928 N. Cauchon, OTPC Report #1. – Plan for the Central Area, and "Confederation Place and Related Central Area Plan" by Noulan Cauchon of the OTPC (PAC, NMC 11421).
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- Jun 27, 1928 "Plan showing proposed Confederation Place, Processional Way and related central areas." *The Ottawa Citizen*, June 27.
- Jul 1928 As president of OTPC, Cauchon develops several proposals for Confederation Place and surrounding area of downtown Ottawa. The plan is published in the Journal of the Town Planning Institute of Canada Vol. VIII (August) p.83, 93, 130. (Although the plan was not implemented under Cauchon's direction Gréber's plan for the Place borrowed heavily from Cauchon's 1928 plan.)
"Report No.1 Town Planning Commission" COA, Minutes of Corporation of the City of Ottawa 1928.
- Jul. 3, 1928 Town Planning Commission Report on Confederation Park, Elgin Street widening, and ravine approach to Parliament buildings.

1930+

- 1930 Vernon March dies; sculpture completed by his family. [3]
- Mar31, 1931 Ottawa City Hall destroyed by fire and later torn down. City staff reiocated to temp quarters (until 1958) [7] p. 219
- April 1, 1931 Prime Minister Approached to buy City Hall site for \$2,000,000
City Council Minutes, 196.
- April 10, 1931 Former Mayor Hopewell calls upon Bennett to commission a comprehensive plan before further city improvements are undertaken. File # 13: RBB, p. 312458
- 1932 Bank of Montreal building is constructed at 144 Wellington Street. [16] p. 141
- July 1932 Figures for memorial completed by the March family, but arch & site not ready.
[3] p. 7
- Aug 6, 1932 Mackenzie King ends second term as PM. R.B. Bennett (Conservative) becomes PM.
- Fall 1933 Figures for monument displayed in London's Hyde Park for six months, displayed on a plaster-covered base. [3] p. 7
- Nov. 2, 1933 Council agrees to no further large expenditures until a vote of ratepayers is taken. City Council Minutes, 939.
- 1934 Correspondence between Mayor Nolan and Prime Minister Bennett re: City Hall site. Rt. Hon. Sir George Perley replying for the Prime Minister drawing attention to the exchange of correspondence and stating that in the Government's opinion there was a "distinct and definite understanding that no building would be erected on the site" when City Hall comes down. The Mayor places before a sub-committee four proposals ; erect new City Hall on old site, Government acquisition of old site for \$500,000, Government furnish a central site in exchange, and the Government purchase and turn over to the City property in the Elgin, Albert, Slater and Driveway block. The Prime Minister replies that the City is precluded by the 1927 correspondence from rebuilding and should remove other buildings mentioned in that year's correspondence.
Report of the City Hall Site Committee for vote of ratepayers on building on old site, and on conveyancing the land to the Government for a park without charge

or exchange. Carried, reconsidered and then defeated. City Council Minutes, 681,682,685

- Feb 22, 1934 WLMK speech in Parliament on location of National Monument. (Hansard).
- Mar 10, 1934 Letter from G. Perley to Prime Minister Bennett. Civil servants suggest monument on site of Post Office; too heavy for bridge at Connaught Place. RBB papers R-1463, p. 50647.
- Mar 18, 1935 Legislation secured to issue \$875,000 debenture without assent of ratepayers to discharge indebtedness incurred in widening Elgin Street. City Council Minutes, 939.
- Oct 23, 1935 Bennett ends term as PM. Mackenzie King becomes PM
- Mar 23, 1936 Federal District Commission's Regulations for building restrictions, West Side of Elgin Street, fronting Confederation Park.
In addition to municipal by-laws, the Commission purposes, in its letter, to set forth the following:
1. Style – optional, to be of substantial and pleasing design and harmonize with adjoining or adjacent buildings.
 2. Construction – fire proof, stone face where fronting on Elgin and Sparks Streets.
 3. Height – restricted to 110 feet.
 4. Plans must be submitted to Committee.
 5. If building of such a nature that considerable motor traffic will arise, building must be located sufficiently back from street lane to take care of this traffic on its own property.
- Source: Memorandum for the Prime Minister, March 23, 1936.
SURP File: FDC Correspondence/ Gréber 1936-40.
- July 9, 1936 "The Government acquired the Hope property at the northeast corner of Sparks and Elgin, on which to erect an Upper Town Post Office."
Source: Site for Upper Town Post Office, July 29, 1937
SURP File: Gréber, WLMK, 1937 report and visit, MG 26 J2 Vol276 Files 303-1, 1937.
- Oct 14, 1936 Mackenzie King meets Jacques Gréber at the grounds of the Paris Exhibition, invites him to Ottawa to help plan location of the War Memorial. He also mentions pressing on with making "Ottawa as a beautiful capital."
King, William Lyon Mackenzie (1980). *The Mackenzie King diaries, 1893-1950*. Toronto: Toronto University Press. NLC Microfiche 106, p. 400 (Wednesday, October 14, 1936).
- Oct 15, 1936 Mackenzie King had an interview with Mr. Gréber. They discussed the development of the central of Ottawa. "Gréber approved very strongly the idea of making a plaza to extend from the Chateau Laurier Bridge covering all the tracks of the station and making beneath a sort of underground station for parking cars. Gréber felt it was important to enclose the plaza with buildings of a definite height. He also felt that the new Government buildings should be set at different levels."

1937+

- 1937 The Hardy Arcade (130 Sparks Street) was constructed. [16] p. 38
- Jan 18, 1937 "280-foot island will contain war memorial." *The Ottawa Journal*, January 18, p. 1,12.
- Jan 24, 1937 J. Gréber report to Public Works, recommends against location for War Memorial in Confederation Square, and placing it in Major Hill Park. [5] p. 6-10
- New Central Post Office begun on Confederation Square (J & W 1984, p. 227).
- Figures for memorial removed from storage at March farm and shipped to Canada. [3] p. 7
- Mar 17, 1937 "Consider site for post office." *The Ottawa Journal*, March 17, p.1
- Jun 24, 1937 Mackenzie King visits the Exposition with Gréber in the afternoon. Mackenzie King felt that the Exposition was the "most disappointing experience" he has had on the trip. Gréber said that the buildings look like "so many soap boxes, and that is what they are, and that is what the present times have come to be. No beauty; increasingly deadly monotony and uniformity, stands for noise, etc." Gréber also showed Mackenzie King the sketches "he had made for the improvement of Ottawa which contemplates the War Memorial being placed in Major Hill Park."
Source: Mackenzie King Diary, entry of Thursday Jun 24, 1937, page 597.
SURP File: King Diaries – Gréber, 1936-50.
- Jul 16, 1937 "Finding a site for the national memorial." *The Ottawa Journal*
- Aug10, 1937 Gréber is set on Major's Hill for the monument. Mackenzie King felt he was wrong in terms of "political possibilities and from the point of view of public and original intention and purpose of the monument."
Source: Mackenzie King Diary, entry for Tuesday August 10, 1937, p. 745.
SURP File: King Diaries – Gréber, 1936-50.
- August 11, 1937 Mackenzie King makes it clear to Gréber that the war memorial must be in the centre of the capital, either on Connaught Square as is or as and may be enlarged. He also looked at Gréber's plans for the monument and felt it was a better arrangement "as to a new Station, with front entrances on this side (facing park) with monument in front of it."
Source: Mackenzie King Diary, entry for Wednesday August 11, 1937, p 747.
SURP File: King Diaries – Gréber, 1936-50.
- Dec 1937 Contract to E.G.M. Cape of Montreal for construction of the granite pedestal and arch. [3]
- Oct 19 1938 Memorial completed on site, under direction of Sydney March. [3]
- Nov. 7, 1938 "Mr. King is pleased with progress as Connaught Place." *The Ottawa Journal*, November 7, p. 1, 12

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- Dec 23, 1938 "Expect City to finish Elgin Street Widening." *The Evening Citizen*, December 23, p. 22 .
- Dec 23, 1938 "City must finish Elgin Street job." *The Ottawa Journal*, Dec. 23, p. 1
- Dec 23, 1938 "Lighting Ottawa's Streets." *The Evening Citizen*, December 23, Editorial page
- Dec. 23, 1938 "Ontario Board on Elgin Street Widening." *The Ottawa Journal*, December 23, p. 1.
- 1938-39 Landscaping of remainder of the square by Toronto contractor A.W. Robertson, under direction of Jacques Gréber. [3]
- Jan. 4, 1939 "Completion of park development before royal visit urged by mayor." *The Ottawa Journal 5 O'clock Edition*, p. 2.
- Jan. 4, 1939 "Ottawa program for King's visit is considered." *The Ottawa Journal 5 O'clock Edition*, January 4, p. 1
- Feb. 4, 1939 "Elgin Street application turned down." *The Ottawa Evening Journal*, February 4, p. 1.
- Feb 7, 1939 "Makes two proposals for Elgin Street." *The Ottawa Journal 5 O'clock Edition*, February 7, p. 2.
- Feb. 10, 1939 "Way cleared City to widen Elgin Street." *The Ottawa Journal 5 O'clock Edition*, February 10, p. 1.
- Feb. 22, 1939 "Begin at once on Elgin Job." *The Ottawa Journal 5 O'clock Edition*, February 22, p. 1,13.
- Feb. 23, 1939 "New Ottawa buildings and projects cost \$8,052,371 in four years." *The Ottawa Evening Citizen*, February 23, p. 13.
- Mar. 16, 1939 Elgin Street widening completed at a cost of \$99,000 (City Council Minutes, 196)
- Mar. 27, 1939 Buses substituted for streetcars on Elgin Street. (This was done under cooperative plan between Government and Railway Company for purchase of buses.(City Council Minutes, 183)
- May 21, 1939 National War Memorial unveiled by King George VI and Queen Elizabeth before a crowd of 100,000 (11 a.m.). [3]

1940's

The Minister of Public Works called Jacques Gréber back.

"In lieu of any other memorial of the war just ended the government has approved of further development of Canada's National Capital and its environment on both sides of the Ottawa River. We are desirous that basic plan as laid by you and partially carried out should be further expanded to incorporate newly defined and considerably enlarged limits..."

Source: Cablegram sent to Jacques Gréber by the Minister of Public Works on August 22, 1945. Jacques Gréber. 1950. *Plan for the National Capital*, Queen's Printer, p. 1.

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- October 30 The National Capital Planning Committee held its inaugural meeting on October 30, 1946. Sub-Committees were appointed to study and report on railway and traffic matters. The Committee has recommended for early undertaking two essential components of the final plan.
1. Acquisition of lands for industrial areas, railway freight terminals and yards.
 2. Erection of a bridge over the Rideau Canal between Sparks Street and Laurier Avenue. (Letter from F.E. Bronson to Mackenzie King dated June 2, 1947 [MG26 J2 Vol464 File0-25-2 (A)])
- May 13, 1946 Mackenzie King agrees with Gréber that the "most important matter was to relieve the congestion in the centre of the city by the construction of another bridge across the tracks. I agreed with Gréber that the bridge should be half way between Connaught Place and Laurier Ave., not two-thirds of the way down, as Bronson wishes to have it." (Mackenzie King Diary, entry of Tuesday May 13, 1947, p. 435.)
- 1948 TD Bank Building opens (Block 3 S).
- Mar31, 1938 Gréber forecasts that the master plan for the National Capital region will be finished before the end of 1948. The plan will consist of detailed planning proposals, scale models and a general report to be submitted to the National Capital Planning Committee. "Our task has been to plan and organize on a sound and economic basis the development of a region of 900 square miles. The proposals may be carried out gradually over a period of perhaps 50 years, although several features of the master plan, which are now ready, may be executed at once, depending upon their degree of urgency. He also said that the plans to solve the problem of traffic congestion in the centre of the City at peak hours have been completed. Mentions that "the Prime Minister of Canada, when he decided on the preparation of the master plan for the Capital, expressed a wish to dedicate the plan to the memory of the Canadians who fell in the Second World War."
- Text of statement to be issued by Mr. Jacques Gréber at a press conference, parliamentary press gallery, Wednesday March 31, 1948. [MG26 J2 Vol465 File0-25-2(A)]
- SURP File: Statement by Gréber, 0-25-2(A) City of Ottawa 1948

1950s

- 1954 Westgate Shopping Centre opens in western suburbs. [14] p.174.
- 1956 Carlingwood Shopping Centre opens in western suburbs. (Smith, 1989)
- Jun 17, 1956 "Given a direct communication by Prime Minister St. Laurent that federal financial aid would be given Ottawa, for its new city hall, provided the site selected conforms to the plans for the National Capital, members of the Board of Control will give their support to the Nicholas Street site, Mayor E.A. Bourque announced today. City Council, by a majority vote, favoured a site at Lyons and Sparks Street. This site does not conform to the plans for the National Capital the mayor and his Board of Control learned following a meeting with the Prime Minister."(The Evening Citizen, page 1, 18. "Federal help for City Hall there pledged.")

1958	Gréber suggests that the Sparks Street Mall be created. (Ottawa the capital of Canada, Shirley E. Woods. Toronto: Doubleday Canada Ltd. 1980.)
1959	Electric streetcars withdrawn from service in Ottawa. Fram, 1999, p. 74
1959	Western end of Sparks Street closed and incorporated into a federal park. [11]
Fall 1959	Board of Trade organizes trip to Toledo, Ohio to view temporary mall. [11] Sparks Street Development Association formed. [11]
1950s (late)	Sparks Street was showing sign of decline. Land values had fallen. [16] p.13
1960s	

1960	NCC prepares a sketch plan for the mall. [11]
May 2, 1960	The City of Ottawa passes a By-law creating the temporary Sparks Street Mall from Bank Street to Elgin Street. (City of Ottawa Act; By-law 142-60)
May 20, 1960	"The Sparks Street Mall was first opened on a trial basis on May 20, 1960. First suggested by Gréber in 1958, the mall was a move by the Sparks Street merchants to recapture the trade they had lost to suburban shopping centres." [15] p. 300.
Aug. 15, 1960	Ottawa city council passes by-law to extend mall from September 3 to October 10, 1960. [11]
Summer 1961	Sparks Street mall has second season. [11]
Dec. 1962	"Confederation Square Development" report by John B. Parkin Associates recommends multi-level underground plaza connecting Sparks Street to the Rideau Canal under Confederation Square.
Nov. 2, 1962	Ottawa City Council passes a motion directing city staff to discuss the feasibility and practicality of a permanent mall with representatives from the Federal Government. (City of Ottawa Council Minutes)
1963	The design of the temporary Mall is modified as per comments by the City of Ottawa's Fire Chief. (Citizens' Committee for the Permanent Sparks Street Mall. 1963. <i>The Permanent Sparks Street Mall</i> . Ottawa: City of Ottawa)
Jul. 20, 1964	The City of Ottawa establishes a funding policy for the Mall. (City of Ottawa Council Minutes. July 20, 2002)
1965	The City of Ottawa passes By-law 206-65, which establishes Sparks Street from Bank Street to Elgin Street as a permanent pedestrian mall. (City of Ottawa By-Law 206-65)
1965	The City of Ottawa passes By-law 207-65, which establishes the Pedestrian Promenade Authority. Ottawa City Council also appoints 5 members to the newly formed authority. (City of Ottawa By-law 207-65)
1967	St. Laurent Shopping Centre opens in eastern suburbs. Smith, 1989.

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- Jun. 28, 1967 The Sparks Street mall from Bank Street to Elgin Street is permanently opened. [10]
- 1969 National Arts Centre opens on Confederation Square. [7] p. 237
- 1969 Campeau permitted to build high-rise Place de Ville Phases 3. [14] p. 194.
Policy to relocate civil servants to Hull begins. [14] p. 194
- Oct 20, 1969 City Council approves up to \$20,000 to design the Kent Street to Lyon Street block (Block 5) as part of the Place de Ville project. (Council Minutes of October 20, 1969)

1970s

- 1970 City of Ottawa By-law 321-70 adds Kent Street to Lyon Street block to the Mall. (City By-law 321-70)
- 1970 La Promenade building constructed (Block 2 N)
- 1971 The Bay takes over A.J. Freiman, including flagship store in Rideau Street.
- Nov 1, 1971 City Council discusses extension of Mall from Bank Street to Kent Street. Council estimates cost at \$380,000. Opening will coincide with new Bank of Canada building. (City Council Minutes November 1, 2002)
- 1973 The Federal Government expropriated the south side of Wellington Street, between Bank and Elgin, and the north side of Sparks Street, in order to control development adjacent to Parliament Hill. [16] p.14
- 1973 Mall Theatre (formerly Centre Theatre) closes. [13]
Bayshore Regional Mall opens in Western Suburbs.
- 1974 Regent Theatre demolished for Place de Ville expansion. [13]
- 1976 Bank of Canada Building constructed (Block 4 N).
- 1976 Metropolitan Life Assurance Building (180 Wellington) expropriated by Federal Government. [16] p. 158
- 1977 CD Howe Building constructed (Block 4 S).

1980s

- 1981 Royal Bank Building constructed (AKA Thomas D'Arcy McGee Building) (Block 1 S).
- May 29, 1982 Rededication of the National War Memorial [3] p.1
- 1982 Birks relocated main store from Sparks Street to Rideau Centre. [16] p.120
- 1983 Rideau Centre Regional Mall opens in CBD. Smith, 1989.
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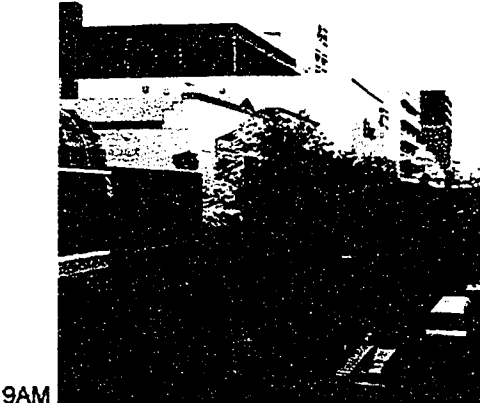
Nov. 5, 1986 City Council approves redevelopment concept for blocks 1 to 3. (City Council Minutes November 5, 1986)

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- 1) Cauchon, Noulan. 1922. "A Federal District for Ottawa." Journal of the Town Planning Institute. vol. 1, no. 9, p. 3-6.
- 2) Citizens' Committee for the Permanent Sparks Street Mall. 1963. The Permanent Sparks Street Mall. Ottawa: City of Ottawa.
- 3) Gardam, J 1982. National War Memorial. Ottawa: Minister of Supply and Services, Veterans Affairs Canada.
- 4) Gréber, Jacques. 1950. Plan for the National Capital: Atlas. Ottawa: Queen's Printer.
- 5) Gréber, Jacques. 1950. Plan for the National Capital-General Report. Ottawa: National Capital Planning Service.
- 6) Holt, Herbert S. 1915. Report of the Federal Plan Commission in a General Plan for the Cities of Ottawa and Hull. Ottawa: Federal Planning Commission.
- 7) Johnson, Dana & Janet Wright 1984. "Confederation Square, Ottawa, Ontario" Ottawa: Historic Sites and Monuments Board of Canada Agenda Paper.
- 8) Larry Smith & Company, Inc. 1968. Market Study: The Sparks Street Site. Washington, D.C.: Larry Smith & Company, Inc.
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- 10) National Capital Commission. 1968. The Sparks Street Mall. Ottawa: National Capital Commission.
- 11) Sparks Street Mall Research Committee. 1960. Sparks Street Mall: An Experiment in Downtown Revitalization. Ottawa: National Capital Commission.
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- 13) Todd, Frederick G. 1903. Preliminary Report to the Ottawa Improvement Commission. Montreal: Olmsted Brothers.
- 14) Taylor, John H. 1986. Ottawa: An Illustrated History. Toronto: J. Lorimer, Canadian Museum of Civilization, National Museums of Canada.
- 15) Woods, Shirley. 1980. Ottawa the capital of Canada. Toronto: Doubleday Canada Ltd.
- 16) FHBRO Reports.

10 HR SNAP SHOT OF MURRAY S'

*Photos (taken in April 2003) depict the view from centre of Mall t



9AM



10 AM



11AM



12 NOON



1 PM



2 PM



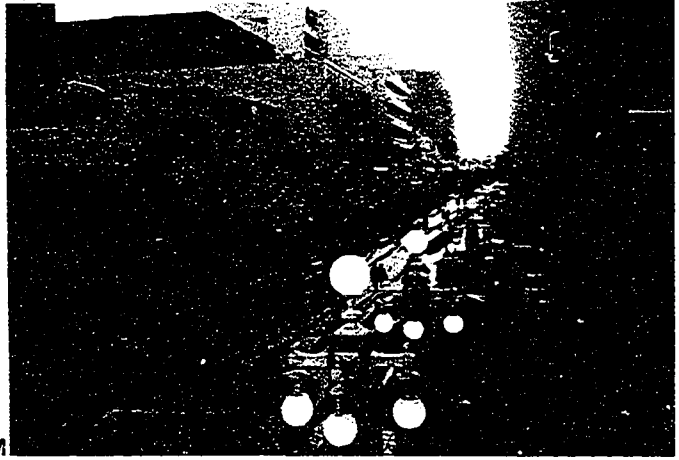
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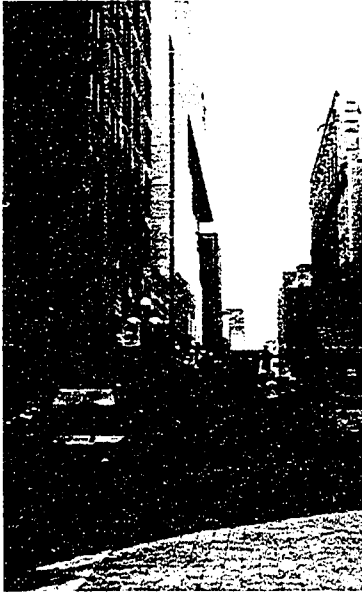
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6 PM

APPENDIX F 9 HR SNAP SHOT OF A PORTION OF SPARKS STREET MALL

*Photos (taken in September 2003) depict the view from Elgin Street



9am



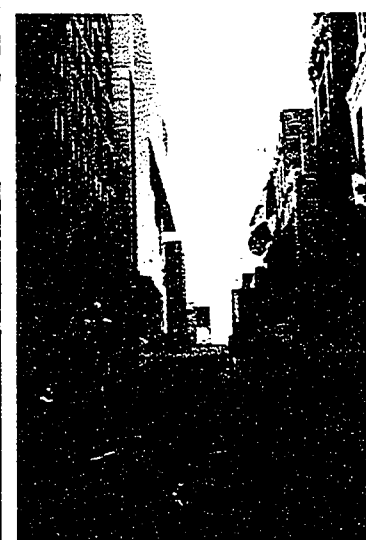
10am



11am



12noon



1 pm



2pm



3 pm
Cloudy



4 pm
Cloud broke up, full sunlight
emerged.



5 pm
Cloudy

APPENDIX G SEATING SPACE CALCULATIONS

Formula:

Seating 0.3m of seating per 2.8m² of space, which equates approximately to 1m per 10m².

Recommended minimum-seating space is 10% of total seating space.

Murray Street Mall

Total public space area = 6,251m².

Total seating space = 1.0 per 10m² = 1 x (6251/10)= 625m.

Required seating (min @ 10%)= 0.1 x 625 = 62.5m

Type of Seating	Length (m)
Primary Seating Bench Short and long	65
Secondary	4
Total seating provided	69
Total seating required i.e. 10% of total space (m)	62.5

Sparks Street Mall

Each block= 2,312m² (average area)

Total public space area= 2312 x 5 = 11,560m².

Total seating space = 1.0 per 10m² = 1 x (11560/10)=1156m.

Required seating (min @ 10%) = 0.1 x 1156 = 115.6m

Type of Seating	Block				
	1	2	3	4	5
Primary benches	90	162	90	16	250
Secondary ledges	0	0	0	460	61
Total seating (m)	90	162	90	476	311
Total Seating required i.e. 10% (m)	115.6	115.6	115.6	115.6	115.6

APPENDIX H ANALYSIS OF CRITERIA

Categories	Criteria	Why?	Methodology
Access and Linkage			
1	Form, length and proportion	Form and length of street influences culture and aesthetics of street	Evaluative Index
2	Focus	Features add unique element to the site	
3	Connectivity	Good linkages increases movement within the area	
Comfort and image			
4	Microclimate/ environment	Too much sun/too little shade affects comfort levels of a place and affects length of stay on a street.	Evaluative Index
5	Legibility	Places that can't be seen will not be used.	
6	Seating	Seating determines number of stationary users and affects length of stay on a street.	
7	Aesthetics	Places that do not have an aesthetic appeal usually do not invite users.	
8	Security & Safety	Security and sense of safety is important to street users and affects usage of street during day and night. It is important to note anti-social activities and lack of human surveillance and their affects on use of a space.	
9	Maintenance	Spaces that are not clean are not comfortable and are generally not inviting.	
10	Amenities	Provision of water, cycle racks, bins, toilets affect use of street by different age groups.	
Uses & Activities/Sociability			
11	Activities	Attractions invite people of all age groups	Observation Study and Ecological Mapping
12	Necessary, Optional and Social Uses	Dull land uses can deter users.	
13	Discovery	Encourages and invites users of all age groups i.e. children to elderly age group	