Chapter One

Introduction

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1.1 INTRODUCTION

The subject of this study is the visual damage caused by commercial signs in historic city centres and its effects on user perception and evaluation of these places. This chapter presents the research problem and the research questions, and introduces controls currently adopted to minimize visual pollution in historic city centres. Following this, this chapter presents the investigation in terms of (i) the research aim, (ii) the research objectives, (iii) the research approach and methodology, (iv) the variables associated with the research investigation, (v) the propositions and working hypotheses, (vi) the settings of the empirical investigation, and (vii) the considerations that need to be taken into account in the interpretation and generalization of the findings. Finally, it defines specific terminologies adopted in this study, and presents a summary of each chapter.

1.2 IDENTIFICATION OF THE RESEARCH PROBLEM AND QUESTIONS

This research is related to the problem of “visual pollution” in historic city centres. “Visual pollution” is an established expression commonly used in countries of North, Central and South America. It is usually given to unattractive visual elements of a streetscape; commonly cited examples are billboards, commercial signs, litter, graffiti, telephone lines and poles (Dunn, 2006; Plummer, 2006; Portella & Reeve, 2006; Minami, 2001; Klein, 2000; Cullen, 2000; Scenic America, 2000; Moles, 1987; Cauduro, 1981). In this thesis, this expression concerns the degradation of the visual quality of historic city centres caused by commercial signs displayed on building facades and in public spaces. It is often said
that historic places are being harmed by the uncontrolled display of commercial signs. This phenomenon is evident in contemporary urban settings of different countries, and has been explored by many researchers, as the literature demonstrates (Cullen, 2000; Passini, 1992; Nasar, 1988; Ashihara, 1983; Herzog, Kaplan & Kaplan, 1976; Rapport & Hawkes, 1970). Studies have already analysed this issue and explored the negative consequences that disordered commercial signage can have on the appearance of commercial street facades (Portella, 2003; Klein, 2000; Nasar & Hong 1999).

One example of a common negative effect of commercial signs on the appearance of historic city centres is visual overload. This is the result of an excessive number of signs plus high variation of their physical features such as size, colour, proportion, location on facades, lettering style, and so on. When too many commercial signs are placed side by side, the result can be chaotic (Nasar, 1988). Initiatives applied to reduce visual pollution or maintain the historic character of city centres still not affected by visual overload have shown that the application of guidelines to control commercial signs is essential to preserve and improve the visual quality of historic city centres. It is argued that, in order to achieve an attractive and pleasant built environment, it is essential that commercial signs are well designed, reflecting the characteristics of buildings and areas concerned (Pickard, 2001; Scenic America, 1993).

Despite the fact that the problem of visual pollution caused by commercial signage is well described and familiar to many, there is a lack in the literature of any evidence which might relate the aspects of the operation of commercial signs controls and physical characteristics of commercial streetscapes to the perception and evaluation of users from different urban contexts; such evidence could allow clear conclusions to be drawn about the universality of this relationship. The literature shows that there are many theoretical concepts which suggest what users from different urban contexts prefer in terms of the aesthetic composition of building facades. The best known theory related to these concepts is the Gestalt (Weber, 1995; Lang, 1987; Arnheim, 1977). However, there are no theories which inform universal preferences between users from different urban contexts in terms of the aesthetic composition of commercial signs. Several different commercial signage approaches are currently applied in distinct historic city centres, but these initiatives are not based on principles derived from the perception and evaluation of users from different urban contexts.
The present research recognizes that other studies have already proved that visual preferences with respect to the built environment can differ among people from distinct backgrounds (Coolican, 2004; Oliver, 2002; Golledge & Stimson, 1997; Bartuska & Young, 1994; Lang, 1987; Lynch, 1960). However, what this research explores is that, as argued by Nasar (1988), some visual preferences might be common to the majority of users, independent of their urban context, and these common views might be useful to the development a general theory to control commercial signage in historic city centres of different countries. This idea is supported by Reekie (1975 quoted in Uzzell & Jones, 2000, p.331) who said three decades ago: “What is needed is an objective approach based upon design principles that meet with common agreements, and that will lead to an environment visually acceptable to the great majority”. Moreover, according to Bentley and et all (1985), the built environment should be appropriated to a wide range of people and their needs.

In this context, the research problem can be described as: the lack of a general approach to guide and control commercial signs in historic city centres based on the perception and evaluation of users from different urban contexts. From this are derived the research questions driving this thesis which are:

**Research Question 1**: Which aspects of the operation of commercial signage controls need to be taken into account in the development of a general commercial signage approach applied to the historic city centres of different urban contexts?

**Research Question 2**: Which physical characteristics of commercial signs and buildings need to be taken into account in the development of a general commercial signage approach applied to the historic city centres of different urban contexts?

**Research Question 3**: Are there common perceptions and evaluations between users from different urban contexts in terms of commercial signage controls and the appearance of commercial street facades\(^2\) in historic city centres?

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\(^2\) The definition of the term “commercial street facades” is presented later in section 1.5.
1.3 CURRENT CONTROLS ADOPTED TO MINIMIZE THE VISUAL POLLUTION IN HISTORIC CITY CENTRES

In order to identify what has been done to minimize the visual pollution in historic city centres, this study reviews commercial signage approaches adopted in different urban contexts. This thesis presents a compilation of relevant proposals implemented to control commercial signs in historic cities; however, it does not ignore the fact that other actions of this nature exist. This study emphasizes that in developing countries, just in the last few decades, town planners and researchers have begun to investigate how commercial signage controls can be approached in historic city centres in order to combat visual pollution and protect historic heritage. On the other hand, since the beginning of the twentieth century, in several European and American cities, researchers have been committed to investigating how these media should be designed in order to improve the visual quality of public spaces (Scenic America, 2000, 1999, 1993; Nasar, 1988). This thesis also highlights initiatives adopted to control the physical characteristics of commercial signs of franchises. This kind of media has standard layouts implemented in any part of the world, independent of the local character and physical characteristics of each place.

General issues related to commercial signage controls applied in European, American and Brazilian historic city centres are discussed in Chapter Four with a special focus to initiatives adopted in England and Brazil. Both these countries are analysed in more detail because they reflect two distinct perspectives on how commercial signage controls can be approached: (i) in England, a national approach to help local authorities to guide and control commercial signage in historic city centres is applied in practice, and (ii) in Brazil, there is no national approach to control commercial signage, leaving local authorities with the responsibility to develop commercial signage controls, and to decide whether these controls are necessary in historic city centres.

In the English context, guidelines to control commercial signs in historic cities and towns attempt to maintain the visual quality and historic heritage, paying due regard to the whole city. On the other hand, in many Brazilian historic cities, commercial signage controls are not effective in preserving historic buildings and places because they are limited to a few streets. Part of the literature review of this thesis addresses how commercial signage controls are approached in the English historic city centres of Leeds, Dartmouth, Exeter, Bath, Oxford, and York. In addition, four master plans applied to control and guide
commercial signs in Brazilian historic city centres are analysed: “Corridor Cultural” in Rio de Janeiro, “Pro Centro” in Sao Paulo, “Reviver Project” in Sao Luiz, and “Program of Recuperation of the historic city centre of Salvador” in Salvador. In the Brazilian context, these master plans represent the first step in combating visual pollution and encouraging a new attitude to discuss this issue.

1.4 INVESTIGATION OF THE RESEARCH PROBLEM

1.4.1 Research aim, objectives, approach, and methodology

The aim of this research is to identify those aspects of the operation of commercial signage controls and physical characteristics of commercial signs and buildings that need to be taken into account in the development of a general commercial signage approach. This approach can help national, regional and local authorities of different urban contexts design and implement commercial signage controls. This aim is achieved by analysing the effects that different commercial signage approaches have on historic city centres through studies of perception and evaluation by users from different countries. This thesis in part seeks to inform the debate about the distinction between universal and culturally specific visual preferences – thus helping to better inform urban design principles to guide the control of advertising and facade treatment.

The research objectives are as follows:

A. Development of a theoretical and conceptual framework by defining working concepts related to (i) visual quality and user perception and evaluation of the built environment, (ii) formal and symbolic factors that influence aesthetic judgments, and (iii) issues linked to the operation of commercial signage controls in city centres such as consumer culture, city centre management, marketing the city and urban tourism, and by reviewing current commercial signage approaches adopted in different urban contexts. This is necessary for a comprehensive investigation of the issues addressed in research questions 1, 2 and 3. The literature review is carried out to satisfy this objective and inform the design of the research methods and the interpretation of the data.

B. Investigation of what issues are involved in the operation of commercial signage controls adopted in a historic city centre of a country where a national commercial signage...
approach is applied to help local authorities to guide and control commercial signs, and in historic city centres of a country where there is no national commercial signage approach to help local authorities to design and apply commercial signage controls. This will help to answer research question 1. The methods applied to satisfy this objective are: documentation review, archival records, and interviews. The literature review is also carried out to satisfy this objective.

C. Identification of the influence of different commercial signage approaches on the streetscape of historic city centres in terms of (i) order among commercial signs and buildings, (ii) the relationship between aesthetic composition of these media and historic building facades, and (iii) general visual character of commercial street facades. This will help to answer research question 2. The methods applied to satisfy this objective are systematic observations and analysis of physical characteristics of commercial streetscapes on-site and through photographs.

D. Analysis of user perception and evaluation of commercial signage controls in historic city centres with regard to the (i) necessity of commercial signage controls, (ii) public participation in the development of these controls, and (iii) physical aspects that need to be taken into account in these controls. This will help to answer research questions 1, 2 and 3. The method applied to satisfy this objective is questionnaire.

E. Evaluation of the effects that different commercial signage approaches have on historic city centres through residents’ perceptions and evaluations of the (i) appearance of the historic city centre, (ii) city centre functions, (iii) city centre image, and (iv) wayfinding through commercial signs. This will help to answer research question 2. The method applied to satisfy this objective is questionnaire.

F. Analysis of preferences and satisfactions of users from different urban contexts in terms of (i) the appearance of commercial street facades where distinct commercial signage approaches are applied, and (ii) the physical characteristics of these streets that might influence those responses. This will help to answer research questions 2 and 3. The method applied to satisfy this objective is questionnaire.

G. In a city where the appearance of commercial streetscapes are evaluated negatively, investigation of the perception and evaluation of residents in terms of the following issues:
(i) which factors contribute to increasing visual pollution in the city centre and what can be done to reduce this problem, (ii) the relationship between commercial signage and building facades in the historic city centre, and (iii) whether residents’ evaluations of commercial street facades of their city coincide with evaluations of the same streetscapes by users from other places. This will help to answer research questions 1, 2 and 3. The methods applied to satisfy this objective are focus group discussion and questionnaire.

H. Analysis of user perception and evaluation of commercial street facades where different commercial signage approaches are applied in terms of (i) beauty, interest, order, colour and complexity, (ii) variation of commercial signs and buildings, (iii) number of commercial signs and percentage of building facades covered by these media, and (iv) relationship between the aesthetic composition of commercial signs and building facades. This will help to answer research questions 2 and 3. The method applied to satisfy this objective is questionnaire.

I. From the results obtained from the above objectives, identification of which aspects involved in the operation of commercial signage controls and physical characteristics of commercial signs and buildings need to be taken into account in the development of a general commercial signage approach inapplicable to historic city centres in different urban contexts.

Figure 1.1 (at the end of this chapter) illustrates the links between the research questions and the research objectives.

This research adopts the Environment Behavioural approach. This thesis analyses the effects that different commercial signage approaches have on the appearance of historic city centres and commercial street facades through the study of user perception and evaluation of these places. This investigation is based on the premise that the potential for historic city centres to satisfy the expectations of users from different urban contexts is influenced by the way that commercial signage controls are approached by local authorities, and by the presence or absence of certain physical characteristics related to commercial signs and buildings. This study claims that user perception and evaluation of historic city centres can be relevant indicators of the performance of commercial signage approaches applied in these places.
In terms of the methodology, this thesis adopts a multiple method survey design in order to combine methods which can compensate for the particular faults and limits of each other. The definition of the methods and techniques takes into account that this study compares samples of users from two countries in terms of their perceptions and evaluations of historic city centres. A multiple case study approach is adopted in this research. A frequent criticism of the case study methodology is the assumption that its dependence on a single case can render it incapable of providing generalizing conclusions (Yin, 1994, p.11). Taking this issue into account, in this study, three case studies are selected, and the results are considered more reliable when the same findings are supported by the data from two or more case studies.

With reference to the theoretical discussion in Chapters Two, Three and Four, five propositions and a set of working hypotheses have been formulated to help to answer the research questions. These propositions and working hypotheses are related to research objectives D, E, F, G and H (see above), and are presented in later chapter. Research objectives A, B and C are not related to the test of propositions and working hypotheses.

1.4.2 Variables associated with the research investigation

Several variables are involved in the investigation of which aspects of the operation of commercial signage controls and physical characteristics of commercial signage and buildings need to be taken into account in the development of a general commercial signage approach. This research investigation takes into account variables related to (i) the visual quality of the built environment and aspects of the streetscape that influence aesthetic judgments, (ii) non-physical factors that influence the operation of commercial signage controls, and (iii) current commercial signage control approaches adopted in different urban contexts. These variables are as follows:

**Group One:** Variables related to the visual quality of the built environment and aspects of the streetscape that influence aesthetic judgments.

a. Visual quality of the built environment: (i) principle of order, (ii) legibility and (iii) imageability in public spaces.

b. Process of user perception and cognition of the built environment: (i) user preference and user satisfaction, (ii) dimensions of aesthetic evaluation (non affective and affective),
(iii) subjective and objective evaluations, and (iv) influence of user background on perception and evaluation of the built environment.

c. Aspects of the streetscape that influence aesthetic judgments: (i) formal factors related to disordered and ordered streetscapes, (ii) concept of complexity, (iii) formal factors that increase user perception and evaluation of commercial signs and building variation (silhouette, facade details, facade articulation, visual character and colour), and (iv) symbolic factors that influence user perception and evaluation of streetscapes, including the historic importance attributed to buildings and public spaces.

**Group Two:** Variables related to non-physical factors that influence the operation of commercial signage controls.

a. Transformation of the appearance of city centres: (i) consumer culture, (ii) historic context involved in the process of transformation of the appearance of these places, and (iv) functions of commercial signs in city centres.

b. City centre management: concepts of (i) city centre management, (ii) marketing the city, (iii) place promotion, and (iv) urban tourism, including different urban tourism approaches and competition among city centres.

**Group Three:** Variables related to current commercial signage control approaches adopted in different urban contexts.

a. Influences of commercial signs on the appearance of city centres: positive and negative effects of commercial signs on city centres according to user perception and evaluation of the appearance of these places.

b. Effects that commercial signage controls can have on the local character of cities: impacts that an aesthetic control approach known as “branding of public space” have on the appearance of cities.

c. Proposals currently applied to reduce the negative impacts of commercial signs in historic city centres: issues taken into account in commercial signage controls adopted in different countries.

All the above variables are analysed in the chapters of the literature review, and the issues extracted from those discussions build the theoretical and conceptual framework of this research.
Chapter One: Introduction.

1.4.3 Setting of the empirical investigation and considerations about the interpretation and generalization of the findings

The case studies for this research were selected in order to cover a variety of aesthetic aspects that can be presented in different historic city centres. The main criteria used to select countries to allow a comparison between users from different urban contexts in terms of perception and evaluation of commercial and historic city centres were: (i) a country where a national approach to help local authorities to guide and control commercial signage in historic city centres is applied in practice, and (ii) a country where there is no national approach to control commercial signage leaving local authorities with the responsibility to develop commercial signage controls, and to decide whether these controls are necessary in historic city centres. England and Brazil were chosen because they satisfy these criteria, respectively. Three historic cities were defined as case studies: Oxford, in England, as an example of where a national commercial signage approach is applied, and Gramado and Pelotas, in Brazil. In the first Brazilian city, commercial signage controls are applied by the local authority, whereas in the second city commercial signage controls have never been implemented.

The limitations of a generalization of the findings are clear because of the sampling of users is not random (see Chapter Five, section 5.2). In this regard, the results from the empirical investigation need to be interpreted as pertaining to the sample of residents in Oxford, Gramado and Pelotas, and not of a wider population. On the other hand, the research findings remain relevant to a qualitative understanding of people’s perceptions and evaluations of commercial and historic city centres. Instead of allowing a set of quantitative predictions to be made, the applicability of the research findings to other historic city centres is treated as probable assumptions rather than something to which can be assigned precise universal laws. It is also hoped that the findings of this thesis improve future actions to control commercial signs, and help the discussion of how these media can be designed to create pleasant commercial and historic city centres for users from different urban contexts.

1.5 GLOSSARY OF CONCEPTS

Seven concepts are defined to avoid misunderstanding of the terminologies adopted in this thesis:
Chapter One: Introduction.

a. “Commercial signage”: in Chapters Two, Three and Four, this term refers to shopfronts, advertisements, billboards and window displays. When presenting the results in Chapters Six, Seven and Eight, “commercial signage” refers to shopfronts and window displays as these are the media identified in the streetscapes of the case studies.

b. “Historic buildings”: buildings recognized by law as being of historic and/or cultural importance.

c. “Ordinary buildings”: buildings which are not historic.

d. “Visual pollution”: the degradation of the visual quality of historic city centres caused by commercial signs displayed on building facades and in public spaces.

e. “Street facade”: an image of a block elevation of all building facades that form one street side (see Figure 1.2)

![Figure 1.2: Example of a street facade - High Street in Oxford, England (Source: author).](image)

f. “Conflict between design of commercial signs and aesthetic composition of building facades” or “harmed buildings”: this situation is identified as when commercial signs cover partially or totally elements of building facade such as silhouette, facade details, and façade articulation.

g. “Urban context”: this term is defined in terms of geographic localization, total population, territorial extension, demographic density, population and immigrants, general economic activities, historic foundation and general characteristics of the streetscape of city centres.

h. “Manufactured character” or “manufactured image”: the character and image of cities where aesthetic controls are applied to promote fake historic architecture and/or historical theme urban environments.
1.6 SUMMARY OF THE CHAPTERS IN THIS THESIS

This research is organized into five parts and nine chapters (see Figure 1.3).

1. **INTRODUCTION** → Chapter One
2. **LITERATURE REVIEW** → Chapters Two, Three and Four
3. **METHODOLOGY** → Chapter Five
4. **FINDINGS** → Chapters Six, Seven and Eight
5. **CONCLUSION** → Chapter Nine

Figure 1.3: Structure of the thesis (Source: author).

**Part One - Introduction.**
- **Chapter One** introduces the reader to the research investigation. At the end, this chapter presents a glossary of concepts and a summary of the nine chapters of this thesis.

**Part Two - Literature review.**
- **Chapter Two** refers to the variables related to the visual quality of the built environment and aspects of the streetscape that influence aesthetic judgments. This chapter introduces the principles of visual quality, order, legibility, and imageability. It analyses the processes of perception and cognition, the concepts of user preference and satisfaction, the dimensions of aesthetic evaluations, the use of vague and ambiguous expressions in aesthetic judgments and controls, and the influence of user background on the perception and evaluation of the built environment. This chapter also investigates formal and symbolic aspects of the streetscape that influence aesthetic judgments, and the concept of complexity. At the end, the primary principles adopted to build the theoretical and conceptual framework of this research are summarized.

- **Chapter Three** deals with the variables related to non-physical factors that influence the operation of commercial signage controls. It explores the aspects involved in the process of transformation of the appearance of city centres in terms of cultural changes, historic context, and functions of commercial signs. This chapter discusses the concepts of city centre management, marketing the city, and urban tourism. At the end, it identifies the preliminary issues related to the operation of commercial signage controls, which will be investigated in the case studies of this research.
• **Chapter Four** refers to the variables related to current commercial signage control approaches adopted in different urban contexts. This chapter identifies the influences of commercial signs on the appearance of city centres, and examines an aesthetic control approach known as “branding of public space”. This chapter reviews current commercial signage approaches applied in historic city centres of different countries, and makes a general comparison between the planning systems adopted in England and Brazil. It analyses commercial signage controls adopted in Leeds, Dartmouth, Exeter, Bath, Oxford and York in England, and in Rio de Janeiro, Sao Paulo, Sao Luiz and Salvador in Brazil. At the end, this chapter presents the final issues taken into account to build the theoretical and conceptual framework of this research, and presents the propositions and working hypotheses tested in later chapters.

**Part Three - Methodology.**

• **Chapter Five** presents the research design and methodology adopted to achieve the research aim and answer the research questions. This chapter is structured into two main sections: sample criteria, and choice of research methods. It presents the criteria for the selection of case studies, commercial street facades and participants, and the techniques applied in the different countries to get people involved in the fieldwork. This chapter also discusses the choice of research methods of data collection and analysis. At the end, the summary of this chapter is presented.

**Part Four - Results.**

• **Chapter Six** refers to research objectives B, C, D and E and tests working hypotheses A and B (see Figure 1.1). This chapter presents a brief contextualization of the case studies, and identifies how commercial signage controls are approached in the cities of Oxford, Gramado, and Pelotas by analysing documents and views of the City Council officers. The influence of these approaches on the appearance of commercial street facades is analysed through systematic observations of these places on-site and through photographs. This chapter also presents the findings related to user perception and evaluation of (i) commercial signage controls and (ii) the historic city centres of Oxford, Gramado and Pelotas. At the end, this chapter emphasizes the preliminary aspects of the operation of commercial signage controls and physical characteristics of commercial signs and buildings that need to be taken into account in the development of a general commercial signage approach applicable to historic city centres.
• **Chapter Seven** refers to research objectives F and G and tests working hypotheses C and D (see Figure 1.1). This chapter explores the relationship between commercial signage approaches and user perception and evaluation of the appearance of a set of commercial street facades. This chapter highlights differences and similarities between lay people and professionals in terms of perception and evaluation. It also explores the perceptions and evaluations of residents in the city where the street facades chosen as the worst in terms of appearance are located. Taking this last issue into account, this chapter analyses (i) the factors that contribute to increase visual pollution in that city and what can be done to reduce it, (ii) what residents think about the relationship between commercial signs and building facades in that historic city centre, and (iii) whether they agree with users from other cities about the evaluation of the commercial street facades of their city. At the end, this chapter identifies the physical characteristics of street facades that influence user perception and evaluation and the proposals to reduce visual pollution in historic city centres.

• **Chapter Eight** refers to research objective H and tests working hypothesis E (see Figure 1.1). This chapter complements the results obtained in Chapters Six and Seven by identifying specific physical characteristics of commercial signs and buildings that influence the perception and evaluation of users from different urban contexts. This chapter presents findings related to user perception and evaluation of commercial street facades in terms of (i) the aesthetic dimensions of beauty and interest, (ii) the physical aspects of order, colour variation, and complexity, (iii) the variation of commercial signage and buildings, (iv) the number of commercial signs, (v) the percentage of building facades covered by these media, and (vi) the relationship between aesthetic composition of commercial signs and buildings. At the end, this chapter identifies the final aspects of the operation of commercial signage controls and the physical characteristics of commercial signage and buildings that need to be taken into account in the development of a general commercial signage approach.

**Part Six - Conclusion.**

• **Chapter Nine** draws the final conclusions from the main findings of Chapters Six, Seven and Eight answering the research questions. Finally, it analyses the wider implications of the results of this thesis, and suggests possible further investigations.
Figure 1.1: Links between the research questions, objectives, propositions, and working hypotheses (Source: author).
Chapter Two

The visual quality of the built environment and the factors that influence aesthetic judgments

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2.1 INTRODUCTION

This chapter is the first stage of the intellectual inquiry of this thesis. It introduces the research approach adopted in this study and the concepts that drive the research design and methodology presented in Chapter Five.

The discussion here is based on the EnvironmentBehavioural research approach, which explores the relationship between human perception, evaluation and behaviour and the physical characteristics of the built environment. This approach is distinguished from other approaches by the explicit consideration it gives to the needs and preferences of people who are destined to use a determined setting. In this regard, this chapter introduces concepts, which are applied later in this research to analyse user perception and evaluation of commercial signage controls and appearance of historic city centres and commercial street facades. First, the concept and importance of visual quality in the built environment are discussed. Next, the attributes of legibility and imageability, the processes of perception and cognition, the concepts of user preference and user satisfaction, and the dimensions of aesthetic evaluation applied to analyse the appearance of streetscapes are presented. The use of vague and ambiguous expressions in aesthetic evaluations and the influence of user background on the perception and evaluation of the built environment are also discussed.

In addition, formal and symbolic factors that can influence aesthetic judgments are investigated. In this research, formal factors are related to the physical characteristics of commercial signs and buildings. The concept of complexity is also taken into account in
order to identify what level of variation (high, moderate or low) of commercial signs and buildings is perceived as positive by users from different urban contexts. Symbolic factors are explored with particular focus on the importance given to historic buildings and places by users when they evaluate the appearance of commercial streetscapes. At the end of this chapter, the conclusion summarizes the preliminary principles adopted for the theoretical and conceptual framework of this investigation.

2.2 VISUAL QUALITY OF THE BUILT ENVIRONMENT

The concept of visual quality is related to the level of order among the physical elements of built space such as the features of buildings and commercial signs. Weber (1995, p.113) suggests the following relationship: “the more orderly a configuration, the higher its aesthetic value”. Gomes (2000, pp.19-25), Descartes (quoted in Miles, Hall & Border, 2000, p.37), Weber (1995, p.114), Lang (1987, p.191) and Canter (1974, p.32) suggest that, according to Gestalt psychology principles, high visual quality of public places consists in the “good form” or “pragnanz” of the city. “Good” in this case concerns how elements in an aesthetic composition are related to each other such as regularity, orderliness, simplicity, symmetry and so on, which then refer to specific Gestalt laws (see section 2.4.2) (Landry, 2006, pp.227-228; Boeree, 2000, pp.1-2). In this research, places where there is no aesthetic conflict between physical elements of buildings and commercial signs are recognized as having high visual quality or high order (Weber, 1995; Lang, 1987; Arnheim, 1977). On the other hand, low visual quality is linked to disordered places (Arnheim, 1977, p.171). According to Lang (1987, p.189): “a disordered environment is one where the relationship of components to each other is purely haphazard and not governed by some overall principle”.

Weber (1995, p.109) and Arnheim (1977, p.162) argue that order is an indispensable aspect in all kinds of configuration (physical and mental). According to these authors, ordered compositions cause positive reactions on user perception and evaluation. Although user evaluation can be influenced by particular experiences, preferences and feelings, the perception of order is evaluated as positive by almost all people (Nasar, 1998, pp.72-73; Weber, 1995, p.109; Kaplan, 1979 quoted in Nasar, 1988, p.45). Nasar (1998, p.260) suggests that ordered streetscapes are evaluated positively by people who live in different cultures and physical environments. On the other hand, disordered public spaces are
evaluated negatively because observers are exposed to a series of disconnected aesthetic elements (such as commercial signs, buildings and urban furniture) which provoke user saturation. This saturation experience means that people lose the enjoyment of variety, and their senses become insensitive to the succession of visual stimulus without order (Lozano quoted in Nasar, 1988, p.405).

The importance of high visual quality in public space is analysed in several studies (Stamps, 2000; Weber, 1995; Herzog, 1992, Nasar, 1988; Russell & Ward, 1981; Oostendorp & Berlyne, 1978; Wohlwill, 1976; Harrison & Sarre, 1975; Hershberger & Cass, 1974; Lowenthal & Riel, 1972; Canter, 1969). These studies support the argument that the visual quality of public spaces influences human behaviour, and they also identify aesthetic compositions of buildings evaluated positively and negatively by users. According to Kelly and Kelly (2003, p.9), the importance of high visual quality is also emphasized because it promotes safe, better behaviour from users and can create interaction between people and local authorities in order to get a better sense of community. Lang (2005, p.75) says that the visual quality of open spaces is essential to experiencing cities and the perceptions of their quality; the high visual quality of places built by street morphology, squares, parks and buildings that face public areas forms the international images of cities such as London, Paris and Singapore. In addition, Gehl (2001) argues that the extent and character of outdoor life can be influenced by physical planning. He suggests that there is a relationship between outdoor visual quality and outdoor activity. In this regard, the visual quality of commercial city centres may influence user perception and evaluation of the functions of these places (such as places of leisure, work or for passing through). The visual quality may affect how people use the city centres, how long individual activities last, and which activity types may develop (Hass-Klau, Crampton, Dowland & Nold, 1999, pp. 25-27).

Urban design principles can help to increase the visual quality of urban areas. Sherlock (1991) suggests that city centres need to have “decent environments”, without which people and their activities will eventually melt away. According to him, the expression “decent environment” does not mean simply pleasant buildings. This term has to mean that users feel pleased and interested with the appearance of streetscapes (Sherlock, 1991, pp.164-165). Sherlock demonstrates that people like shopping in ordered areas, and treatment of public spaces helps to determine pleasurable and interesting shopping
Chapter Two: The visual quality of the built environment and the factors that influence aesthetic judgments.

experiences. Users will prefer commercial city centres with qualities that make them stand out from other city centres in terms of the level of order (Urban Design for Retail Environments, 2002, pp.17-38). Shopping in ordered retail environments can also help to improve user mood (Mano, 1999).

In light of this context, this research (i) analyses the level of order in historic city centres and in commercial street facades located in different urban contexts, and (ii) explores user perception and evaluation in terms of the appearance of these places. In this investigation the following criterion, suggested by Portella’s earlier study (2003), is applied to define the level of order of commercial street facades: the percentage of a street facade related to buildings harmed by commercial signs defines the street as having higher or lower level of order. In this present research, harmed buildings are considered to be the ones where commercial signs cover elements related to facade silhouette, facade details, and/or facade articulation (Portella, 2003; Nasar and Hong, 1999; Nasar, 1988).

2.2.1 Legibility and imageability in the built environment

The concepts of legibility and imageability concern an exploration of how people use and visualize the built environment. They were firstly investigated by Lynch (1960), who provided a theoretical framework for studying cognitive maps, urban form and the spatial relationships of three American cities (Los Angeles, Boston and Jersey City). His study reveals what elements in the built structure of those cities are important in the popular perception.

Legibility can be related to the term “wayfinding” (Mollerup, 2005, pp.27-29; Oliver, 2002, p.192; Passini, 1992, p.159). Wayfinding can be applied in the architectural context as the user experience of orientation and choosing a path within a place, with regard to a set of architectural and design elements that may influence orientation (Passini, 1992, p.66; Trulove, 2000, pp.116-117). In other words, this term concerns the user’s capacity to form cognitive maps and involves two abilities – cognitive and behavioural - applied to get to a destination (Herzog & Leverich, 2003; Golledge, 1999; Downs & Stea, 1973; Tolman, 1948). In this case, legibility embraces character and sense of place with clarity and helps wayfinding (Butina & Bentley, 2007, pp.242-243; Urban Design for Retail Environments, 2002, p.40). In this regard, legibility is related to the ease with which people understand the layout of places. For example, to understand the layout of a city centre, people may
create a mental map. This representation will include points of reference (such as buildings, signs, trees and so on) which stand out first in people's minds when the streetscape is observed (Mollerup, 2005, p.41; Dogu & Erkip, 2002, pp.731-755). These references may help people navigate through city centres, and, as defined by Lynch (1960), they can be classified as networks of paths, edges, districts, nodes and landmarks. On the other hand, imageability is the quality in a physical object which gives it a high probability of evoking a strong image in any given observer. Physical characteristics of public spaces, such as shapes of buildings and colours, are elements that compose mental images of the built environment, and help people remember a place as unique (Lynch, 2007, 1960). A highly imageable city would be well formed, contain very distinct parts, and be instantly recognizable by people (Nasar, 1998, pp.8-9).

Passini (1984) suggests that post Kevin Lynch studies have confirmed that the importance of legibility and imageability in public spaces is valid in other cities outside the United States. In many cases, there are minor differences in the relative importance of different elements over different cultures. Consequently, Lynch’s findings (1960) have been implemented in city planning operations in several places in recent years. As a result, people may be benefiting from the use of more legible and imaginable city elements and clearer forms (Passini, 1984). Strategies applied by local authorities to improve legibility and imageability of public areas can be seen in Bristol, England. One of the aims of the Development Plan adopted in Bristol is to create a comprehensible image of the city by means of signs, routes, street furniture design, public art, publicity and marketing (Kelly & Kelly, 2003). Similarly, practices in development controls in Bath emphasise the importance of legibility in terms of landmarks and the relationship to existing and past urban form (Bath & North East Somerset City Council, 1997) (see Figures 2.1 and 2.2).

Figure 2.1: The city centre of Bristol, in England, has had its legibility and imageability improved (Source: http://www.bristol-city.gov.uk).
In this sense, legibility and imageability increase user perception of personal safety and make people become more familiar with their surroundings. Shop owners might desire legible and imaginable commercial city centres because shoppers may be able to find their stores more easily. Mental references make it easier for people to find their way around; anchor stores often act as references within the townscape, as do shopfronts and window displays. Commercial city centres which are too uniform do not help to build the legibility and imageability of places. In terms of commercial signage controls adopted in historic sites, in some places these can fail to provide sufficient variety to attract the public to them as a destination. According to the Urban Design for Retail Environments (2002, p.40), this may happen because of lack of diversity with particular focus on commercial signs. For these reasons, this research assumes that good legibility and imageability are about creating a memorable experience that involves the variety of commercial signs and buildings in an ordered relationship together.

The principles of legibility and imageability are taken into account in the development of the theoretical and conceptual framework of this research. This framework assumes that: (i) these principles create or reinforce the character of commercial city centres, (ii) order helps to create legible and imaginable city centres, and (iii) legible and imaginable city centres help residents and visitors to orientate themselves better spatially, to navigate through the centre and to find their way, and they also allow people to experience a sense of place. This framework also recognizes that the more legible and imaginable commercial city centres are, the more successful they are likely to be in attracting people (Lynch, 2007, pp.155-160; Kelly & Kelly, 2003, p.31; Lynch, 1960, p.9). The concepts of legibility and imageability are applied in this research to analyse the mental image that people have of commercial and historic city centres. These mental images are analysed with respect to the
Chapter Two: The visual quality of the built environment and the factors that influence aesthetic judgments.

following: (i) how users recognize historic city centres (as historic, commercial, tourist or cosmopolitan centres), (ii) whether commercial signs in historic city centres are identified as points of reference, which may help wayfinding, and (iii) whether these media are evaluated as positive or negative elements of city centre image. The results from these analyses may suggest elements that should be taken into account in the development of a general commercial signage approach.

2.3 USER PERCEPTION AND COGNITION OF THE BUILT ENVIRONMENT

The process of user evaluation of the visual quality of public spaces involves two principles: perception and cognition (Kaplan & Kaplan, 1989, 1982; Zube, Sell & Taylor, 1982; Zube & Pitt, 1981). The first one is related to the process by which users get visual information of places through stimuli. In city centres, these stimuli are physical elements of public spaces, such as commercial signs, shapes and colours of buildings, street furniture and so on. The latter principle does not need to be related directly to visual stimuli linked to physical characteristics of places. The cognition process concerns symbolic meanings associated with places, and can be influenced by the user urban context, values, culture and individual experiences (Fischer, 1997, p.27; Golledge & Stimsom, 1996, pp.19-189; Bartuska & Young, 1994, p.69; Passini, 1992, pp.59-60; Carr, Francis, Rivlin & Stone, 1992, pp.233-237; Biederman & Ju, 1988, pp.38-64; Lang, 1987, pp.86-92). This definition agrees with what Meader, Uzzell and Gatersleben (2006, p.61) say: “people do not perceive the environment through clear eyes, but through perceptual lenses coloured by their world view”.

An approach suggested by Lang (1987, p.191), which is based on Gestalt psychology principles, suggests that the process of perception and cognition involves three interlinked factors: (i) multi-sensorial perception, (ii) symbolic meanings, and (iii) the relationship between these symbolic meanings and the physical characteristics of the built environment. In this approach, user perception involves more than a mere intellectual association related to an observed object; this is also linked with the cognitive process from the first stage. The result of the processes of perception and cognition constitutes the mental representation of a public space. According to Golledge and Stimsom (1996, p.191), this representation is what people evaluate as positive or negative when the streetscape is analysed. In this regard, this mental representation is the focus of this research as this
study analyses how commercial historic city centres and street facades are perceived and evaluated by users from different urban contexts (see Figure 2.3). The following issues are taken into account in the theoretical framework of this thesis: (i) perceptions of users from different backgrounds can be similar according to the perceptual constancy suggested by Canter (1974, pp.37-40), and (ii) evaluations of users from different backgrounds can vary due to their interpretations of the built environment, which might be influenced by their personal experiences.

![Diagram of perception and cognition process]

Figure 2.3: The final result of the process of perception and cognition of a public space is the mental representation of this space (Source: Golledge & Stimson, 1996, p.191; Page, 1995, p.224).

### 2.3.1 Preference and satisfaction

The concepts of preference and satisfaction are taken into account in this study to evaluate the visual quality of commercial historic city centres. Preference judgement concerns something that will be experienced by users, and is always related to users’ choice for one or more objects compared to others. Satisfaction involves something that has been experienced by users, and does not need to involve comparison among things. According to Guest and Lee (1983, p.234), satisfaction is “the utilitarian value [of a place] to meet certain basic needs”, which can range from social activities to physical characteristics (Stedman, 2002; St. John, Austin & Baba, 1986; Herting & Guest, 1985; Fried, 1982). Preference and satisfaction are involved in aesthetic judgements, which may correspond to scales of evaluation such as beautiful-ugly, pleasant-unpleasant, likeable-dislikeable, and good-bad (Tesser & Martin, 1996). This kind of judgement allows comparison (i) between different user groups in terms of perception and evaluation of streetscapes, and (ii) between physical characteristics of buildings and commercial signs and user evaluation of commercial city centres (Stamps, 2000, pp.34-35; Reis & Lay, 1995, p.9; Russel & Ward, 1981, pp.121-152).

Analysis of user preference and satisfaction in terms of the appearance of commercial streetscapes can help in the identification of the physical elements of buildings and
commercial signs perceived and evaluated negatively and positively by people from different urban contexts. To identify these elements, this research explores (i) the physical characteristics of buildings and commercial signs indicated as positive and negative by users from different urban contexts, and (ii) the intensity of influence of these characteristics on user preference and satisfaction. For instance, if a positive correlation is found between user satisfaction with a city centre and the importance attributed to a specific physical characteristic of this place, it can suggest that this physical aspect is influencing user evaluation (Reis & Lay, 1995, p.10).

2.3.2 Dimensions of aesthetic evaluation: non-affective and affective

Russell (1988 in Nasar, 1988, p.121) identifies two different aesthetic dimensions applied to evaluate the appearance of built environment: non-affective and affective. These are adopted in this research to evaluate the appearance of historic city centres and commercial street facades. Non-affective dimensions are related with the physical features of the streetscape, which can be evaluated, for example, as order or disorder and colourful or colourless (see sections 2.4.1 and 2.4.2), while affective dimensions occur when users evaluate places through qualities such as pleasantness or stressfulness. To classify a place as pleasant or interesting means to attribute to that place affective qualities, which concern a capacity to alter mood. In this regard, these qualities are linked to emotion and cognition; they relate to emotion if they concern affective feelings, and they evoke cognition if they involve user interpretation of a place (Russell in Nasar, 1998, p.120). Environment Behavioural researchers (such as Lang, 1987; Krampen, 1980; Appleyard, 1980) have analysed the correlations between non-affective and affective dimensions in order to explore how to improve the appearance of public areas. According to Stamps (2000), Nasar (1988), Russell and Ward (1981), Lowenthal and Riel (1972), and Canter (1969), “pleasant” and “interest” are the most important affective dimensions applied to evaluate the visual quality of public spaces. Russell (1988 in Nasar, 1988, p.124) says that: “an environment is initially and automatically perceived in terms of pleasant versus unpleasant, and arousing versus without arousing. Phenomenologically, these dimensions combine in a unitary perception. The environment seems, say, pleasant and arousing.”

Stamps (2000, p.75) suggests that both these affective dimensions have duration and intensity, but he argues that the opposite of pleasure is displeasure and not indifference,
while the opposite of interest is not lack of interest, but some type of lethargy (bored). In addition, Nasar (1988, p.312) emphasises another two aesthetic dimensions, “excitement” and “relaxation or calmness”, which are linked with the dimensions of “pleasant” and “interest”. A place perceived as exciting, for instance, is recognized as more pleasant and interesting than a place understood as distressing, while a place perceived as relaxing is evaluated as more pleasant and less interesting than a place recognized as gloomy (Nasar, 1988, p.301). A spatial representation of the aesthetic evaluation dimensions applied to evaluate the visual quality of public spaces is put forward by Oliver (2002, p.207), Stamps (2000, p.79) and Russel (1988 in Nasar, 1988, p.125) (see Figure 2.4).

![Figure 2.4: Spatial representation of the aesthetic evaluation dimensions applied to evaluate the visual quality of public spaces (Source: adapted from Stamps, 2000, p.79).](image)

The affective dimensions applied in this study are presented below, while the non-affective dimensions are discussed later (see sections 2.4.1 and 2.4.2).

### 2.3.2.1 Pleasant

The pleasant dimension is adopted in this study to investigate user perception and evaluation of historic city centres and commercial street facades. This dimension is used to analyse how historic city centres and commercial street facades in different urban contexts, where different commercial signage approaches are applied, are perceived and evaluated by users. According to the philosopher Immanuel Kant (1790 quoted in Stamps, 2000, pp.72-76), this dimension concern attitude scales with positive, negative and neutral levels. Two scales can be related to this dimension, and the choice for one or another should be based on the purpose of the survey: pleasant/unpleasant and beautiful/ugly. As one of the objectives of this research is to analyse user perception and evaluation of beauty, the second scale is adopted. A semantic scale of five points from beautiful to ugly has been
adopted in order to allow respondents to choose the point that expresses their views best (Payne & Payne, 2004; Russel & Ward, 1981; Harrison & Sarre, 1975). This research also takes into account that what people find beautiful may depend on the sorts of scenes they typically encounter in their everyday life. In this regard, similarities and differences between responses of different users are explored (see section 2.3.3).

2.3.2.2 Interest

The “interest” dimension is adopted in this research to investigate user perception and evaluation of commercial street facades. This dimension has been taken into account in studies related to the visual quality of commercial streetscapes (Geller, Cook, O’Connor & Low, 1982, and Ewald & Mandelker, 1977 quoted in Nasar & Hong, 1999; Nasar, 1988; Herzog, Kaplan & Kaplan, 1976). This concerns the information that users obtain through observation of the physical characteristics of public spaces (Berlyne, 1974 quoted in Nasar, 1988, pp.114-212). In this regard, areas evaluated as simple or obvious are characterized as boring (Nasar, 1988, p.301; Weber, 1995, p.130). According to Hero’s work (1956 quoted in Weber, 1995, p.122), people’s general feelings of well-being require a minimum level of visual stimulus; he demonstrated that users placed in a low-stimulus environment experienced feelings of anxiety after a short period of time. In this context, the “interest” dimension is linked to the concept of complexity, which is discussed later (see section 2.4.2.1). The analysis of this dimension uses attitude scales with positive, negative and neutral levels. In this investigation, a five level scale from interesting to boring has been adopted to explore user interest for the appearance of commercial street facades.

In terms of the dimensions of “pleasant” and “interest”, this study adopts two approaches of investigation proposed by Stamps (2000, pp.124-125). The first one suggests that aesthetic judgements can vary between distinct user groups, and it is a subjective parameter, while the second one suggests that aesthetic judgements are linked to the physical characteristics of public spaces, and it is an objective parameter. This present research assumes that both these approaches complement each other and cannot be taken as an isolated analysis.

2.3.3 Subjectivity and objectivity in aesthetic evaluations

Studies related to user aesthetic evaluations and traditional design principles of public
spaces have identified two common problems: vagueness and ambiguity of terms in user evaluation of places and some design principles guidelines. In general, people tend to describe streetscapes through vague terms, which express their impressions of these places and not the physical features of, for example, commercial signs and buildings that cause these impressions. In addition, in some design guidelines applied in American cities, for example, the following regulations are recommended by local authorities: “building components, such as windows, doors, eaves and parapets, should have good proportions and relationship to one another”; “harmony in textures, lines and masses should be encouraged”; and “new buildings should resemble existing ones” (quoted in Stamps, 2000, p.10). Terminologies such as “good proportion”, “harmony” and “resemble” are subject to individual interpretation. These expressions make it difficult to implement these recommendations because they do not identify the physical characteristics of buildings and signage that may decrease user satisfaction with the streetscape (Stamps, 2000, p.29; Scheers & Preiser, 1994, p.35). The interpretation of commercial signage controls, for example, can become a subjective matter determined by each city council officer. Table 2.1 illustrates other examples of these problems.

Table 2.1: Example of vague and ambiguous terms adopted in guidelines related to aesthetic controls applied in the United State (Source: Stamps, 2000, p.92)

<table>
<thead>
<tr>
<th>Vague language commonly present in US design review:</th>
<th>Problem:</th>
</tr>
</thead>
<tbody>
<tr>
<td>● The height and scale of each building should be compatible with its side and adjoining buildings.</td>
<td>The terms “compatible”, “attractive” and “respect” confuse judgment of feelings with the description of physical environment. The expression “pattern” is undefined.</td>
</tr>
<tr>
<td>● Attractive landscape transition to adjoining properties should be provided.</td>
<td></td>
</tr>
<tr>
<td>● New buildings should respect the existing urban pattern of buildings and open space.</td>
<td></td>
</tr>
</tbody>
</table>

In this research, vagueness of use and ambiguity of expression are avoided during data analysis mainly when analysing responses of users described in their own words. To identify user perception and evaluation of historic city centres and commercial streets facades, this research takes into account how users feel in terms of the appearance of these places (subjective evaluation) and which physical characteristics of commercial signs and buildings influence these feelings (objective evaluation).

In this research, subjective evaluation does not mean the use of vague and ambiguous expressions; it refers to a strategy adopted to identify how users feel in places where different commercial signage approaches are adopted. Aesthetic judgements are based in feelings, such as pleasant and interest, linked to physical characteristics of the built
environment, such as commercial signs and buildings. In this thesis, these judgements are explored through subjective terms such as “beauty” and “interest”, which are related to semantic differential scales. At the same time, an objective evaluation is adopted; users will be asked to indicate whether the appearance of buildings, commercial signs, historic buildings and places, and number of commercial signs influence their perceptions and evaluations of the appearance of historic city centres and commercial street facades. This objective evaluation also analyses the physical characteristics of commercial signs and buildings identified as positive or negative by users. This study recognizes that poetic language and common usage may blur the distinction between subjective and objective appraisals, mainly in answers given in people’s own words (open questions). In this regard, one challenge of this research is to analyse user answers and interpret the data in relation to the formal features of particular streetscapes.

2.3.4 Influence of user background on the perception and evaluation of the built environment

In the analysis of user perception and evaluation of historic city centres and commercial street facades, it is necessary to take into account that user background can influence user responses (Oliver, 2002, p.211; Rotenberg & McDonogh, 1993, p. xiv). According to Lang (1987, p.199), different people pay attention to different elements and patterns in the environment. Goss (1988, p.398) and Lynch (1960, p.6) demonstrate that user evaluation of public areas is a "multicoded" process. In other words, different people or user groups may have distinct interpretations and appraisals of the appearance of the same places. This may be the result of a multiplicity of meanings from a mix of different user experiences. These experiences can sometimes be contradictory or congruent when taken into account people from different countries (Kong & Yeoh, 2004, p.2).

This research recognizes that different factors can influence user cognition, such as social and cultural values (Bartuska & Young, 1994, p.60; Lang in Nasar, 1988, p.23), life style and professional interests (Nasar, 1998, p.28; Lynch, 1960, p.8), past experiences (Golledge & Stimsom, 1997, p.197; Passini, 1992, pp.61-62), and social situation (Canter, 1974, p.29). Marshall and Wood (1995, p.160) suggest that user satisfaction can be influenced by gender, age, personality, family relationship, friends’ viewpoints, and ethnic groups. Cross-cultural studies have shown that mental representations of public spaces may
differ for people from different cultural backgrounds (Oreg & Katz-Gerro, 2006, pp.462-483; Isaacs, 2000, p.149; Lang, 1987, p.90). In addition, human needs can be distinct in different countries as, according to Uzzell and Moser (2006, p.3), “these are societally constructed and culturally bound”. These differences may happen because different societies tend to emphasize different goals (Hofstede, 2001; Schwartz, 1994; Inglehart, 1977). Russell (in Nasar, 1988, pp.125-126) describes how user evaluation depends on urban context and familiarity with the streetscape. An affective user evaluation of a place may be related to specific circumstances in which it is made, including surrounding areas and previously experienced places. Rather than being fixed, users’ standards of judgement can adjust to the range and distribution of available experiences. For instance, people from rural areas may judge cities as noisier and more polluted than people from urban areas (Wohlwill & Kohn, 1973).

Taking into account aesthetic judgements of building facades and streetscapes, some researchers have identified differences between two user groups: professionals (architects, landscape architects, planners, urban designers and civil engineers) and lay people (users of other professional fields) (Hubbard 1994; Neary, Symes & Brown, 1994; Kaplan in Garling & Evans, 1991; Devlin & Nasar, 1989; Nasar & Hong, 1989; Groat, 1982; Lee, 1982). These differences occur because professional interests and background qualifications (first degree, opportunity of jobs and so on) may influence the importance attributed by users to a set of aesthetic compositions.

On the other hand, according to Lang (in Nasar, 1988, pp.19-20), similarities among users from the same group are common. Generally members of a group have similar perception and cognition about the appearance of public spaces. Kant (1790 quoted in Stamps, 2000, p.114) defines this phenomenon as “common sense”. Although each user has his or her own mental image of a place, Lynch (1960, p.8) suggests that common senses among people of one group, and, sometimes, of distinct groups, is not exceptional. At the same time, Stamps (2000, p.114) suggests that common senses can also embrace people from different countries and cultures. Nasar’s study (1988, p.303) investigated user satisfaction with nine commercial street simulations, which vary in terms of level of complexity and contrast. He compared the responses of different user groups: shoppers and museum visitors, males and females, young adults and older adults, and shoppers and merchants. The findings suggested commonalities in responses between each pair of these groups;
only six differences were found, and they were in intensity rather than in direction of response. According to Canter (1974, pp.37-40), these common perceptions between different user groups can be described as “perceptual constancy”.

According to a study developed with residents in a Brazilian historic city (Portella, 2003, p.143), similarities were found among aesthetic judgements of four user groups (architects, planners, advertisers and residents) in relation to the appearance of commercial streetscapes. The majority of users from these groups agreed that, because of the disorder caused by commercial signs, the commercial streets analysed were not pleasant. In contrast, shop owners had different views, which might be influenced by their commercial interests and opinion about commercial signage controls. They evaluated positively the appearance of commercial streets which have disordered signage. The majority of them suggested that commercial signage controls are not necessary to improve the visual quality of commercial streets, and they also believed that the adoption of this kind of regulation might decrease their profits (Portella, 2003, p.124). This view is not supported by the literature (Minami, 2001; Klein, 2000; Scenic America, 2000; Nasar & Hong, 1999). In commercial city centres, where guidelines to control commercial signs have been adopted, the economic and social vitality has been increased. Examples are noted in a large number of American cities in Mongomey County, Maryland County, Fairfax County, Virginia, Boulder, Colorado, Chapel Hill, North Carolina, Florida and so on (Scenic America, 1993).

In this context, this research argues that historic city centres should be places whose appearance is satisfactory for users from different urban contexts. This is because the visual quality of the built environment can influence people’s quality of life, and therefore their behaviour. As these areas are usually visited by several kinds of people, and often concentrate on entertainment and tourist activities, they should provide a high visual quality, which is appreciated by users from different urban contexts (Stamps, 2000, p.114; Scheer & Preiser, 1994, pp.2-3; Lynch, 1960, p.8). For these reasons, in this research, perception and evaluation of users from different cities, countries and user groups are investigated and compared. This study explores whether there are differences or similarities among aesthetic judgements of users located in different urban contexts. This research investigates the following general assumption: while some visual preferences in the built environment may be influenced by the users’ urban contexts, others (universals) may be common to the majority of people from different countries and may be useful to
define general principles that guide preferences and satisfactions.

Specifically, this research investigates perception and evaluation of five user groups. Views of professionals and lay people are compared since studies have suggested differences between their aesthetic judgments (Uzzell, 2002; Gifford, Hine, Muller-Clemm, Reynolds Jr. & Shaw, 2000; Nasar & Devlin, 1989; Nasar, 1988; Purcell & Nasar, 1992; Hubbard, 1994, 1996). People involved in design and/or study of buildings and public spaces (architects, landscape architects, planners, urban designers and civil engineers) form the professional group, while people from other professional backgrounds constitute the lay group. People who live in three different historic cities compose the other three user groups (see Chapter Five, section 5.2.1). The appearance of historic city centres is analysed through the responses of residents. This analysis is supported by the study of Miles, Hall and Border (2000, p.36), which suggests that the deepest and the most authentic understanding and knowledge of a city is shown, in general, by residents. These researchers suggest that city design needs to take the viewpoint of residents (Miles, Hall & Border, 2000, p.44). At the same time, the appearance of commercial street facades is explored through the responses of residents and non-residents. In this case, this thesis recognizes that user urban contexts and resident familiarity with the streetscape might influence the perception and evaluation of commercial street facades. Therefore, this research explores whether residents will prefer the appearance of street facades from their city rather than the appearance of street facades from other places.

This investigation also takes into account user age. Recently, Kohlsdorf (1996, p.49) argues that the total development of users’ cognitive skills, which influence aesthetic evaluations, develops fully when individuals reach 11 years old. This study is not focused on children’s and teenagers’ perceptions and evaluations of public areas, and this research adopts the age groups proposed by Thiel (1997, p.323) to delimit the minimum age considered for the selection of participants (see Table 2.2). In order to form the research, people who are less than 18 years old have not been selected to participate in this analysis.

Table 2.2: Age groups proposed by Thiel (1997, p.323).

<table>
<thead>
<tr>
<th>AGE</th>
<th>GROUPS</th>
<th>Age groups analysed in this Ph.D. research.</th>
<th>Age groups excluded from this Ph.D. research.</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 65</td>
<td>Seniors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 to 65</td>
<td>Adults</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 to 29</td>
<td>Young adults</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 to 17</td>
<td>Teenagers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 to 12</td>
<td>Children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 4</td>
<td>Babies</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.4 FORMAL AND SYMBOLIC FACTORS THAT INFLUENCE AESTHETIC JUDGMENTS

Formal and symbolic factors influence aesthetic judgments (Lang, 1987). The final image that users have of public places results from their perception and cognition of both these factors (Nasar, 1998, pp.6-26; Fischer, 1997, p.23; Golledge & Stimson, 1997, pp.189-197). In addition, the character of city centres can be built by physical characteristics of building facades and commercial signs, and symbolic meanings attributed to these places by users (Kelly & Kelly, 2003, p.18). For example, the character of the city centres of New York and Las Vegas in the United States is formed by physical and non-physical elements of the urban space related to shopfronts, advertisements, buildings, landscape and so on. According to Kelly and Kelly (2003, p.16), New York can be described in the following way: “it is the quiet and the noise; the street signs and the street art; the organized trip and the unexpected discovery; the skyscrapers and the green space” (see Figure 2.5).

Figure 2.5: Times Square, New York (left) and Las Vegas (right) in the United States. The character of these places is built by physical and non-physical elements related to the streetscape (Source: http://www.wwz.unibas.ch; http://uhaweb.hartford.edu).

Taking an architectural approach, formal factors refer to the physical characteristics of elements that compose the streetscape; they concern appreciation of shapes, rhythms, complexities and sequences of the visual world, although they can also be extended to a sonic, olfactory and haptic dimension (Lang in Nasar, 1988, p.11). As defended by Lang (2005, pp.97-98) and Curran (1983, p.125), the perceived quality of a city is very much dependent on the visual quality of its streets, which depends on formal factors such as lengths of blocks, cross sections, widths of roadbeds and sidewalks, building setbacks and heights, frequencies of entrances to buildings, presence or absence of shop windows and shopfronts, and so on. In this research, formal factors are actually physical characteristics of commercial signs and
buildings, such as silhouettes, facade details, facade articulation and colours.

Symbolic factors are related to the cognition process, and involve connotative meanings that users associate with places (Nasar, 1988, p.3; Lang, 1987, pp.188-215). They are constituted by different, but overlapping, images and interpretations, which can vary among individuals (Rogers, 1992, p.245). Kong and Yeoh (2004, p.2) argue that people are active participants in the process of making places and meanings attributed to public areas. In this research, the influence of symbolic factors on user perception and evaluation of historic city centres and commercial street facades is taken into account mainly in regard to the importance of historic meanings attributed to buildings.

2.4.1 Formal factors related to disordered streetscapes

When taken into consideration physical characteristics of commercial signs, two main issues can be seen to provoke disorder in city centres: (i) conflict between design of commercial signs and aesthetic composition of building facades (Ohtake, 1982; Cauduro, 1981), and (ii) visual overload provoked by excessive numbers of commercial signs, plus high variation of their physical characteristics such as size, proportion, colour, material and so on (Ewald & Mandelker, 1977 quoted in Nasar & Hong, 1999; Passini, 1992; Moles, 1987; Cauduro, 1981; Rapoport & Hawkes, 1970). According to Weber (1995, pp.122-123), too much perceptual information may overtax the user capacity for information processing.

In relation to the first issue mentioned above, this research assumes that commercial signage is in conflict with building facades when these media cover features related to building silhouette, facade details and facade articulation. When this conflict happens, buildings are recognized as harmed by commercial signage. In this regard, taking a previous study related to commercial streetscapes (Portella, 2003), buildings harmed by commercial signs can be classified into three levels: (i) level 1 – facade is fragmented by commercial signs, and/or colours and these media cover totally elements of building silhouettes, facade details, and/or facade articulation; (ii) level 2 – facade is not fragmented by commercial signs and/or colours, but these media cover partially elements of building silhouette, facade details and/or facade articulation; (iii) level 3 – facade is not fragmented by commercial signs and/or colours, these media cover partially elements of building silhouette, facade details, and/or facade articulation but it is still possible to identify the aesthetic composition of the building facade as a whole.
Moreover, there is a conflict between the visual character of places (see section 2.4.2.1, item B4) and commercial signs when these media are displayed in contemporary buildings harming the historic surrounding areas (Portella, 2003; Minami, 2001; Minami & Guimaraes, 2001; Cauduro, 1981).

Focusing on the second issue described earlier, studies have suggested that high variation of the following commercial signage features can affect the visual quality of city centres: proportion (vertical or horizontal); location (on the base, body or coronation of facades); shape; direction (vertical, horizontal or diagonal to facades); lettering size; lettering style; colour; chromatic contrast between letters and sign background; and segregation between figure and sign backgrounds by proportion (Nasar & Hong, 1999, p.678; Naoumova, 1997, p.2; Passini, 1992, pp.92-93; Nasar, 1988, p.304; Moles, 1987, p.95). The present study considers that a too high variation of these characteristics can create visual overload and, consequently, disordered streetscapes.

When a commercial sign is isolated, it can be perceived and evaluated as pleasant by users. However, when shopfronts and window displays are seen as a group covering large areas of buildings facades, people may evaluate these media as negative components of the streetscape. According to Moles (1987, p.223), this happens because there is a limit to the amount of visual stimuli that can be perceived adequately by users in one single vision. When this limit is exceeded, users simply avoid looking at shopfronts and advertisements.

An early study developed by James Adams (1966 quoted in Moles, 1987, pp.226-227) for the British Poster Association suggested that controls related to concentration of commercial signs should take into account that each street has its own particular characteristics. To avoid visual overload, his study recommended different levels of concentration of commercial signs for zones of transport (train stations, bus stations and parking), commercial activity and business (city centre), leisure (parks, squares and meadows), sports (stadiums), industries and periphery. In light of this issue, Ashinara (1983, pp.78-79) defines a method to compare the concentration of commercial signs in street facades with different widths (see Table 2.3). The present research takes into account (i) this method, (ii) the number of commercial signs and buildings harmed by these media, and (iii) the percentage of street facade harmed by signage to identify the level of commercial signage concentration in different street facades. The level of commercial signage concentration in different street facades is compared to user perception and
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evaluation of the appearance of these places.

Table 2.3: Method applied in this research to calculate the level of concentration of commercial signs in different streetscapes (Source: Ashinara, 1983, p.78).

<table>
<thead>
<tr>
<th>Calculation</th>
<th>Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>How many square metres of commercial signs occur in each linear street metre.</td>
<td>( \frac{A}{L} = \text{metres}^2; A \text{ is total area of commercial signage in a street facade (m}^2); L is length of the street facade (m).</td>
</tr>
</tbody>
</table>

The physical characteristics of buildings can also give rise to a sense of disorder in public places (Stamps, 2000; Weber, 1995; Arnheim, 1977). For example, too much variation of building silhouettes, facade details, and facade articulation can increase user perception of visual overload in commercial streetscapes (Stamps, 2000, pp.39-63; Nasar, 1988, pp.300-320). Another common situation that increases disorder in commercial city centres is the fragmentation of building facades by colour and commercial signs. This usually happens when different shops are placed in one building and each shop owner paints and displays signs on “his/her piece of facade” without taking into account the building as a whole. The fragmentation of building facades contributes to the creation of public spaces perceived and evaluated as unpleasant by users in Pelotas, a Brazilian historic city centre (Portella, 2003, pp.160-161) (see Figure 2.6).

Figure 2.6: A historic building facade fragmented by colour and commercial signs in the historic city centre of Pelotas, Brazil (Source: author).

In this sense, the present investigation takes into account the physical characteristics of commercial signs and buildings based on systematic observations of commercial streets made on-site and through photographs. This study attempts to identify in a pre-selected range of commercial streetscapes in different urban contexts: (i) the level of order among commercial signs and buildings, (ii) the relationship between the aesthetic composition of
these media and historic building facades, and (iii) the general visual character of commercial street facades. This research seeks to identify conflicts between the visual character of places and commercial signs, and visual overload provoked by these media and building facades. These issues are also analysed through the study of user perception and evaluation of commercial streetscapes. In this regard, the following semantic differential scales are applied in this investigation: ordered-disordered, colourful-colourless, many-few (number of commercial signs and buildings harmed by these media), and much-small (coverage of buildings by commercial signs).

2.4.2 Formal factors related to ordered streetscapes

Even though user perception and evaluation of public spaces may be influenced by user background (see section 2.3.3), user perception and evaluation of order is the result of an environment in which parts form the whole in such a way that redundancy, self-contradiction, and conflict are avoided (Lang, 1987, p.189). According to Weber (1995, p.110), “perceptual order is a consequence of physiological processes that are based on innate biological principles, each individual’s sense of cognitive order will, to some degree, be intersubjective”. The segregation and unification of visual stimuli from public spaces, which result in the perception of order, are determined by the principles of Gestalt Theory related to the psychological organization of visual compositions (Murray, 1995, pp.1-52; Smith, 1980, pp.74-85; Kanizsa, 1979, pp. 92-112; Ellis, 1969, pp.71-94). The principles of Gestalt explain why a determined place is perceived as orderly, pleasant and interesting by users from different backgrounds despite the complexity of stimulation this place presents. These principles suggest how human beings tend to organize their perceptions so as to give preference to more regular configurations (Weber, 1995, pp.109-110). One of the most sustained analyses of the content of architecture based on the Gestalt theory of perception was conducted by Arnheim (1977). The approach adopted in his work can be summarized by his following words: “Shapes can be analysed in detail by describing their forms in terms of geometry, size, quantity and location, also there are visual forces which expand and contract, push and pull, rise and fall, advance and recede – which determine meaning and expression in art” (Arnheim, 1977, p.10).

According to Weber (1995, p.112) and Lang (1987, p.86), the principle of “good Gestalt” or “law of pragmaz” is defined as a tendency of users to take on as much regularity as
possible, and this is focused on pattern perception. Seven Gestalt laws form the factors that influence user perception of form: proximity, similarity, closure, good continuance, closeness, area, and symmetry. Reis (2002), Stamps (2000), Nasar and Hong (1999), Nasar (1988), and Lang (1987) suggest that the principle of complexity, related to the Gestalt laws, influence user perception and evaluation of the built environment. The relevance of complexity has been highlighted by early studies related to the built environment; Birkhoff (1933) suggested that aesthetic quality depends on two factors, order and complexity.

In this context, an argument defended by the literature is that city centres and commercial street facades are perceived as ordered when physical characteristics of commercial signs and buildings are structured according to some overall principle based on Gestalt Theory (Weber, 1995, p.112; Lang, 1987, pp.102, 189). Although the present study recognizes that all laws of Gestalt and principles related to the visual composition of forms influence user perception and evaluation of public spaces, this thesis is focused on the analysis of complexity in commercial street facades. This investigation attempts to calculate the level of complexity of a set of street facades and compare these results with user perception and evaluation of the appearance of these places. The method developed by the researcher’s earlier study (Portella, 2003) is adopted in this thesis to calculate complexity in commercial streetscapes (see Chapter Five, section 5.3.3.2, item A). Two semantic differential scales are applied to explore user perception and evaluation of complexity: complex-simple and high-low (in terms of variation of commercial signs and buildings).

2.4.2.1 Complexity

Complexity refers to a variety of elements and relationships in an aesthetic configuration, which is structured according to some overall principle based on Gestalt Theory. This concept is related to the level of order of elements that form an aesthetic composition; places where order does not exist are perceived and evaluated as chaotic and irregular, and not as complex (Bechtel, 1997; Weber, 1995; Von Meiss, 1993; Prak, 1985). In this regard, Salingaros (2000, pp.292-293) argues that: “In a general complex system (...) certain rules of assembly are followed so that the parts cooperate and the whole functions well”. According to Moudon and Ryan (quoted in Neary, Symes & Brown, 1994, p.185), most commercial streetscapes lie between disorder and order in which the ones in this last group can reflect different levels of complexity. In this regard, this research assumes that
complex urban scenes are characterized by an ordered aesthetic composition formed by many visual points of attention and different aesthetic relationships between them (Stamps, 1998, pp.1407-1417; Weber, 1995, p.125; Kaplan in Nasar, 1988, p.48). In this thesis, the concept of complexity is related to the variation of physical characteristics of commercial signs and buildings in ordered streetscapes. The present study assumes that order is a prerequisite for complexity; if a street facade has a high variation of physical elements but its aesthetic configuration is not governed by an overall principle, this is just a chaotic street with high variation. The principle of complexity is approached in this way by many other researchers that analyse the visual quality of street facades (Nasar & Hong, 1999; Nasar, 1988; Ulrich, 1983; Wohlwill, 1976; Berlyne, 1972).

There is agreement in the literature that complexity is a necessary condition for aesthetic satisfaction (Weber, 1995; Nasar, 1988; Lang, 1987; Rapoport, 1977; Venturi, 1977; Wohlwill, 1976; Kaplan, 1976a; Berlyne, 1960). Venturi’s (1977) and Berlyne’s (1960) studies were the first to explore the principle of complexity in urban streetscapes. Venturi confronted ideas related to modernist architecture which promoted places with low complexity, while Berlyne addressed the same propositions as Venturi, but in an approach which attempted to identify variables that may result in places being perceived positively. Kaplan’s work (1976b) identifies negative implications of environments perceived as too complex or too monotonous on user behaviour, such as difficult wayfinding due to too high or too low visual stimulations and lack of interest. In addition, other studies suggest that complex streetscapes are evaluated more positively than simple streetscapes because they provide more information (Elsheshtawy, 1997, p.303; Weber, 1995, p.124; Lozano, 1974 quoted in Nasar, 1988, pp.401-404; Lang, 1987, p.196). At the same time, studies show that user preferences are associated with moderate levels of complexity; the extremes – low and high complexities - are not evaluated positively by observers (Nasar & Hong; 1999; Nasar, 1998, 1988, 1983; Day, 1992; Widmar, 1984; Wohlwill, 1976; Berlyne, 1960; Bexton, Heron & Scott, 1954). At the same time, people who live in different places can have different levels of tolerance to the variation of physical characteristics of streetscapes (Berlyne, 1960).

Weber (1995, p.123), Lang (1987, p.196), and Rapoport (1977 quoted in Lang, 1987, p.195) suggest that, according to user perception and evaluation, there is a relationship between the affective dimensions of “pleasure” and “interest” with complexity. In terms of
the dimension of “pleasure”, this relationship is directly proportional until an optimum is reached; when this limit is exceeded, the relationship becomes inversely proportional. Nasar (1998, p.75; 1988, pp.311-314) and Lang (1987, p.196) suggest that there have been several attempts to define this optimum level, but the number of factors that influence user perception and evaluation of the physical environment is so high that no clear definition can be made. On the other hand, in terms of the dimension of “interest”, the relationship with complexity is always directly proportional (see Figure 2.7).

Figure 2.7: Relationships between the affective dimensions of pleasure and interest with the level of complexity (Source: Lang, 1987, p. 196).

Taking the context described in the previous paragraphs, the present research analyses a set of physical characteristics of commercial signs and buildings in order to define the complexity of commercial streetscapes. Studies have already demonstrated that specific characteristics of commercial signs and buildings can influence user perception and evaluation of complexity (Stamps, 2000; Nasar & Hong, 1999; Elsheshtawy, 1997). A method developed by the researcher’s Masters dissertation (Portella, 2003), which was based on issues discussed by Stamps (2000), Elsheshtawy (1997) and Nasar (1988), demonstrates that the complexity of commercial streetscapes can be calculated in terms of the variation of a range of physical characteristics of commercial signs and buildings. These characteristics are presented below.

A. Physical characteristics of commercial signs that increase complexity

According to Nasar (1988) and an early study of Hardin (1968), there is a significant relationship between user perception and evaluation of complexity and variation of commercial signs. Studies suggest that user satisfaction with commercial streets can increase through reduction of variation of some physical characteristics of commercial signs (Herzog, Kaplan & Kaplan, 1976 quoted in Nasar & Hong, 1999, p.672; Scenic
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America, 1999, pp.5-9; Nasar, 1988, pp.317-320; Ashihara, 1983, p.76). In this regard, this research seeks to identify which level of variation of commercial signs is evaluated positively by users from different urban contexts.

Investigations carried out by Nasar and Hong (1999, pp.671-688) and Nasar (1988, pp.304-319) suggest that moderate variation of commercial signs is evaluated positively by users. According to Nasar, this level of variation can be obtained when: (i) a limited set of rectangular proportions of signs are allowed, (ii) letters mounted directly on the building are prohibited, (iii) colours are allowed to vary within limits specified in a colour chart developed for each place, and (vi) the number of syllables and symbols per shopfront are reduced. He suggests that limitations only on height and size of signs are not enough.

In addition, as stated by Nasar and Hong (1999, pp.671-674), Nasar (1988, p.304), and some guidelines applied in some European and American city centres (Scenic America, 2000, p.3; Duerkesen & Goebel, 1999, pp.25-30; Scenic America, 1993, p.5), variation of the following physical characteristics of commercial signs can influence user perception and evaluation of complexity: size, shape, proportion, arrangement on facades, type of sign, location on façade, presence of images, lettering style, predominant lettering style, letter size (height), number of chromatic groups, chromatic contrast between letters and sign background, and segregation between figure (letters or images) and sign background by size proportion. Moreover, number of commercial signs, percentage of street facade covered by these media, and square metres of signs per linear street metre are factors that can increase complexity (Ashihara, 1983, pp.75-83). In recent studies, Mollerup (2005, pp.168-170, 180-182) and Stamps (2004, pp.246-247) analyse variation of commercial signs in terms of the following features: sign shape, orientation (perpendicular or parallel to the building facade), and height. All the physical characteristics of commercial signs that were mentioned above are considered in this present research.

It is necessary to define what is meant by the expression “lettering style” to avoid vagueness and ambiguity of terms. This expression means a group of letters that has the same structure (Ferreira, 1999, p.926). According to Williams’ study (1994, pp.83-90), there are several lettering styles grouped in six categories: (i) old style, (ii) modern, (iii) slab serif, (vi) sans serif, (v) script, and (vi) decorative (see Appendix 2.1). These categories are adopted in this research to classify the level of variation of “lettering style”
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in a set of commercial street facades. This thesis has not ignored the fact that there are other kinds of classification. However, if the analysis had taken into account all of them, this would have been too exhaustive and added little to the research objectives.

Moreover, the approach adopted in this thesis to define colour variation of commercial signs is the same applied to analyse colour variation of building facades, which is discussed later in this chapter (see in this section item B4). Moreover, the following issues are taken into account in relation to the chromatic contrast between letters and sign background, and the segregation between figure (letters and images) and sign background.

A1. Chromatic contrast between letters and sign background

Chromatic contrast between letters and sign background is a common tool adopted by advertisers and shop owners to get people’s attention and increase the legibility of commercial messages (Mollerup, 2005, p.161; Moles, 1987, p.95). According to Moles (1987, pp.94-95), the colour contrasts most visible to human eyes are, in order of effectiveness: black on white, red on white, green on white, white on red, yellow on black, white on blue, white on green, red on yellow, blue on white, white on black, and green on red. With consideration to user perception, Moles suggests three colour combinations as the best choices to create contrasts between letters and sign background: red on light blue, red on grey, and red on yellow-green. Moreover, according to Naoumova (1997, p.10), user perception is more sensitive to the following complementary colour combinations: yellow and violet, blue and orange, and red and green. This is also important to note that hot colours (red, orange and yellows) segregate more effectively figure from backgrounds than cold colours (blue, green and violets) (Mollerup, 2005, p.167; Weber, 1995, p.231).

In order to analyse the complexity of a range of commercial street facades, this thesis adopts the levels of chromatic contrasts between letters and sign background defined by Portella’s earlier work (2003, p.208). These levels were based on the issues discussed in the previous paragraph (see Table 2.4).

Table 2.4: Levels of chromatic contrast adopted in this research to analyse colour of commercial signs in street facades (Source: Portella, 2003).

<table>
<thead>
<tr>
<th>Chromatic contrast between letters and sign background</th>
<th>LEVEL 1: HIGHEST CONTRAST.</th>
</tr>
</thead>
<tbody>
<tr>
<td>White background + dark letters; dark background + white letters; light background + dark letters.</td>
<td>CONTINUATION ON THE NEXT PAGE.</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Chromatic contrast between letters and sign background</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LEVEL 2:</strong> Dark background + light colour letters.</td>
</tr>
<tr>
<td><strong>LEVEL 3:</strong> White background + medium colour letters; dark background + medium colour letters; white background + medium background + light letters.</td>
</tr>
<tr>
<td><strong>LEVEL 4: LOWEST CONTRAST.</strong> White background + light colour letters; dark background + dark colour letters; light background + white letters; light background + light letters; medium background + medium letters.</td>
</tr>
</tbody>
</table>

A2. Segregation between figure and sign background by size proportion

Segregation between figure (letters or images) and sign background can be promoted by the size proportion between these elements. Weber (1995, pp.230-231) identifies five principles that can influence user perception of figure and background in an aesthetic configuration: proximity, closure, concavity, symmetry and simplicity (see Table 2.5). Having these principles as a theoretical base, three different relationships are identified in commercial sign layouts: (i) the sign background is predominant, (ii) the figure is predominant, and (iii) there is a balance between figure and sign background (Portella, 2003; see Figure 2.8). Evidence suggests that an aesthetic configuration is perceived as disordered when the second relationship is predominant in commercial signs of a streetscape (Portella, 2003, pp. 79; Weber, 1995, pp.229-230). In this research, the three relationships shown in Figure 2.8 are taken into account to calculate the level of complexity in commercial streetscapes.

Table 2.5: Principles of aesthetic configuration that influence user perception of figure and background (Source: Weber, 1995, pp.229-230).

<table>
<thead>
<tr>
<th>Principles</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROXIMITY</td>
<td>Larger areas tend to be perceived as background, while small areas tend to be perceived as figures.</td>
</tr>
<tr>
<td>CLOSURE</td>
<td>Enclosed areas are segregated from backgrounds more easily than partially enclosed areas.</td>
</tr>
<tr>
<td>CONCAVITY</td>
<td>Concave sides of a contour increase user perception of figures more than convex sides.</td>
</tr>
<tr>
<td>SYMMETRY</td>
<td>Symmetrical texts or images tend to be perceived as figures.</td>
</tr>
<tr>
<td>SIMPLICITY</td>
<td>Simple and regular texts or images are perceived as figures more easily.</td>
</tr>
</tbody>
</table>

Figure 2.8: Relationship between figure and sign background by size proportion (Source: Portella, 2003, p.79).
B. Physical characteristics of buildings that increase complexity

According to Stamps (2000, p.39), three formal aspects of building facades can influence user perception and evaluation of complexity in streetscapes: silhouette, facade details, and facade articulation (see also studies of Ching, 1996; Burden, 1995; Quilan, 1991; Stamps, 1998 and 2000; Groat, 1989). Visual character and colour variation are two other important attributes related to user perception and evaluation of complexity in commercial streetscapes (Portella, 2003; Moughtin, OC & Tiesdell, 1999; Naoumova, 1997). In this research, these five aspects are explored and a range of physical features of buildings related to these are considered to calculate the level of complexity of commercial street facades.

B1. Silhouette

Silhouette refers to the shape perimeter of a building and, when a street facade is analysed, it corresponds to the shape perimeter of all buildings that form the streetscape (see Figure 2.9) (Stamps, 2000, p.39). Studies have suggested that variation of formal aspects of silhouette can influence user perception and evaluation of complexity; they also suggest that levels of complexity can be predicted from variation of objective geometrical properties of architectural shapes, such as heights, intervals and rhythms between segments of roofs and crowning perimeters (Heath, Smith & Lim, 2000; Weber, 1995; Quilan, 1991).

![Figure 2.9: Silhouettes of streetscapes (Source: author).](image)

Studies related to shapes of random polygons have identified three physical characteristics of silhouettes that most influence user perception and evaluation of complexity: (i) the number of turns, (ii) angular variability, and (iii) symmetry (Zusne, 1970 and Attneave, 1957 quoted in Stamps, 2000, pp.39-40; Quilan, 1991, pp. 224-241). In terms of architectural shapes, Stamps (1998) investigates how variation of different physical aspects of building silhouette can predict user perception and evaluation of complexity. He demonstrates that the number of vertexes has a major influence on user perception and evaluation of complexity, but he also detaches the influence of asymmetry and number of...
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turns in shape perimeter. In his study, the analysis of correlations between objective variables (physical characteristics of building silhouettes) and user perception and evaluation of complexity indicated that the probability level is less than 0.001 for a number of vertexes, and less than 0.05 for asymmetry. Stamps’ study also suggests that the perception and evaluation of complexity can be predicted quite well from the analysis of number of turns in shape perimeter. His findings also demonstrate that user perception and evaluation of complexity can be reduced by 25% if the building silhouette is symmetric. At the same time, he shows that variation in line length or angles does not affect the perception and evaluation of complexity (Stamps, 2000, pp.40-42). Portella (2003), in an investigation about commercial streetscapes, suggests that variation of building height, width and kind of crowning, such as parapet, gable, sloping roof and so on, can also influence user perception and evaluation of complexity.

In this context, the present research takes into account the following parameters to calculate complexity in commercial streetscapes in terms of building silhouette: symmetry of shape perimeter of each building and the street façade as a whole, number of vertexes of the street façade, number of turns in the street façade shape perimeter, height of buildings, width of buildings, and kind of crowning. This study also adopts the levels of asymmetry of street facades defined by Portella (2003): (i) level 1 - silhouette has a high variation (main turns on shape perimeter ≥ 6); (ii) level 2 - silhouette has variation but some similarity can be noted (main turns on shape perimeter ≤ 5); and (iii) level 3 - silhouette has low variation and looks almost symmetric (main turns on shape perimeter < 4).

B2. Facade details

Facade detail is related to visual textures comprised primarily of small scale details (Brolin, 1980, pp.61-62), material, colours and patterning (Smith, 1987, pp.135-140; Bentley, 1985, pp.123-140). According to Wehmeier (2000, p.360), details refers to “a small part of a picture or painting; the smaller or less important parts of a picture, pattern, etc. when you consider them all together (...) the small features of sth”. Ferreira (2000, p.670) refers to detail as any small part of a whole. These definitions are considered too vague because they do not identify through precise terms which elements can be classified as details in an architectural context. These definitions just suggest that details can be everything relatively small if compared with the total area of a facade.
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Taking into account the Van der Laan theory of architectonic space explored by Stamps (1999a, p.87), the concept of detail can be linked to size, similarity and proximity between smaller elements of a facade. This suggests that the way these attributes are designed can influence user perception and evaluation of details at four different levels (see Table 2.6). This theory also suggests an objective definition for detail: an element is perceived as a detail if it is just about 7 times smaller than the size of the total area of a facade; elements smaller than this proportion can still be perceived as details when similar in shape and grouped. Having this measurement as a theoretical base, Stamps’ work (2000, p.48) defines three specific elements categorized as facade details: (i) trim (such as door and window frames, and railings), (ii) decorative ornaments (such as frames on base, body, and crowning of facades), and (iii) texture created by facings (such as by stones or bricks). His study suggests that the variation and quantity of these elements can increase user perception and evaluation of facade details; trim and decorative ornaments have the most influence on this (see Figure 2.10). Stamps (1999) also shows that judgement of complexity is strongly related to the amount of a facade covered by smaller elements (elements on a scale of 7 \(^{-1}\) to \(7^{3}\) times the overall length of a facade).

Table 2.6: Modalities of user perception of facade details (Source: Stamps, 1999a, pp.89-90).

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small elements perceived as details (facade + details).</td>
<td>Elements too small and distant to each other to be perceived as details.</td>
<td>Small elements close to each other perceived as detail (facade + details).</td>
<td>Elements too small and close to each other perceived as texture.</td>
</tr>
</tbody>
</table>

![Figure 2.10: Elements that increase user perception and evaluation of facade details - trim, decorative ornaments, and texture (Source: Stamps, 1999a, p.92).](image-url)
Another of Stamps’ studies (1999b, pp.723-751) demonstrates that user perception and evaluation of complexity can increase through the addition of details on facades. He also suggests that users prefer streetscapes with more variation of details. Another investigation (Stamps, 1999c, pp.1303-1312) suggests a high correlation between user perception and evaluation of complexity in streetscapes and variation of details on facades. Similarly, Groat (1989) shows that the level of variation of details in building facades influences user satisfaction with the appearance of public spaces. According to Brolin (1980 quoted in Nasar, 1988, p.43), when a new building is inserted in an urban setting, its details (such as textures and window frames) can help, or not, to harmonize it with the existing street character and increase the complexity of the place.

This thesis takes into account the presence and variation of the following facade details in order to define the complexity of commercial streetscapes: brackets, balustrade, cornice, decorated bargeboard, decorated railing, decorated weatherboard, decorated wood pilasters, decorative draws, bands and frames, decorative gable and pent roof, decorative timber framing, engaged columns and pilasters, finial, parapet with geometric decoration, projecting cornice, structural external frames, temporary decoration (elements fixed on facades), texture created by facings, timber framing on the building top, vegetation as decoration, venetian blinds with geometric draws, and window and door frames. These features were defined through systematic observations of commercial streetscapes and by reviewing studies related to building details (Stamps, 2000; Nasar, 1988; Groat, 1989).

Variation in architectural building styles is also taken into account to define the complexity of commercial streetscapes. This thesis analyses the aesthetic composition of building facades in a set of commercial streets and classifies them into thirteen different architectural styles: contemporary box, contemporary, neo-Bavarian or tourist architecture, modern or international styles, first modern period, art deco, second eclectic period or art nouveau, eclectic or neo-classic, Georgian with visible roof and dormer windows, Georgian, building stone, medieval and Tudor with apparent timber-framing, and medieval and Tudor. The classification of the architectural styles considered in this study is presented in detail in Appendix 2.2.

B3. Facade articulation

Facade articulation refers to saliencies and re-entrance on a physical volume or bulk
(Stamps, 2000; Ching, 1996; Burden, 1995; Holgate, 1992; Nasar, 1988; Clark & Pause, 1985). This concept is related to compactness being inversely proportional. In general, to increase user perception and evaluation of façade articulation, solid plans are converted to concave or convex shapes. In other words, parts of a building are extracted or added to its original shape to reduce compactness (Stamps, 2000, p.53). Arcades, vestibules, balconies and other architectural elements can reduce compactness of a building, and consequently increase articulation (Stamps, 2000, pp.53-54) (see Figure 2.11).

![Figure 2.11: Comparison between a compact (left) and an articulated building facade (right), Pelotas, Brazil (Source: Schlee & Moura, 1998, pp.145, 151).](image)

According to Ching (1996) and Von Meiss (1993), articulation can contribute to creating public spaces with different visual characters, and increase the complexity of streetscapes due to the relationship between walls of building facades. Similarly, evidence has suggested that users prefer streetscapes formed by articulated buildings to those formed by compact ones (Stamps, 2000; Weber, 1995; Preiser & Rohane quoted in Nasar, 1988). Stamps’ analysis (2000, p.54) demonstrates that building size is the main aspect that influences user perception and evaluation of articulation in streetscapes. Buildings which have large visual areas appear to be more massive than buildings with small visual areas; over 30% of variance in the mass judgement can be attributed to the visual area of facades. According to Stamps, six other physical aspects related to building facades can increase user perception and evaluation of articulation: vertical partitions, number of doors and windows, mass broken into smaller parts, reduced thickness of vertical elements, building proportion of width to height, and presence of trees in the foreground. Variation in shape and proportion of doors and windows can also influence user perception and evaluation of articulation (see Table 2.7). In this research, the variation of these aspects is taken into account to calculate the complexity of commercial streetscapes.
Table 2.7: Aspects of buildings that influence user perception and evaluation of facade articulation in streetscapes (Source: Stamps, 2000, p.54).

<table>
<thead>
<tr>
<th>Increase compactness</th>
<th>Increase articulation</th>
<th>Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Size of building.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Horizontal and vertical partitions on facade.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Array of doors and windows on facade (repetition, shape, and proportion).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Broken mass on facade.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Thickness of vertical elements on facade.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overall proportion of facade.</td>
</tr>
<tr>
<td></td>
<td>Tree in foreground of facade.</td>
<td></td>
</tr>
</tbody>
</table>

B4. Visual character

The concept of visual character is related to physical characteristics of buildings, which face public spaces. In this research, visual character is not defined as the context, spirit of place, social conventions or other vague notions. Definitions described in terms of “the context”, “the whole” and any other ideas, which are formally equivalent, are aesthetic judgments related to user feelings (see section 2.3.2). These expressions are too vague and cannot be applied to calculate complexity of street facades. According to Stamps (2000, pp.58-59), visual character can be defined by similarities between physical characteristics of buildings in a streetscape. He suggests that this impression depends on the frequency of design features of facades. An experiment conducted by him (1999d), using 24 blocks of houses as stimuli, suggests that a definition of visual character can be based on the materials of facades and the mathematical three dimensional Euclidean space: a defined region (block facades), a set of design features (such as architectural style, number of stories, roof type, symmetry and so on), and a critical frequency of the presence of these features in a street facade (88% according to his study).

This Ph.D. research describes the visual character of commercial streetscapes according to the frequency of the following design features of building facades: architectural style, number of stories, rooflines (hip roof, flat roof, and so on), and building symmetry. The variation (high or low) of these features in commercial street facades is also considered to calculate the complexity of these settings. Taking in mind Stamps’s (2000, pp.58-64) and Weber’s (1995, pp.195-205) studies, this present thesis classifies building facades in three
levels of symmetry: symmetric, partially symmetric and asymmetric (see Figure 2.12).

Figure 2.12: Levels of building symmetry - (i) symmetric, (ii) partially symmetric, and (iii) asymmetric (Source: author).

B5. Colour

Colour refers to visual stimuli produced in human eyes by the process of light refraction and reflection (Birren, 1982, p.7; Porter & Mikellides, 1977, pp.78-79). This can also be considered a property of materials and, according to Agoston (1979, p.7), “a sensation produced in the brain in response to light received by the retina of the eye”. Swirnoff’s study (2000, p.9) says that “the stimulus of colour occurs in the orchestration of connected facades on a street”. Colour is the first aspect perceived by users in public spaces and, in many cases, it can re-create the visual character of places such as in Caminito in Buenos Aires, Argentina, and in Pelourinho in Salvador, Brazil (see Figure 2.13). More cities are paying special attention to the colour of plaster when undertaking the rehabilitation of their historic city centres. The colour project of Melilla, a Spanish exclave on the coast of North Africa, coordinated by the architect Joan Casadevall Serra, is an example of this. As Uzzell and Jones say (2000, p.333), “colour can be used as a unifying theme to bridge a number of scales or historic areas by acceding, balancing, or continuing themes of the building or wide context”.

Figure 2.13: Caminito in Buenos Aires, Argentina, and Pelourinho in Salvador, Brazil (Source: http://www.astro.uvic.ca; http://www.un-limited.travelcom).
Places can become unpleasant for a majority of users, and human behaviour can be affected negatively when colours are chosen and applied in public areas without being taken into account their effects on human perception (Naoumova, 1997, p.9; Küppers, 1995, pp.21-22; Porter, 1982, p.6). Colour confusion caused by excessive chromatic variation is recognized as one of the causes of disorder in commercial streetscapes (Kita, Funahashi & Koura, 1997, p.277; Küppers, 1995, pp.188-196). According to Küppers (1995), both low and high chromatic variation in commercial city centres need to be avoided: the first situation does not stimulate user interest, while the second case can decrease visual quality of streetscapes. According to Naoumova’s study (1997, p. 9), in many commercial city centres, intense colours cover large areas of facades and “achromatic intervals” are not applied on building facades. Her work suggests that the expression “achromatic intervals” refers to building facades painted in colours which may vary between white and scales of grey. Her study suggests that people perceive these intervals as positive aspects of streetscapes; if these intervals do not exist, high variation of colours can cause negative effects on user perception (see Figure 2.14).

![Figure 2.14: A – Scheme with no achromatic intervals; B – Scheme with achromatic intervals (Source: author).](image)

To analyse the chromatic variation of commercial streetscapes, three colour properties need to be taken into account: hue, saturation, and brightness (see Table 2.8). Hue is the attribute that differentiates one colour from another; this is a difficult concept to explain, but it is sufficient for the objectives of this research to say that when an object is perceived as “red”, this word covers the idea of a particular hue. Saturation can be described as a perception of the apparent concentration of hue. A colour is saturated when the reflected portions of the spectrum together determine the predominate hue; this means that few traces of other colours are present in the reflection. If the reflection contains many traces of other colours, the colour is said to be unsaturated. For example, pink has a lower proportion of hue than red; hence, pink has lower saturation. The brightness of a colour indicates how light or dark that colour is. Every colour has a certain degree of brightness:
no colour is as bright as white, and all colours are brighter than black. Brightness refers to quantity of reflected light on colour surfaces (Mahnke & Mahnke, 1996; Schmuck, 1981; Thiel, 1981; Arnheim, 1974; Agoston, 1979).

Table 2.8: Colour properties (Source: author).

<table>
<thead>
<tr>
<th>COLOUR PROPERTIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hue</td>
</tr>
</tbody>
</table>

Colour temperature is also another important attribute. This is related to the three primary hues: blue, red and yellow. Hues that tend to blue are recognized as cold colours, while hues that tend to red and yellows are categorized as hot colours. Orange, which is composed of red and yellow hues, is categorized as hotter than either of its both hue components. This attribute affects users physically and perceptually. Cold colours are associated with sky, ice and cold weather, reducing blood circulation and user body temperature. On the other hand, hot colours are linked to hot weather, fire and sun, increasing blood circulation and user body temperature. This attribute also helps determine how objects appear positioned in space: hot colours appear closer to the observer, while cold colours appear further from the observer (Naoumova, 1997, pp.6-7; Thiel, 1981, pp.205-213).

In 1983, Michael Albert-Vanel developed a multi dimensional colour space, which allows colour analysis by chromatic groups: colours which have one or more properties in common can form a group (Hope & Walsh, 1990, p.230). For example, one chromatic group can be composed of colours with the same brightness but different hues and levels of saturation. This method has been known as the “Planetary Colour-system”. In this thesis, this system is taken into account to analyse colour variation of building facades and commercial signs. Colours are grouped into categories due to commonalities among some of their attributes (hues, saturation, brightness and/or temperature). The relationships between chromatic groups are also investigated. According to Naoumova (1997, pp.9-15), these relationships can be harmonic or not, and they are linked with colour location in the chromatic disc (see Table 2.9 and Figure 2.15). In this present research, the relationships between colours are taken into account in order to explore how streetscapes with different
levels of colour harmony are perceived and evaluated by users. Similar colour analysis was already carried out by Jean-Philippe Lenclos in Greece (in 1983), Japan (in 1983), Italy (in 1994) and France (in 1989) (Lenclos & Lenclos, 1999, p.16) and by Natalia Naoumova in Brazil (in 1999).

Table 2.9: Harmonic relationships between colours (Source: Naoumova, 1997, p.12).

<table>
<thead>
<tr>
<th>Achromatic harmony</th>
<th>Chromatic harmony</th>
</tr>
</thead>
<tbody>
<tr>
<td>This kind of harmony is related to white, grey and black hues. The only attribute</td>
<td>Monochromatic harmony: different saturations of one hue are combined.</td>
</tr>
<tr>
<td>that makes one hue differ from another is brightness.</td>
<td>Harmony by proximity: combination of hues distant from each other until 45° in the</td>
</tr>
<tr>
<td></td>
<td>chromatic disk.</td>
</tr>
<tr>
<td></td>
<td>Harmony by dominance: combination of hues distant from each other until 60° in the</td>
</tr>
<tr>
<td></td>
<td>chromatic disk.</td>
</tr>
<tr>
<td></td>
<td>Harmony by contrast: combination of hues distant from each other from 90° until 180°</td>
</tr>
<tr>
<td></td>
<td>in the chromatic disk.</td>
</tr>
<tr>
<td></td>
<td>Harmony by complementary colours: combination of yellow with violet (red + blue);</td>
</tr>
<tr>
<td></td>
<td>blue with orange (yellow + red); red with green (yellow + blue).</td>
</tr>
<tr>
<td>Harmony by light – dark contrast</td>
<td>Contrast between white and another hue.</td>
</tr>
</tbody>
</table>

Figure 2.15: Chromatic disc (Source: author).

2.4.3 Symbolic factors related to streetscapes

Symbolic factors are linked to user perception and cognition of public space. According to Carr, Francis, Rivlin and Stone (1992, pp.214-217) and Lang (1987, pp.203-209), public spaces are full of potential symbolic meanings, and the recognition of these meanings can contribute to users’ feelings about the environment and themselves. These authors suggest six variables of the built environment that can carry meanings: building configuration, spatial configuration, materials, nature of illumination, colour, and non-visual environment such as sounds and the tactile and olfactory qualities of surfaces and textures. At the same time, symbolic meanings do not depend simply on the physical characteristics of places, they can be associated, for example, with the functions of places, people and events that
took place there. When people perceive a streetscape, they usually establish associations between aesthetic configurations (such as shapes, colour and materials) and symbolic meanings, which can be related to their past experiences, background, culture and so on (Lang in Nasar, 1988, p.11). According to Miles, Hall and Border (2000, p.173), user interpretation of the built environment depends on (i) time, (ii) culture and (iii) circumstances. These three factors together may determine meanings connected with the physical characteristics of urban sites.

City centres are formed by the “collective memory” of people, which is linked to symbolic meanings attributed to objects and places. The relationship between commercial signage and architecture, for example, can be part of people’s memory. Symbolic meanings can contribute to forming the visual character for a place and differentiate one area from another. In addition, memory can be understood as the guiding thread of urban structure, in the way that monuments of architecture are linked to a city: examples are Big Ben in London and the Eiffel Tower in Paris (Miles, Hall & Border, 2000, p.173). According to Stevenson (2003, pp.113-114) and Buchanan (1968, p.17), cities can be understood and experienced in a range of contradictory but reinforcing ways. In this regard, the interplay between the “real” and the “imaginary” city, as described by Stevenson (2003, p.19), is fundamental. The first is a tangible city of surfaces of footpaths, buildings and roadways (formal factors), while the second refers to the place of literature, popular culture, anecdote and memory (symbolic factors) (Kelly & Kelly, 2003, p.19). According to Whelan (quoted in Ashworth & Graham, 2005, p.63), the most symbolic features of a city or town are represented by public monuments, which confer meaning to that urban context and transform neutral places into ideologically charged spaces. So, the symbolic factors linked to architecture influence how people perceive and evaluate urban settings.

As discussed earlier (see section 2.4), symbolic factors can create and/or reinforce character of places; Covent Garden Market in London can be one example. According to Urban Design for Retail Environments (2002, pp.33-32), this place has the qualities of a traditional market centre, but the “folk memory” is the appeal of what the area has to offer. The activities of this market may provide elements that add to the shopping experience and help to define a distinct character. Shoppers may prefer to visit Covent Garden Market because it has a character, and qualities that are not found in other commercial centres in London (see Figure 2.16).
Taking the discussion above, when commercial signs harm the character of city centres, they affect symbolic meanings associated with these places. This research takes into account the fact that historic meanings can influence user perception and evaluation of commercial city centres. Coeterier (1993) and Lynch (1972) suggest that buildings and public spaces which evoke historic meanings contribute to increasing the visual quality of urban sites. According to the literature, older buildings are clearly preferred over modern buildings (Herzog & Gale, 1996, pp.44-73; Frewald, 1989 in Herzog and Shier, 2000, pp.557-559). Visual richness of building facades (such as decoration and ornamentation, texture variation, natural materials, articulated walls and curves), legibility and mystery (opportunity for exploration), and building maintenance contribute to increase this preference (Herzog & Shier, 2000, pp.557-575). In addition, historic buildings may evoke positive user evaluation due to associations with the past or status (Nasar, 1988). Sometimes, historic buildings can be evaluated negatively by users; however, as argued by Herzog and Gale (1996), this may happen because of poor maintenance. Moreover, in a study related to user satisfaction, there is no difference between professionals and lay people in terms of evaluation of historic buildings; both groups sympathize with these buildings (Stamps & Miller, 1993).

Moreover, investigations about cognitive maps demonstrate that wayfinding is based on focal points (Casaki, Barkowsky, Klippel & Freska, 2000) which, in many cases, correspond to buildings and public spaces with historic importance. As stated by Lynch (1960), users may evaluate positively the presence of historic buildings in city centres because of the increasing number of contemporary buildings. Sherlock (1991, pp.163-164) suggests that historic buildings are needed as much as new buildings, because they reflect
the character and history of the city, and promote a sense of familiarity for users.

In this scenario, the preservation of historic buildings and public space is essential to maintain the visual quality of commercial and historic city centres (Heath 1988 quoted in Nasar 1988, p.8). According to Azevedo (2000), user satisfaction with public space tends to increase with the presence of historic buildings. Stevenson (2003, p.9) says that in architecture and urban design, many postmodern buildings and public spaces have attempted to create built environments which can be relevant to local communities. However, in many cases, these environments are frequently little more than a pastiche of ornamentation inspired in the appearance of historic buildings. Marsh’s work (1993 quoted in Nasar, 1998, pp.69-70) demonstrated that, in a primary evaluation, buildings which were erroneously perceived as historic because of their visual character were evaluated positively by architects. However, when they realized that those buildings were new copies of old exemplars, their judgment changed. Buildings that look historic by copying the aesthetic composition of historic facades were evaluated as negative by these professionals. Non-architects did not experience such a reversal in their evaluation; however, they usually prefer genuine historic buildings (Milgram & Jodelet, 1976 quoted in Nasar, 1998, p.70). These findings suggest that symbolic meanings attributed to buildings and places are not just linked to their physical characteristics; they depend on the historic context in which buildings were designed and built.

Although the importance of historic buildings is recognized by several investigations, in many commercial city centres, shop owners do not contribute to the preservation of the historic heritage. Usually, historic buildings are treated unsympathetically by their retail occupants, such that shopping streets become “a hotch potch of storefronts and fascias” as mentioned by Davies (1986, p.126) (see Figure 2.17). In the present research, the context described in the previous paragraphs is taken into account to develop an approach capable of managing the potential conflicts between commercial signs and historic buildings in commercial city centres in different urban contexts. Furthermore, the theoretical background presented above is applied to analyse user perception and evaluation of historic city centres and commercial street facades. This study takes into account the fact that historic meanings attributed to buildings may influence user perception and evaluation of these places.
Chapter Two: The visual quality of the built environment and the factors that influence aesthetic judgments.

2.5 CONCLUSION

The following preliminary issues are taken into account to build the theoretical and conceptual framework applied to explore user perception and evaluation of commercial historic city centres in this research:

1. Historic city centres and commercial street facades are recognized as having high visual quality when there is order among physical elements of the streetscape. In this research, the following criterion is applied to define which streets have higher or lower order in terms of commercial signs and buildings: the percentage of street facade related to buildings harmed by commercial signs. For example, a street with 90% of the street facade harmed by signs is less ordered than a street with 5% of the street facade harmed by these media. In this thesis, harmed buildings are considered to be the ones where commercial signs cover elements related to facade silhouette, details and articulation.

2. In this research, the concepts of legibility and imageability are applied to analyse the mental images that people have of commercial and historic city centres. These mental images are explored in terms of (i) how users recognize historic city centres (such as a historic, commercial, tourist or cosmopolitan centre), (ii) whether commercial signs in historic places are identified as elements which help wayfinding, and (iii) whether these media are evaluated as positive or negative elements of city images.

3. In terms of the process of user perception, the theoretical and conceptual framework of this thesis assumes that (i) the relationship between commercial signs and buildings influences the level of order of a streetscape, and (ii) the perception and evaluation of order
and chaos tend to be similar between users from different places (perceptual constancy). Taking the process of user cognition, this framework assumes that streetscapes of commercial city centres can have different symbolic meanings for distinct user groups. The combined result of both of these processes is the mental representation that users have of the public space. This mental image is the focus of this research since it analyses how the appearance of commercial city centres and street facades are perceived and evaluated by pedestrians.

4. This research attempts to identify (i) the physical characteristics of buildings and commercial signs indicated by users as positive and negative to the appearance of historic city centres and commercial street facades, and (ii) the intensity of influence of these characteristics on user preference and satisfaction with these places. This thesis compares the responses of people from different urban contexts, explores whether there are universal views among them, and identifies relationships between the physical characteristics of historic city centres and user perception and evaluation of these places.

5. The aesthetic evaluation dimensions of “pleasure” and “interest” are adopted in this thesis to identify and compare user perception and evaluation of historic city centres and commercial street facades. These aesthetic dimensions are addressed to analyse whether historic city centres and commercial street facades where different commercial signage approaches are applied are perceived and evaluated differently by users. Semantic scales of five points with positive, negative and neutral levels are applied to this investigation. Since what people find beautiful or interesting may depend on the sorts of scenes they typically encounter in their everyday life, similarities and differences between users from distinct urban contexts in terms of perception and evaluation of streetscapes are explored. Taking the dimensions of “pleasure” and “interest”, two approaches of investigations are adopted: (i) aesthetic judgement can vary between distinct users, and it is a subjective parameter; and (ii) aesthetic judgement is associated with the physical characteristics of public spaces, and it is an objective parameter.

6. To analyse user perception and evaluation of historic city centres and commercial street facades, this research takes into account how users feel in terms of the appearance of these places (subjective evaluation), and which physical characteristic of commercial signs and buildings influence their perceptions and evaluations (objective evaluation). Users are
asked to indicate whether the appearance of buildings, commercial signs, historic buildings and places, and the number of commercial signs influence their perceptions and evaluations of the appearance of historic city centres and commercial street facades. This thesis also explores the physical characteristics of commercial signs and buildings noted as positive and negative by users in their own words. One challenge of this research is to analyse user answers and interpret the data in relation to formal features of the streetscape.

7. The perception and evaluation of users from different cities, countries and user groups are investigated and compared. This research explores the following general assumption: while some visual preferences in the built environment may be influenced by the user’s urban context, others (universals) may be common to the majority of people from different countries and may be useful in defining general principles that guide preference and satisfaction. Perceptions and evaluations of five user groups are investigated: professionals (architects, landscape architects, planners, urban designers and civil engineers), lay people (people from other professional backgrounds), and three groups made up of residents in different historic cities. The appearance of historic city centres is analysed through the responses of residents, while the appearance of commercial street facades is analysed through the responses of residents and non-residents. This study takes into account that user urban context and familiarity with the streetscape may influence perception and evaluation of commercial street facades. In terms of user sample, people who are less than 18 years old have not been selected to participate in this research.

8. In terms of formal factors related to disordered streetscapes, two main issues are analysed: the conflict between the design of commercial signs and aesthetic composition of building facades, and the visual overload provoked by excessive numbers of commercial signs, plus high variation of their physical characteristics. For this analysis the variation of the following commercial signage features are taken into account: proportion (vertical or horizontal), location (on base, body or crowning of buildings), shape, direction (vertical, horizontal or diagonal to facades), lettering size, lettering style, colour, chromatic contrast between letters and sign background, and segregation between figure and sign background by size proportion. Fragmentation of building facades by colour and commercial signs, and too high variation of building silhouettes, details and articulation are related to disordered streetscapes. To analyse the level of commercial signage concentration in street facades, the following features are analysed: square metres of commercial signs per linear street
metre, number of commercial signs, number of buildings harmed by these media and percentage of street facade and historic buildings damaged by signs. The level of commercial signage concentration in different street facades is compared to user perception and evaluation of the appearance of these streets.

9. In a pre-selected range of commercial streetscapes in different urban contexts, this research analyses (i) the level of order among commercial signs and buildings, (ii) the relationship between the aesthetic composition of these media and historic building facades, and (iii) the general visual character of commercial street facades. In this context, user perception and evaluation of streetscapes are explored with regard to the following semantic differential scales: ordered-disordered, colourful-colourless, many-few (number of commercial signs and buildings harmed by these media), and much-small (coverage of buildings by commercial signage).

10. In terms of formal factors related to ordered streetscapes, this thesis analyses complexity in commercial street facades. This study attempts to define the level of complexity in a set of street facades, and compares these results with perception and evaluation of users from different urban contexts of the appearance of these streets. The concept of complexity is related to the variation of physical characteristics of commercial signs and buildings, and this study assumes that order is a pre-requisite for complexity. This research also seeks to identify user perception and evaluation of variation of commercial signs and buildings, and compares these findings with results obtained from the method adopted to calculate complexity in commercial streetscapes (see Chapter Five, section 5.3.3.2, item A). To explore user perception and evaluation of complexity, two semantic differential scales are adopted: complex-simple and high-low (in terms of variation of commercial signs and buildings).

11. To define the complexity of commercial street facades in terms of commercial signs, the variation of the following features of signs are analysed: shape, proportion, arrangement on facades, type of sign, location on façade, presence of images, lettering style, predominant lettering style, letter size (height), number of chromatic groups, chromatic contrast between letters and sign background, and segregation between figure (letters and images) and sign background by size proportion. Number of commercial signs, percentage of street facade covered by these media and square metres of signs per linear
12. Five attributes are considered to define the complexity of commercial street facades in terms of building variation: silhouette, facade details, facade articulation, visual character, and colour variation. The variation of the following physical features related to these attributes is taken into account to calculate complexity:

i. Silhouette: the symmetry of shape perimeter of each building and street facade; the number of vertexes of street facade; the number of turns in shape perimeter (each building and street facade as a whole); the height of buildings; the width of buildings; and the kind of crowning. This research also adopts different levels of asymmetry to classify the silhouette of commercial street facades (see section 2.4.2.1, item B1).

ii. Facade details: brackets; balustrade; cornice; decorated bargeboard; decorated railing; decorated weatherboard; decorated wood pilasters; decorative draws, bands and frames; decorative gable and pent roof; decorative timber framing; engaged columns and pilasters; finial; parapet with geometric decoration; projecting cornice; structural external frames; temporary decoration (elements fixed on the wall); texture created by facings; timber framing on the top; vegetation as decoration; venetian blinds with geometric draws; window and door frames; and architectural styles.

iii. Facade articulation: this study recognizes that the following aspects of facades can increase articulation in commercial streetscapes and, consequently, increase complexity - buildings with a small visual area of facades, vertical partitions, presence of doors and windows, mass broken into smaller parts, reduced thickness of vertical elements, building proportion in terms of width to height, and presence of trees in foreground. Variation in shape and proportion of doors and windows can also influence user perception and evaluation of articulation. The variation of these features is considered to calculate complexity in this research.

iv. Visual character: the following design features in block facades are analysed to describe the visual character of commercial streetscapes - architectural style, number of storeys; rooflines (hip roof, flat roof, and so on), and building symmetry. The variation of these aspects is considered when calculating the complexity of street facades.
v. Colour variation: to analyse colour variation in commercial street facades, this thesis groups colours into categories according to commonalities between some of their attributes (hues, saturation, brightness and/or temperature). Harmonic relationships between colours are also taken into account in order to identify whether streetscapes with different kinds of colour harmony are perceived and evaluated differently by users.

13. Symbolic meanings attributed to buildings are taken into account to develop an approach capable of managing potential conflicts between commercial signs and historic buildings in commercial city centres of different urban contexts. This research analyses user perception and evaluation of the appearance of commercial street facades, and explores whether historic meanings attributed to buildings may influence user judgments of these streets.

Having defined these preliminary theoretical concepts that guide the framework of this research, the aim of the next chapter is to complement this framework through the discussion of non-physical variables that influence the operation of commercial signage controls in historic city centres. Issues related to consumer culture, city centre management, marketing the city and urban tourism are explored.
Chapter Three

Non-physical aspects that influence the operation of commercial signage controls: consumer culture, city centre management, marketing the city, and urban tourism

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<td>3.2 City centre management.</td>
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<tr>
<td>3.3 Conclusion.</td>
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</tbody>
</table>

3.1 INTRODUCTION

The purpose of this chapter is to analyse the importance of commercial signs in the streetscape of contemporary city centres, and explore theoretical concepts that influence the design of these media and the operation of commercial signage controls in historic city centres. In this regard, issues linked to consumer culture, city centre management, marketing the city, and urban tourism are analysed. The introduction of this chapter presents a brief outline of the factors related to the process of transformation of the appearance of city centres. The importance of these places as multi-function areas and the influence of commercial signs on their visual quality are discussed. This introduction also explores cultural changes that stimulate the display of shopfronts and advertisements in urban spaces, and the historic context involved in the process of transformation of the appearance of the streetscape. The main functions of commercial signs are also identified.

Next, this chapter explores the concept of city centre management and the factors related to this, which can influence commercial signage approaches adopted in historic city centres. Principles of marketing the city and urban tourism are also analysed; the first embraces the idea of place promotion, while the second takes into account different urban tourism approaches and competition among the appearance of cities. At the end, the conclusion identifies the preliminary issues related to the operation of commercial signage controls in commercial and historic city centres of different urban contexts that are investigated in this thesis. These issues are adopted for the theoretical and conceptual framework of this investigation, and drive the choice of research methods for data collection and analysis.
3.1.1 City centre as a place of constant transformation

Commercial city centres are places where different activities are carried out, such as leisure, recreation, tourism, sports and arts, being recognized as centres of leisure as well as of retailing with local regional and often larger trade markets. City centres are also public areas where human experience is transformed into signs, symbols and patterns of behaviour, which result from the combination of formal and symbolic factors of the built environment (Kelly & Kelly, 2003, p.17). These places provide a range of personal, community and commercial activities that contribute to creating their identity. In addition, they have social, economic and cultural roles to perform for the local community. In many cases, the commercial city centre coincides with the historic core of a city, and the challenge of the local authority is to combine all these functions with the preservation of historic buildings and public spaces (Miles, Hall & Border, 2000, pp.26-27, 156, 167-169). This research focuses on this issue in order to analyse commercial signage approaches that are currently applied in historic cities.

In many historic cities around the world, streets in central areas have been closed to vehicular traffic and converted into pedestrian malls; this transformation has intended to make life more pleasant for pedestrians, improve their shopping experience, and stimulate the economic development of the shops (Lang, 2005, p.81). Examples of this change can be seen in Carnaby Street in London, and Cornmarket Street in Oxford, England (see Figure 3.1). In central areas of cities, popular commercial and historic city centres are usually those that offer a sense of place through a combination of (i) preserved historic buildings and places, and (ii) opportunities for shopping experience. Both those factors when related to ordered streetscapes increase the attraction of centres in which shopping and leisure activities take place (Marshall & Wood, 1995, pp.167-169). As Kelly and Kelly (2003, p.17) point out, historic city centres can be occupied simultaneously by (i) consumers interested in access, comfort and choice of shopping, (ii) tourists interested in attractions, information access, hospitality and accommodation, (iii) workers interested in jobs opportunities, training and information, (iv) residents interested in choice of houses, (v) business visitors interested in access, information, communication and accommodation, and (vi) leisure users interested in facilities, comfort, service, information and access. In this regard, as historic city centres are occupied by different user groups, with distinct interests related to what the public space might offer, these centres need to provide a high
visual quality, which can be appreciated by different users in terms of historic heritage and social and economic vitality. The historic city centre of York in England is an example of a place where the preservation of historic buildings and places promotes an attractive atmosphere reinforced by different activities offered in this area, such as shopping, leisure, cultural events and so on (see Figure 3.2).

Figure 3.1: Examples of “pedestrian malls”- Carnaby Street in London and Cornmarket Street in Oxford, England, respectively (Source: http://www. suif.stanford.edu; author).

Figure 3.2: Historic city centre of York, England (Source: author).

As part of the historic context of many countries, historic city centres have been through a process of physical transformation, which involves the satisfaction of new social and commercial needs. This transformation usually involves updating of historic buildings to accommodate commercial activities, and the insertion of contemporary architecture in existing streetscapes. This is a common process and there is nothing wrong with that; problems begin when historic buildings and places are harmed by this transformation. According to Stevenson (2003, p.9) and Miles, Hall and Border (2000, pp.26-27), in the past, many historic city centres were characterized by colourful, tactile, fragrant products and organized to create a range of sensory pleasures bringing user satisfaction. However, the character of many centres has been damaged by several factors, and disorder caused by
commercial signs is one of them (Portella, 2003; Minami, 2001; Nasar, 1988). Concerning this issue, Miles, Hall and Border (2000, p.109) suggest that, in some countries, architects, planners and urban designers are trying to develop practical strategies to preserve the visual quality of historic city centres. These authors demonstrate that legibility and imageability are factors that can increase the visual quality and the level of order of these areas. In addition, their study emphasizes that restoring meanings to damaged historic centres involves not only architectural monuments, but also claiming the symbolic meanings attributed by users to these centres and the cultural context as important dimensions of historic character.

It is therefore important to highlight some issues related to negative approaches applied to increase the visual quality of commercial and historic city centres. Standardisation of design can result in all city centres looking the same, with little sense of place. On the other hand, fragmented strategies of aesthetic control can result in a series of conflicting styles, designs and finishes. In addition, the lack of a coordinated approach to guide the design of commercial signs, buildings, public spaces and their interconnectivity can make historic city centres less integrated and attractive. The intensity of use and changing demands of shop owners in how they operate their shops make the application of aesthetic controls related to commercial signs and building facades fundamental. With regard to these controls, reconciling design considerations with commercial needs of shop owners and the interests of the local community is a particular concern (Miles, Hall & Border, 2000, p.109).

Approaches to preserve the visual quality of historic city centres, in order to make these areas attractive to different users, need to go beyond techniques of traditional preservation. These techniques usually just focus on transforming preserved buildings into museums. As argued by Miles, Hall and Border (2000, p.109), aesthetic controls and guidelines cannot be applied in isolation; they must be part of a strategic approach which considers the city centre as a whole, involving a realistic vision for this area and taking into account the support and commitment of the local authority, the private sector and residents. The idea which inspires the present research is to build an overall framework which gives theoretical support to the development of a general commercial signage approach that guarantee the involvement of different user groups in terms of their perceptions, evaluations and interests related to historic city centres. According to Kelly and Kelly
(2003, pp.8-9), approaches to revitalize historic city centres, which take into account the participation of different key actors, can be seen in a number of cities in England (such as in Bristol, Bath and Cambridge), Spain (such as in Barcelona), France (such as in Lille), and North America. In England, public participation in design decisions related to public spaces has also become popular and accepted by local authorities: the DETR/CABE report (2000) suggests that urban design is the art of making place for people, and the DCMS Annual Report (2002, p.49) highlights the development of a social inclusion policy for the built heritage including “local workshops across the country to explore concepts of heritage with people of all ages and varying experiences”.

In this regard, the perception and evaluation of different user groups are explored in this research in order to identify the aspects of the operation of commercial signage controls and the physical characteristics of signs and buildings that need to be taken into account in the development of a general commercial signage approach. This thesis analyses the following issues related to commercial signage approaches applied in historic city centres in different urban contexts: (i) identification of the groups responsible for the development of commercial signage controls within the city centre, and the professionals consulted whilst developing commercial signage controls, (ii) public participation in this process, (iii) influence of commercial signage controls on the appearance of commercial and historic city centres, and (iv) commercial signs as positive or negative elements of the city centre image.

The next part of this theoretical discussion identifies factors related to the transformation of the appearance of commercial and historic city centres in terms of the display of commercial signs. This stage analyses the cultural changes which make people accept commercial signs as part of their everyday life, and the influence of these media on their behaviour.

3.1.1.1 Cultural changes related to the transformation of the appearance of city centres: consumer culture

According to Mies van der Rohe (1926 quoted in Frampton, 1983, p.40) and Sassen and Roost (in Judd & Fainstein, 1999, pp.147-150), the built environment reflects material and symbolic changes in society, and cities have become important sites of consumption. The transformation of the appearance of city centres does not just express historic
modifications; social relations and ideologies are also reproduced through it (Gudis, 2004, pp.50, 244; Sharrett 1989, p.178; Goss quoted in Jameson 1984, p.54). Historic and commercial city centres are characterized by interactions between consumption functions and commercial trends that have social consequences extending far beyond the behaviour of individuals. Shopping has become a key activity in the present day economy, and has been recognized not just as the action of buying goods, but as an entertainment and leisure activity (Thorns, 2002, p.133; Zukin, 1995, p.187). Places for shopping, fashion, eating, tourism, recreation and leisure have become important areas for demonstration of user social and cultural differences, as well as for the consumption of untouchable goods such as films and tourism destinations (Shane, 2005, pp.259-261; Thorns, 2002, p.121; Zukin, 1995, pp.188-189; Bourdieu, 1984, pp.257-259). Goss (quoted in Jameson 1984, p.54) suggests that consumption has become one of the main driving forces of contemporary life.

The context described above form a phenomenon known as “consumer culture”, which has caused a significant impact on the appearance of several cities around the world (Proto, 2006, pp.95-121; Knox, 2005, p.4; Thorns, 2002, pp.127-133; Marshall & Wood, 1995, pp.156-169; Campbell, 1987, pp.17-35). According to Sharrett (1989, p.178) and Goss (quoted in Jameson 1984, p.54), in the “consumer culture”, people tend to be recognized for “what they can buy” as much as “what they can do”. This is related to social status attributed to products such as places, cars, clothes, shoes and so on. People consume brands and the symbols associated to these by what Thorns (2004, p.125) calls global culture. Goods begin to have more than utilitarian value; they become part of identity, personality, self-image, social position, attitude and aspirations of people (Marshall & Wood, 1995, pp.156-160). According to Sharrett (1989, p.178) and Goss (quoted in Jameson 1984, p.54), in fact, it is not the material object that is desirable by people, but the image associated with these objects. In this new era, Cass (in Lasansky & MacLaren, 2004, p.246) argues that architects design architectural commodities that in many cases users do not need to interpret for themselves because of the symbolism already created by the consumer culture. According to Cass, the consumer culture has dictated semiotic significances and cultural meanings for a set of architectural forms and commercial signage design.

Consequently, “consumer culture” can be described as the symbolism of objects. Aware of this, advertisers and shop owners devote their efforts to creating and displaying
commercial signs to attend to new visual needs related to this symbolism. Marshall and Wood (1995, pp.159, 167-168) suggest that advertising strategies, media and sales practices are focused on the symbolism of objects to define how commercial signs should be designed in public spaces. As a result, the global phenomenon of “consumer culture” manipulates the layout of these media with respect to size, proportion, colour, lettering style and size, and their location in the city centre. Consequently, these influences on commercial signage design transform the image of whole cities where goods are made available and advertised (Harvey, 1989; Gibbs, 1988); the cultural context of consumption has become influential in the design and location of shop facades, malls and new developments in city centres (Marshall & Wood, 1995, p.160). In cities of different urban contexts, standard commercial signs are displayed representing the global effect of “consumer culture”; the most obvious consequences for the appearance of historic city centres have been standard commercial signs related to franchises, anchor stores, and shopping malls. These signs can be seen in many cities in the United States, China, South American countries and, increasingly, in Europe. At the same time, commercial signage has been designed to increase the commercial appeal of several historic city centres encouraging consumers to perceive these areas as centres of exchange, consumption and sources of commercial activities (Sasaki, 2002, p.11; Creswell, 1998, pp.273-277; Marshall & Wood, 1995, p.167).

The context presented above emphasises the reality that commercial signs are important elements of contemporary streetscapes. The presence of these media in historic city centres contributes to the satisfaction of consumers’ needs, which are not necessarily related to purchase of goods; these can be linked to the visual commercial appeal produced by these kinds of signs. This research assumes that a general commercial signage approach to historic cities should stimulate displays of commercial signs in order to promote a commercial appeal for city centres and, at the same time, guarantee the preservation of historic buildings and places, avoiding disordered streetscapes.

A. Historic context involved in the transformation of the appearance of city centres

Assuming that the design of commercial signs is often inspired by issues related to “consumer culture”, it is relevant to identify the global historic context which has stimulated the transformation of the appearance of city centres. In the mid eighteenth
Chapter Three: Non-physical aspects that influence the operation of commercial signage controls - consumer culture, city centre management, marketing the city, and urban tourism.

century and early nineteenth century, the Industrial Revolution provided the economic incentives and building technologies necessary to transform the appearance of city centres in many countries. While before this period, many places were recognized for their squares, plazas, green areas and other open spaces, during the eighteenth and nineteenth centuries some city centres came to be associated with poster advertising, department stores, and their surrounding shops (Sideris & Banerjee, 1998, pp.6-7; Nevett, 1982, pp.15,83). This transformation of the streetscape began in the British and American contexts but was extended rapidly to other places. According to Nevett (1982, pp.16-22), in the British context, during the first half of the eighteenth century, wall-posting began to develop into an effective means of mass communication; in this period the history of advertising was mainly concentrated in London (see Figure 3.3).

![Figure 3.3](image-url)

Figure 3.3: Painting by John Orland Parry of a poster site near St. Paul’s in the 1840s. This shows the development of wall-posting in London (Source: Nevett, 1982, p.83).

Eric Lampard (quoted in Taylor, 1991, p. xiii) identified a new interest in mass-produced goods and standardized consumption at the end of the nineteenth century in the United States. According to him, the concept of “consumer culture” did not exist before 1900; this began in 1920 through changes in production, distribution, and consumption style. In public spaces, the art of commercial sign display underwent a change between 1900 and the end of the twenties. The cultural, social and economic transformations, which had started with the Industrial Revolution, contributed to increasing consumer desires and changes in the appearance of city centres. Shopfronts, advertisements, and billboards had begun to promote commercial images of products and shops. The strategies in advertising changed the appearance of cities as a whole, and encouraged consumers to see products as desired objects (Taylor, 1991, p.xiv). The consumer boom of the 1950s and 1960s saw new...
and extravagant forms of advertising, such as those on display in Piccadilly Circus in London (Nevett, 1982, p.191).

Taking into account European and American cities, the major change in the appearance of city centres occurred after 1895: new technologies in illumination and an interest in colour were refined into a new commercial aesthetic style (Taylor, 1991, p.xv). Transformation of the appearance of these centres came with the invention of artificial colours, introduction and production of window glass and plate glass, and the invention of incandescent electrical lights. The invention of neon light, around 1915, changed the streetscape of several city centres around the world contributing, by the end of the next decade, to make white light be the least desirable illumination in commercial city centres (Taylor, 1991, pp.235-238). In the Brazilian context, this transformation was seen some years later: in the historic city of Pelotas, for example, commercial signs began to change the streetscape of the city centre in the beginning of 1940s, but the real remake happened during the sixties and seventies when artificial lights of signs transformed the city. In England, a contemporary example of the adoption of illuminated commercial signs can be noted in the Printworks project. This is Europe's first urban entertainment venue, based in Withy Grove in Manchester. Until 1986, this was a printing press, but the site stood derelict from 1987 until 1998, when work commenced on the new venue, opening in 2000. Printworks is a commercial arcade where illuminated shopfronts and advertisements are designed to create a night atmosphere marked by neon even during daytime (Figure 3.4).

Figure 3.4: Historic city centre of Pelotas in 1970, Brazil (left), and Printworks in Manchester in 2005, England (right) (Source: author).

At the same time, the invention of the signboard contributed to change the way that commercial signs were designed in city centres. In the United States, in 1920, O. J. Gude,
an American entrepreneur described by Taylor (1991, p.235) as the “Napoleon of publicity”, invented the permanent signboard for painted advertising rather than for paper printing. Electrical signs and painted billboards became common features in commercial streetscapes in many countries after this year. As a result, people began to live in an atmosphere of promotion, advertisement and enticement, which penetrated into their culture, influencing their perception and evaluation of visual quality in public spaces (Taylor, 1991, pp. 235-237). Gude (quoted in Taylor, 1991, p.235) defended his work as a way to integrate art and business. According to his idea, electrical adverts help to lift the “aesthetic pleasure” of people more than any other media does. However, according to Taylor’s study (1991, p. 236), there are negative effects of these signs on user perception and evaluation of city centres: “Electrical signboard advertising literally forces its announcement on the vision of the uninterested as well as the interested passerby (…) Signboards are so placed that everybody must read them, and absorb them, and absorb the advertiser’s lesson willingly or unwillingly (…) The constant reading of “Buy Blank’s Biscuits” (…) makes the name part of one’s subconscious knowledge”.

The above discussion points to the two factors which promote the transformation in the appearance of city centres: the cultural changes related to the global phenomena of the “consumer culture”, and the invention of new technologies that influence the design of commercial signs. This discussion also highlights the importance of these media as a mirror of a global cultural and historic evolution.

3.1.1.2 Functions of commercial signage

Having reviewed the present state of knowledge about the design and display of commercial signs in city centres, this study identifies the main functions of these media. This is important since this thesis attempts to identify factors that need to be taken into account in the development of a general commercial signage approach guaranteeing the preservation of historic buildings and places and the effective performance of commercial signage functions.

According to Coelho (2001, pp.159-160), Hollis (2000, pp.4, 141) and Moles (1987, pp.54-56), commercial signage has two basic functions: (i) the identification of commercial establishments, and (ii) the persuasion of potential consumers to purchase products and go
Chapter Three: Non-physical aspects that influence the operation of commercial signage controls - consumer culture, city centre management, marketing the city, and urban tourism.

to places with this purpose. Usually, in commercial city centres, shopfronts are applied to satisfy the first function, while window displays and promotional signs painted on facades tend to address the second (see Figure 3.5). According to Moles (1987, p.56), there are two other functions of these media, which are linked to the visual quality of public spaces: the environmental and aesthetic functions (see Table 3.1).

Figure 3.5: Shopfront identifying a commercial establishment (left), and window display persuading potential consumers to purchase products and go to the restaurant with this purpose (right) (Source: author).

Table 3.1: Commercial signage functions related to the visual quality of city centres (Source: Moles, 1987, p.56).

<table>
<thead>
<tr>
<th>Environmental function</th>
<th>This function concerns the relationship between commercial signs and buildings. This relationship, when positive, helps wayfinding and reinforces legibility and imageability of places.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetic function</td>
<td>Artistic function: One main function of commercial signage is to persuade people to consume goods. As a result, commercial signs are in constant competition with each other to get people’s attention. This competition promotes the increase of artistic demands. The artist function concerns commercial signs layouts displayed in city centres.</td>
</tr>
<tr>
<td>Social function</td>
<td>Commercial signage reflects the “consumer culture”, which influences social behaviour of users in many contemporary cities. This is what social function is about: reflect and represent social and cultural aspects of a period of time.</td>
</tr>
</tbody>
</table>

Having presented this introductory analysis, this study proceeds to examine issues related to the control of commercial signs. The purpose is to develop a theoretical and conceptual framework by analysing principles related to city centre management, marketing the city, and urban tourism.

3.2 CITY CENTRE MANAGEMENT

City centre management is related to the maintenance and enhancement of city vitality and viability, and the co-ordination of public, private and voluntary services and interests. In conformity with Wells (1989, p.9), in this research the concept of city centre management can be described as: “a comprehensive response to competitive pressures, which involves development, management and promotion of both public and private areas within city
centres, for the benefit of all concerned”. The term “competitive pressures” provides the key to why city centre management is necessary. This management involves dealing with the potential of a centre and promoting its well being, and bringing together interests of different user groups to ensure coordination and development of services (Urban Design for Retail Environments, 2002, p.17). Urban design principles are applied in city centre management to create places with distinctive visual character, safe and accessible streets and public spaces. Marketing and urban tourism strategies are also adopted to promote places as being attractive for residents and visitors (Urban Design for Retail Environments, 2002, p.17).

In addition, the term “competitive pressures” can be related to different geographical levels. There is competition at national level between expenditure on retailing and other sectors of the economy. There is also competition between alternative locations of retail activity and commercial interests. There are competitive pressures between different areas of one city centre and between different retailers. In light of these levels, the main aim of the city centre management is to offer the opportunity for places to compete more effectively, in response to each kind of competition (Wells, 1991, pp.24-25). In this research, competitive pressures between commercial interests and preservation of historic city centres are taken into account in order to investigate the issues involved in the operation of commercial signage controls. For this, a comparison is made between controls adopted in a country where a national commercial signage approach is applied to preserve historic heritage, and in a country where there is no national approach to guide local authorities in the design and guidance of commercial signage controls. In this last case, commercial interests usually drive the operation of commercial signage approaches.

Evidence has suggested different functions of city centre management. Baldock (1989, p.53) suggests three roles which are categorized as elements of the same hierarchy: (i) creation and promotion of an image and climate of success for a city centre, (ii) development and encouragement of social and economic activities in city centres, and (iii) management of these places in order to keep them running effectively. As a consequence of the application of these general roles, Gregory (1990 quoted in Wells, 1991, p.28) demonstrates the potential benefits that a city centre management can promote to a place (see Table 3.2). In addition, city centre management can be used to ensure the visual quality of public areas in commercial and historic city centres. In this regard, as discussed
in Chapter Two (see sections 2.2 and 2.2.1), the visual quality is related to (i) the level of order among formal elements that form the streetscape (such as buildings and commercial signs), and (ii) the principles of legibility and imageability. Studies have already suggested that management strategies can be applied to improve the legibility and imageability of city centres (Kelly & Kelly, 2003, p. 31; Weber, 1995, p.113). According to Wells (1991, pp.32-33), city centre management is also adopted to guide future development in existing urban sites. In this way, the relevance of this management is as much about planning and economic development as related to the visual quality of public places.

Table 3.2: City centre management benefits (Source: Wells, 1991, p.28).

<table>
<thead>
<tr>
<th>City centre management benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Encouragement of more people into the centre.</td>
</tr>
<tr>
<td>2. Maintenance and enhancement of the trading potential of the place.</td>
</tr>
<tr>
<td>3. Heightened demand for shops in an improved environment.</td>
</tr>
<tr>
<td>4. Encouragement of owners to maintain properties.</td>
</tr>
<tr>
<td>5. Enhanced prospects of redevelopment and refurbishment of existing properties.</td>
</tr>
<tr>
<td>6. Protection and enhancement of values in existing shopping streets.</td>
</tr>
</tbody>
</table>

According to Wells (1991, pp.22-31), an increasing number of strategies are being applied in order to enhance what city centres offer in terms of commercial activities. At the same time that retailing is considered by local authorities to be one of the main functions and land use of many city centres, some initiatives also emphasize that these places cannot be categorized as areas just for shopping. Wells (1991, p.31) also suggests that other activities are necessary for adding vitality and viability to city centres, such as offices, restaurants, cafes, pubs, libraries, museums, cinemas and so on. They contribute to reinforce the character of a place as historic, tourist and/or cosmopolitan. Similarly, Gehl (quoted in Hass-Klau, Crampton, Dowland & Nold, 1999, p.27) defends the view that city centre management needs to help city centres to function better, not just for transient consumers and visitors, but for those people who live and work in these places.

According to Wells (1991, p.31), the main measure of performance of city centre management is in terms of commercial profitability; successfully improved city centres can be expected to attract more people (residents, investors, visitors and so on), and therefore generate higher profits. However, other qualitative measures can also be adopted reflecting a more socially oriented analysis such as through studies of user perception and evaluation of the appearance of city centres. In terms of key actors evolved in the city centre management, Wells (1991, pp.35-36) suggests two user groups that most influence design decisions: local authorities and retailers. He also says that, in many cases, property owners
and the local community are excluded from the city centre management debate. In this regard, he suggests that a more integrated approach that stimulates participation of city council officers, retailers, property owners and local community is necessary to develop urban design strategies that increase the visual quality of city centres (Wells, 1991, p.37).

This research recognizes that city centre management is not directly related with the operation of commercial signage controls in historic cities, which is the responsibility of local planning authorities. However, city centre management deals with issues that can be affected by how commercial signage controls are approached in historic city centres, such as: the visual quality of these places, the image of city centres, the development and encouragement of social and economic activities, the protection and enhancement of values in existing shopping streets, and so on. In this case, evaluation strategies used in city centre management can be adopted, particularly for measuring the effectiveness of commercial signage controls in creating historic city centres be seen as (i) beautiful or ugly, (ii) centres of leisure, work and/or just passing through, (iii) centres of ordered or disordered commercial signs, and (iv) places where commercial signs are positive elements of the city image and help wayfinding, or not. In this thesis, to compare the performance of commercial signage approaches adopted in historic city centres of different urban contexts, the perception and evaluation of residents in distinct cities are investigated.

For this research, the discussion presented in the previous paragraphs contributes to the definition of parameters used to explore issues involved in the commercial signage control system applied in historic city centres. In this regard, this thesis seeks to identify the groups responsible for the development of commercial signage controls, whether other professionals or local community are consulted during this process, and how this participation takes place. This study also measures the influence of commercial signage control approaches on the appearance of historic city centres through user perception and evaluation of (i) necessity of commercial signage controls, (ii) public participation in the development of these controls, (iii) physical aspects of the streetscape that need to be taken into account in these controls, (iv) city centre appearance, (v) importance attributed to city centre functions (leisure, work, passing through), (vi) order among commercial signs, (vii) commercial signs as elements that reinforce commercial or/and the historic appearance of places, (viii) aspects that make city centres attractive places, and (xix) commercial signs as positive or negative elements in a city image and as landmarks that help wayfinding.
Chapter Three: Non-physical aspects that influence the operation of commercial signage controls - consumer culture, city centre management, marketing the city, and urban tourism.

3.2.1 Concept of marketing the city

Cities have become increasingly shaped by the necessity to project a positive image of themselves, and there is no greater advert for cities than their own built environment and natural landscape (Hall & Hubbard, 1998, p.29). As discussed by Lang (2005, p.77), many local authorities have recognized the importance of open-space design in creating positive images of cities. Taking this approach to thinking, marketing became a discipline of city centre management during the 1970s and 1980s. According to Smyth (1994, p.12), strategies related to marketing the city come from different fields, such as economics, sociology, psychology, politics and biology. Marketing the city has been a concept debated by two approaches of thought: one group ties urban marketing to a deep economic analysis (Kearns & Philo, 1993; Harvey, 1989; Logan & Molotch, 1987), while another group focuses on the range and success of marketing strategies (Gold & Warn, 1994; Kotler, Haider & Rein, 1993; Ashworth & Voogd, 1990).

These two approaches are not exclusive and usually one complements the other. The primary concept of “marketing the city” is related to the publicity field; it says that creation of strategies for selling and satisfying users requires a high quality in production of goods and delivery of services. When this principle is applied to the built environment, this can be defined as the creation of strategies to promote city centres or entire cities for certain activities and, in some cases, to “sell” areas of a city for living, consuming, and productive activities (Selby, 2004, pp.16-18; Holcomb in Judd & Fainstein, 1999, pp. 54-65; Bill & Marion, 1997, pp.35-60). This concept involves the redefinition of the city as an urban product (Bill & Marion, 1997, p.37), and refers to the promotion of city images in order to attract people and increase social and economic vitality (Kelly & Kelly, 2003, p.15; Smyth, 1994, p.2). Complementing this idea, Fretter (1993, p.165) says: “Place marketing has thus become much more than merely selling the area to attract mobile companies and tourists. It can now be viewed as a fundamental part of guiding the development of places in a desired fashion”.

According to Paddison (1993, p.340), strategies for marketing the city are centred on four main objectives: increasing the competitiveness of a city in comparison with other places, attracting investments, improving the cities image, and promoting the well-being of users. The importance of the concept “marketing the city” in terms the economic development of cities is highlighted by Kotler, Haider and Rein (1993, p.20): “marketing the city is one of
the most adaptive and effective approaches to the problem of urban settings”; these authors believe that cities that fail to market their images successfully can be affected by economic decline and stagnation. Several studies have already explored the relevance of this kind of thought (Kotler, Haider & Rein, 1993; Goodwin, 1993; Holcomb, 1993; Haider, 1992; Fleming & Roth, 1991; Ashworth & Voogd, 1990).

Advertisements, the main components of marketing strategies, have been used by many cities to promote local economic development. After setting incentives and selecting desirable images that might be associated to places, a variety of advertisement packages, such as city guides, glossy brochures, fact sheets, xeroxes of industrial commercial information, and advertisements in newspapers, are used by the local authority. For example, many marketing strategies apply the terms “business” in slogan campaigns of cities to advertise that these places are good for investment, while in other cases, when cities are characterized by historic heritage, usually marketing strategies are designed to emphasize the advantages of these places to tourists and locals by means of analogy, for example: “sunny places”, “blue sky”, “historic heritage”, “local culture” and so on (Landry, 2006, pp.172-173; Knox, 2005, p. 4; Hall & Hubbart, 1998, p.61).

One example of an application of strategies for marketing the city can be seen in Old Havana, the historic core of Havana, capital of Cuba. This is one of the least altered colonial cities in Latin America, and was inscribed in the Unesco World Heritage List in 1982. In 1993, a Master Plan was designed to revitalize its historic city centre which was in ruins. Over 100 buildings have been restored, dozens more are in progress of restoration, and an equal number have been identified as sites for future work (Rodrigues, 1999, p.43). To promote this city as a tourist destination marked by a strong colonial historic character, a series of promotional materials has been published and distributed to residents and tourists. Promotional literature and well-maintained websites designed to advertise a net of hotels located in restored colonial mansions emphasize the historic importance and the individual character of these buildings and their surrounding areas. Pamphlets showing restored colonial buildings, maps of the city and posters were designed to promote the image of Old Havana as a well preserved historic colonial site. Even books were designed and published in order to attract tourist investors, and highlight the positive results achieved through the implementation of the master plan. The city centre has been packaged as a series of cultural and historic products of consumption in a manner that helps tourists
navigate through the city. Although there are some criticisms related to the emphasis given in this master plan for the tourist industry, the strategies adopted to marketing this city centre have been successful in the promotion of the city image (Lasansky & MacLaren, 2004, pp.165-184) (see Figure 3.6).

Figure 3.6: The city centre of Old Havana after the adoption of the Master Plan, Cuba (Source: http://www.images.google.co.uk).

In the British context, Glasgow has been seen as an example of adoption of strategies for marketing the city to improve its image. In 1983, a campaign named “Glasgow’s Miles Better” was launched; it was inspired by the earlier campaign promoted in New York in 1977 – “I love New York” (see Figure 3.7). Advertisements were published in colour supplements, international business magazines, and displayed on the London Underground and the sides of red double decker buses. The idea was to change the image of Glasgow from a centre of production to a centre of consumption. This strategy was already applied in many cities in the United States; local authorities of places such as Boston, Baltimore, New York, Cleveland and other American cities had begun to apply marketing strategies to promote the image of these places as centres of innovation, commodity and quality lifestyle (Jaynes, 2005, p.169; Selby, 2004, pp.66-73; Hall & Hubbard, 1998, pp.31-53).

Figure 3.7: Logos of two marketing the city campaigns - “Glasgow’s miles better” and “I love New York” (Source: http://glasgowimages.google.co.uk; Wikipedia, 2006a).
According to Smyth (1994, p.15), people and their activities give meaning and use to the built environment. In this regard, in the process of marketing historic city centres or even entire cities, the images promoted through media, such as newspapers, post cards, pamphlets and websites, are not just related to the formal elements of places, but to their symbolic meanings as well. This idea is related to the field of Environment Behavioural research that has its conceptual basis on user perception and cognition of the built environment; in this research field, selling and defining a city centre requires the sale of what this place means, how it feels and what it looks like to users (Stevenson, 2003, p.98; Ashworth & Voogd in Gold & Ward, 1994, p.39). In this sense, Smyth (1994, p.1) suggests that the process of marketing the city can start from the question: what sort of cities do users wish to see?. Having answered this, by analysing user perception and evaluation of the appearance of city centres, marketing strategies can be designed and applied to intervene in the production and transmission of urban images, and to reinterpret these images as the bases of an initiative for “selling” city centres to residents and outside users (Smyth, 1994, pp.2-14). Symbolic factors associated with places need to be identified and packaged. For this, perception and evaluation of different user groups, such as local authorities, local communities, shop owners, visitors and investors, need to be investigated (Stevenson, 1999; Holcomb 1993). Approaches that take into account only the interests related to the development of tourist activities can create images of places not recognized by their own residents (Lasansky & MacLaren, 2004, p.183). In the case of Old Havana, for example, some promotional materials about its historic centre include services that only interest tourists and investors, ignoring the needs and interest of the local retailers, industry and community.

In this present research, the importance of the concept of marketing the city concerns its influence on the design and display of shopfronts and window displays on commercial streetscapes. For example, in places such as Piccadilly Circus and Times Square, commercial signs are designed to create images of multicultural, worldwide and international centres, which attract many users. In addition, according to Trulove (2000, p.108), in the Block at Orange, an open-air shopping mall in California, the commercial signage is designed to be “reminiscent of the word’s great city blocks, like Times Square, Pier 39, and Melrose Avenue, but with a California state of mind”. In this type of urban spaces, commercial signs are designed to increase social and economic vitality by maintaining order among physical elements and reinforcing the commercial appeal of these
areas. At the same time, in many historic city centres, marketing approaches influence the
design and control of commercial signs with particular focus on the preservation of historic
buildings and places (Russo, 2002, pp.27-28). As opposed to the case of Times Square, for
example, the image promoted by marketing strategies in historic city centres, such as
Oxford and York in England, emphasizes the historic appearance of the area in an ordered
streetscape, and not just its commercial functions (see Chapter Four, section 4.4.2).

With regard to historic city centres in different countries, this research analyses whether
the concept of marketing the city influences the design of commercial signage controls.
Through the views of city council officers involved in the design of commercial signage
controls and review of guidances and legislations, this study explores the following issues:
(i) whether the creation and/or promotion of a city image is part of the aims of commercial
signage controls, (ii) whether local authorities are involved in marketing strategies related
to the promotion of the city centre, and (iii) what image of the city centre is promoted
through marketing strategies and commercial signage design. One purpose of this study is
to analyse whether commercial signage control approaches and strategies for marketing the
city are intended to reinforce a common image of a city centre, or whether these initiatives
are managed in opposite ways in terms of promotion of the city centre image. The concept
of place of promotion, which is related to marketing the city, is analysed below.

3.2.1.1 Concept of place promotion

Place promotion is part of a system of communication in which meanings of places are
encoded and decoded by advertisers, and decoded in many different ways by users (Selby,
involves strategies which come through artistic historic approaches in which techniques of
iconographic and related analysis are applied to promotional materials. Promotional
messages have created images of cities communicated by different kinds of media, such as
television programmes, films, advertisements, post cards, books and newspapers (Gold &
Ward, 1994, p.21). Representations are pivotal in shaping the ways in which users
recognize the built environment. Images of cities can be advertised through all kinds of
popular culture such as magazines, newspapers, literature, art, photographs and songs
(Stevenson, 2003, p.10). According to Taylor (1991, pp.xiii- xiv), posters displayed on
streetscapes or in the formats of postcards and pamphlets are the elements that most help in
the promotion of city centre images: postcards, for example, are designed to persuade people to visit distinctive urban sites, and can lead to the creation of urban itineraries among historic and tourist points. This kind of advertisement is able to target cities as attractive places to visit and holiday in. Sometimes, according to Taylor (1991, pp.xiii-xiv), posters help to reverse a nineteenth century idea that cities are unattractive places, rather than tourist destinations.

In this context, as argued by Thorns (2004, p.145), positive images of places are usually created by local authorities and private-sector boosters to encourage local residents to feel good about their city and the quality of life that places can promote. In the United States, for example, the “Main Street Approach” is a recognized method for revitalizing commercial city centres. This is mainly a method used to revitalize older and traditional central areas. The underlying premise of this approach is to encourage economic development within the context of historic preservation in ways appropriate to the marketplace. This approach is based on four issues taken into account in the process of revitalization of central areas: organization (fundraising, committee structure, membership recruitments), promotion of the city, design of buildings and signage, and economic restructuring. According to a study carried out by Robertson (2004, pp.60-61), promotion is the most utilized component to improve the appearance of city centres. This is applied as a tool to sell a positive image of commercial city centres, and encourages consumers and investors to live, work, shop, play and invest in these areas.

One role of place promotion strategies is to communicate images of city centres for people in different places at the same time. This allows many individuals, who have never been to places like London and Paris, to have strong images of the physical and symbolic forms of Piccadilly Circus and Champs-Elyses, for example (Stevenson, 2003, p.10). These images are the result of a process which is not just related to how people respond to and interpret the place, but this also concerns configurations of meanings, feelings and expectations, which are involved in user cognition of a city (Kearns & Philo, 1993; Madsen, 1992; Ashworth & Voogd, 1990). Thorns (2002, p.130) says that users no longer know a city because they have been there, seen and touched its public spaces; they shape their views of the world through the images provided by the media. When people go to Las Vegas, for example, they already have a pre-conceived image of this city. In this process, perception and cognition are steps that happen before users come to know the real place (Stevenson,
Chapter Three: Non-physical aspects that influence the operation of commercial signage controls - consumer culture, city centre management, marketing the city, and urban tourism.

2003) (see Figure 3.8).

Figure 3.8: Postcards of Las Vegas promoting this city as a place of illusion, theatrical spectacle, leisure and fun (Source: http://www.famouslocations.com).

Pre-conceived images that users have of cities have been analysed by cognitive and behavioural studies. These investigations are related to a broad movement which has been developed in geography, sociology and environmental psychology research fields. Since the late 1960s, researchers have examined representations of places as sources of environmental information and influence on user behaviour (Gold & Ward, 1994, p.22).

With regard to Smyth’s studies (1994, p.13), one problem can occur in the application of place promotion ideas: some user expectations can be raised to the level of fiction. In many cases, the reality of city centres does not correspond to the images advertised by promotional materials. In this regard, users may evaluate as unpleasant places that when observed through postcards are evaluated positively. According to Hall and Hubbard (1998, p.28), several place promotion strategies and projects of economic development can be labelled as “carnival masks of late capitalism”. They create images of cities which hide the problems that need regeneration projects in the first place (Harvey, 1989, p.35). In some cases, the image promoted of cities can be categorized as cosmetic make-overs (Holcomb, 1993, pp.140-142). Another issue is stereotypic ideas of cities; once formed, stereotypes are an important category in environmental cognition. Usually, these concepts are resistant to change and supply summaries of understanding of cities. It is not uncommon for users to classify places according to categories: they assume that a set of cities, for example, have the same physical and symbolic attributes. Such stereotypes can be prejudicial to the development process, damaging city chances of gaining new investments, and affecting its reputation with residents, tourists and investors (Gold & Ward, 1994, p.23).
In light of the influence of commercial signs on the creation of stereotypes and images promoted by marketing strategies and place promotion principles, this present research explores whether residents in a historic city agree that images promoted by postcards mirror the relationship between commercial signs and building facades perceived on-site. This study also analyses whether users prefer the images presented by these media rather than the images experienced of the real place. This investigation analyses possible proposed actions to improve city centre image, and examines whether commercial signs are perceived by the local community and city council officers as positive or negative elements of the city centre image. Another issue that is related to city centre management and can influence the development of commercial signage control approaches is the concept of urban tourism, which is discussed below.

3.2.2 Concept of urban tourism

The concept of urban tourism is described by MacCannell (quoted in Taylor, p.66) as “a way of attempting to overcome the discontinuity of modernity, of incorporating its fragments into unified experience.” According to Stevenson (2003, p.100) and Thorns (2004, p.141), urban tourism involves the redevelopment and regeneration of the city, image-making and application of marketing strategies focused on production of leisure spaces. Moreover, in many cases, the term urban tourism has been understood as the revitalization of declining cities or parts of cities into centres of tourist destination. MacCannell’s study (quoted in Stevenson, 2000, p. 100) suggests that local authorities can attempt to discover or reconstruct cultural heritage and the social identity of places through urban tourism initiatives. He believes that many cities become aware of themselves as tourist attractions, such as Las Vegas and New York, because of the urban tourism process. Reynolds (1988 quoted in Miles & Hall, 2004, p.171) says that “the growth of the tourism industry has a great deal to do with the growth of every other industry or business: the opening up of the regions as fine places to visit means that they’re better places to live in – and thus better places to work (…) a higher quality of life benefits employees”.

One purpose of urban tourism approaches is to create landscapes for international comparison (see section 3.2.2.2); they aim to promote images of cities to compete with images of other places located in different urban contexts (Hoffman, Fainstein & Judd, 2003, pp.25-33). According to Stevenson (2003, p.99), what distinguishes urban tourism
from traditional tourism is the way that images of places are packaged and marketed. Law (1992, p.599) argues that urban tourism strategies are applied to transform city centres into places of consumption and leisure. Moreover, images of cities divulged by these strategies are used to build user perception and evaluation of places (Miles, Hall & Border, 2000, p.108). As suggested by Ockman (in Lasansky & MacLaren, 2004, pp.227-232), Bilbao in Spain is an example of the application of urban tourism and marketing the city strategies: since 1997 this city has been known as a popular tourist destination mainly because of the postmodern architecture of the Guggenheim Museum. This building immediately became synonymous with the entire city and a symbol of regeneration for a declined region of Spain. The application of urban tourism strategies in order to remake a place can also be seen in places such as the Gold and Sunshine Coasts in Australia, Costa del Sol in Southern Spain, Pattaya and Phuket in the Gulf of Thailand, and Bali in Indonesia (Thorns, 2004, pp.143-144).

Urban tourism is also related to “tourism shopping”, a term applied by Page and Hall (2003, pp.133-139). According to the English Historic Towns Forum (1992), there is a relationship between tourism and retail activities as the majority of tourist destinations combine shopping and visiting attractions. Many successful cities in Europe have applied urban tourism strategies and promoted unique leisure shopping to establish their popularity as international destinations. In this context, the overall significance of the visual quality of public spaces is considered as essential to promote tourism in historic city centres: usually users look for a unique shopping experience which can be created through the design of shop windows, shopfronts and building facades. Page and Hall (2003, p.137) also suggest some issues that could be considered by city centre managers in order to promote urban tourism: (i) image of the place, leisure setting, display of goods on the streets, street musicians and artists, (ii) aesthetic value, image of maintenance and safety, (iii) architectural design of buildings, streets, shops, windows, sign boards and lighting, (iv) animation, entertainment, amusement and surprise. Moreover, these authors also describe that the following factors could be considered by local authorities to attract visitors to historic city centres: (i) marketing the destination based on an identifiable theme, using historic and cultural attractions of a place, (ii) investing in attractive shopping galleries, facades, shopfronts, layout and design of the built environment and in the preservation of the historic architecture.
For this present research, the importance of the concept of urban tourism is related to its influence on the operation of commercial signage controls adopted in historic city centres. In many cases, commercial signage controls are incorporated in urban tourism strategies as a tool to create or reinforce the visual character of a historic city. Usually, one of the aims of this kind of commercial signage control approach is to develop the local tourist economy of the city by attracting visitors. This type of control can help to promote historic city centres as tourist destinations with unique identity. However, in some cases, this can also be applied to promote a manufactured character of city centres. Examples of commercial signage controls influenced by the application of urban tourism strategies, and designed to reinforce the manufactured image of the city promoted by the local authority to attract tourist, consumers, potential residents and/or investors can be found in Gramado and Campos do Jordao in Brazil (see Figure 3.9), in Celebration and Sea Side in the United States, and in Bicester Village in England (see Chapter Four, section 4.3.3).

Figure 3.9: City centres of the cities of Campos do Jordao (left) and Gramado (right) in Brazil. (Source: http://images.google.com.br; http://www.gramado.rs.gov.br).

3.2.2.1 Different urban tourism approaches

Urban tourism strategies can be approached in two ways: in some commercial city centres, they give more emphasis to department stores than to museums and libraries, such as in Times Square in the United States. On the other hand, in other city centres, such as in York and Bath in England, historic and cultural heritage form the basis of urban tourism strategies. In both situations, commercial signs are controlled and guided to promote an ordered streetscape; however, in the first case, these media promote the commercial appearance of the place, while, in the second scenario, the signs reinforce the cultural and historic heritage of the city centre (Taylor, 1991). According to Gospodini (2004, pp.227), built heritage is fundamental for the physiognomy of city landscape, and has been the basis
Chapter Three: Non-physical aspects that influence the operation of commercial signage controls - consumer culture, city centre management, marketing the city, and urban tourism.

of urban tourism approaches adopted in many European cities.

The discussion above demonstrates that urban tourism strategies and commercial signage controls cannot be approached in the same way for all types of city centres. First, it is necessary to identify the image that users have of a city centre, and the image that they would like to have of this place. Then, the image of the city centre promoted by urban tourism strategies can be defined and, from this start point, commercial signage controls can be designed and implemented. Visiting Paris in 1912 the novelist Edith Wharton (quoted in Taylor, 1991, p.324) described one example of misunderstanding in terms of commercial signage controls. According to her study, in that period the commercial signage was controlled and guided independently of the image of the city promoted by urban tourism approaches. She found that the local authority had adopted commercial floodlighting, which she associated with images of American cities. She said that (Wharton quoted in Taylor, 1991, p.324): “the great buildings, statues and fountains along the Champs-Elyses were withdrawn at dusk into silence and secrecy. Now, they are being torn from their mystery by the vulgar intrusion of floodlighting”.

In reviewing commercial signage controls and urban tourism strategies, different approaches have been applied in the French and American contexts. For example, in 1929, a Parisian law ordered the removal of electric signs that did not advertise goods sold on the premises; in other words, advertising by non-locally based national businesses was forbidden. The law also put restrictions on cigarette and automobile companies, and pleased many local people. As one resident said, “Paris is proud to be known as the City of Light, but she wants it to be intellectual rather than electric” (Taylor, 1981, p.236). The American approach is based on concentrating commercial signs in a limited area and, at the same time, liberating advertisements to other media such as televisions and magazines. In New York, for instance, the commercial aesthetic is concentrated in Times Square; the urban tourist and commercial signage approaches adopted require that buildings in this area include large illuminated signs as facade elements to reinforce the commercial appeal of the place. According to Taylor (1991, pp.82-240), in this case, the signage creates what tourists want to see when they visit this city because the visual commercial appeal is what urban tourism strategies promote. Moreover, in London, the City of Westminster defines a series of controls to avoid the visual quality of individual buildings, streets and areas of the city being harmed by commercial signs. However, the City Council gives special
consideration to proposals for advertisements in Piccadilly Circus, where existing commercial signs make a positive contribution to the visual character and appearance of this place (Westminster City Council, 2007).

In this sense, this present research analyses the influence of urban tourism strategies on the operation of commercial signage controls adopted in historic city centres of different urban contexts. The purpose of this analysis is to identify whether urban tourism ideas drive the design of these regulations in order to reinforce the historic and/or the commercial appearance of historic city centres. This thesis also explores whether commercial signage controls are applied to promote a manufactured character for historic city centres.

3.2.2.2 Competition among city centres

Different urban tourism and commercial signage approaches can result in distinct levels of visual quality in historic city centres, as these approaches influence the aesthetic composition of shopfronts, window displays, advertisements and building facades. In this regard, Stevenson (2003, pp.9-10) and Ashworth and Voogd (in Gold & Ward, 1994, p.39) believe that cities are in constant competition with other cities in terms of visual quality, amenity and lifestyle. Ordered streetscapes, attractive public space, historic character, urban culture and social and economic vitality have become valuable commodities for sale in the global marketplace. This is because these factors can influence the images that users have of cities, and these images can promote competition among commercial and historic city centres of different countries (Zukin 1995, 1998). According to Hall and Hubbard (1998, pp.56-58), the increased competition between cities around the world is the main contributing factor to the insertion of place promotion strategies in the city centre management. As discussed by Castells (1996, p.236), cities cannot be considered as individual places, but as a process by which places are connected in a global network. The discussion about cities as interconnected systems is not new as it is shown by the literature (Pred, 1997; Johnston, 1982; Hall & Hay, 1980; Brunn & Wheeler, 1980; Bourne, 1975; Berry & Horton, 1970; Berry, 1964).

The expression “global cities” is established to demonstrate that the competition among places is also overseas; in other words, this competition happens among cities located in different urban contexts (Stevenson, 2003, p.97). According to Sassen (1994 in Stevenson,
2003, p.95), global cities can have more in common with each other than with their surrounding districts and cities. As described by Taylor (2004, p.7) and Ashworth and Tunbridge (1990, p.52), there are relationships of dependencies and interdependencies between cities, which form configurations of connections across many places. In King’s views (1993, p. 84), the idea of global city is much more about the role that the city plays in world globalisation. In this respect, the possibility and composition of a global network of cities as well as universal users’ perceptions and evaluations of the appearance of city centres have been accentuated. Similarly, Stevenson (2003, p.96) believes that there is a connection among almost all cities of the world, rather than a single hierarchy. Sometimes, different cities can form a group because they have formal or/and symbolic factors in common, such as the historic cities of Minas Gerais in Brazil, which are distinguished by the concentration of colonial architecture, Times Square, Las Vegas and Piccadilly Circus for the emphases given to commercial signs, and Cambridge and Oxford for the medieval architecture of their university colleges. In many cases, commercial signage is controlled with the same general aims in historic cities of different places because these cities are part of the same group.

One idea of global cities emphasizes that urban problems cannot just be explored in a specific setting, limited by boundaries, and political divisions. They need to be analysed at a global level. For instance, the visual pollution caused by commercial signs needs to be analysed as a global phenomenon that has been changing the appearance of several historic cities across the world at the same level. Bourne and Simmons (1978) in their early study argued that in order to understand how a city changes, it is not enough to study just that particular place; it is necessary to take into account the city as part of a larger system. In this regard, to examine how commercial signage controls are approached in different places, the influence of aspects of the global context (such as consumer culture, marketing the city and urban tourism) on the design and control of commercial signs need to be analysed. Investigation of these issues by taking two or more case studies located in different urban contexts can help to define patterns related to user perception and evaluation of the built environment where commercial signage is controlled in different ways. Findings from this kind of investigation can inform theoretical concepts applied to a network of historic cities, and not only to a singular case.

The way that commercial signs are designed has strong importance for competition among
historic city centres in terms of their appearance. These media can contribute to a city centre being recognized as more pleasant than another city centre (Portella, 2003; Minami, 2001). For this reason, in many historic cities, approaches to guide and control shopfronts and advertisements are adopted having as the main aim to make the city more pleasant, to be recognized as a better place than others, and consequently, to attract more people (Stevenson, 2003, p.95). This context suggests that a general commercial signage approach can be developed for historic cities in different urban contexts since these places can be part of the same net of cities in terms of the importance of preserving historic buildings and places. This is the point of interest in this research: in general local authorities in historic city centres should promote aesthetic guidances which reinforce the preservation of historic heritage. This is a commonality that could be extended to local authorities of different places, independently of their geographic localization.

3.3 CONCLUSION

The theoretical discussion presented in this chapter contributes to forming the theoretical and conceptual framework necessary to analyse the factors involved in the operation of commercial signage controls in historic city centres of different urban contexts. The following issues are taken into account in this framework:

1. Assuming that city centres are places in constant transformation, in cases where the commercial centre coincides with the historic core of a city, the challenge of the local authority is to design aesthetic controls which combine interests related to retails, services and business with the preservation of historic heritage. This research focuses on this issue in order to analyse current commercial signage approaches applied in historic city centres of different urban contexts.

2. Historic city centres need to provide high visual quality recognized by different user groups in terms of historic preservation and social and economic activities. This is because these places are usually occupied by people with different perceptions, evaluations and interests in terms of what a public space should offer and look like.

3. As already discussed in Chapter Two, this present research recognizes that legibility and imageability increase the visual quality and level of order in city centres. This study also considers that restoring meanings for harmed historic city centres involves claiming the
symbolic meanings attributed by users to these places as important elements of the preservation of historic heritage. In this regard, not only architectural monuments should be taken into account in the revitalization of historic city centres.

4. This research recognizes that standardisation of commercial signage design may lead to all city centres looking the same, with little individual visual character. On the other hand, fragmented strategies of aesthetic controls can result in series of conflicting styles, designs and finishes. In addition, the lack of a coordinated approach to guide the design of commercial signs, buildings, public spaces and their interconnectivity can make city centres less integrated and attractive.

5. Taking issues related to the global phenomenon known as “consumer culture” and the invention of new technologies that influence the design of commercial signs, this thesis highlights the importance of these media as elements of the contemporary streetscape. The presence of these media in historic city centres contributes to satisfying consumer needs which are not necessarily related to the purchase of goods; these can be linked to the visual commercial appeal produced by these signs. This research assumes that commercial signage approaches to historic city centres need to stimulate displays of commercial signs in order to promote the commercial appeal of these areas, and, at the same time, guarantee the preservation of historic buildings and places, avoiding disordered streetscapes.

6. Commercial signage has four functions: (i) identification of commercial establishments, (ii) persuasion of potential consumers to purchase products and go to places with this purpose, (iii) environmental, and (iv) aesthetic. These functions are considered in this thesis since it attempts to identify factors that need to be taken into account in the development of a general commercial signage approach guaranteeing the preservation of historic buildings and places and the good performance of those commercial signage functions.

7. Competitive pressures between commercial interests and the preservation of historic heritage are taken into account to investigate the issues involved in the design and implementation of commercial signage controls in historic city centres of different urban contexts. A comparison is made between controls adopted in a country where a national commercial signage approach is applied, and in a country where there is no national approach to help local authorities in the design and guidance of commercial signage
controls.

8. Apart from shopping experience, there are other activities responsible for adding vitality and viability to city centres, such as offices, restaurants, cafes, pubs, libraries, museums, cinemas and so on. These activities contribute to reinforce the character of a place as historic, tourist and/or cosmopolitan. In this regard, the development of a general commercial signage approach might consider all these land uses and the signage adopted by them.

9. This research explores the effectiveness of commercial signage controls in creating historic city centres be seen as (i) beautiful or ugly, (ii) centres of leisure, work and/or just passing through, (iii) centres of ordered or disordered commercial signs, and (iv) places where commercial signs are positive elements of the city image and help wayfinding, or not. Taking these issues into account, the perception and evaluation of residents in different historic cities are investigated and compared.

10. Two user groups are identified as having the most influence on design decisions in city centres: local authorities and retailers. In many cases, property owners and the local community are excluded from being involved in making these decisions. In this regard, this thesis is addressed to inform a more integrated commercial signage approach that stimulates participation of city council officers, retailers, property owners and local community in order to increase the visual quality of historic city centres.

11. In this research, the importance of the concept of “marketing the city” concerns its influence on the design and display of shopfronts and window displays in commercial and historic streetscapes. This study assumes that the image promoted by marketing strategies in a historic city centre needs to emphasize the historic appearance of this area, and not just its commercial function. Through the analysis of legislation and guidelines related to commercial signage controls and views of city council officers involved in the design of these controls, this research seeks to explore the following issues in different historic city centres: (i) whether creation and/or promotion of city image is part of the aims of commercial signage controls, (ii) whether local authorities are involved in marketing strategies related to the promotion of city centre image, and (iii) which image of the city centre is promoted through marketing the city strategies and commercial signage controls. One purpose of this analysis is to identify whether commercial signage controls and
marketing the city strategies are approached to reinforce the same image of a city centre, or whether these initiatives are managed in opposite ways in terms of the promotion of the image of this place.

12. Taking the influence of commercial signs on the creation of stereotypes and images promoted by marketing the city and place promotion strategies, this study explores whether residents in a historic city agree that images promoted by postcards reflect the relationship between commercial signs and building facades perceived on-site. This research analyses whether users prefer the images presented by these media rather than the images experienced in the real place. This thesis also explores possible proposed actions to improve the appearance of historic city centres, and examines whether commercial signs are evaluated by local community and city council officers as positive or negative elements of city centre image.

13. This thesis analyses the influence of urban tourism strategies on the operation of commercial signage controls adopted in historic city centres of different urban contexts. The purpose of this analysis is to identify whether urban tourism ideas drive the design of these controls in order to reinforce the historic and/or the commercial appearance of city centres. This research also explores whether these media are applied to promote a manufactured character for historic city centres.

Taking the discussion presented in this chapter, the present research investigates how the operation of commercial signage controls is carried out in historic city centres of different urban contexts in terms of (i) presence of commercial signage controls in the city centres and the form they take, (ii) aims of these controls, (iii) groups responsible for the development of commercial signage controls, (iv) efficiency of these controls in ordering commercial signage, (v) professionals consulted during the development of commercial signage controls, (vi) public participation in the development of these controls, (vii) enforcement of these controls, (viii) influence of these controls on the appearance of the city centre, (ix) installation of new commercial signs, (x) relationship between the commercial signage controls and the image promoted of the city centre by the City Council through marketing the city and urban tourism strategies, and (xi) development of new commercial signage controls.

This thesis also measures the influence of commercial signage control approaches on the
appearance of historic city centres through residents’ perceptions and evaluations of (i) the need for commercial signage controls, (ii) public participation in the development of these controls, (iii) physical aspects of streetscape that need to be taken into account in these controls, (iv) city centre appearance, (v) importance attributed to city centre functions (leisure, work and/or just passing through), (vi) order among commercial signs, (vii) commercial signs as elements that reinforce the commercial and/or the historic appearance of city centres, (viii) factors that make city centres attractive places, and (xix) commercial signs as positive or negative elements of the city image and as landmarks that help wayfinding.

The purpose of the next chapter is to identify particular issues relating to the operation of commercial signage controls in different urban contexts by reviewing current commercial signage control approaches adopted in cities of distinct countries. Chapter Four informs the final concepts applied to build the theoretical and conceptual framework of this research.


# Chapter Four

## Review of current commercial signage approaches adopted in different urban contexts

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### 4.1 INTRODUCTION

The purpose of this chapter is to help the development of the theoretical and conceptual framework by reviewing current commercial signage approaches adopted in historic city centres of different urban contexts. The objective here is to identify issues taken into account in the design and implementation of commercial signage controls in different countries. Particular focus is given to approaches adopted in England and Brazil since these countries represent two different realities of how the operation of commercial signage controls can be carried out. In England, there is a national approach that helps local authorities to guide and control commercial signage in historic city centres, while in Brazil there is no national approach to control commercial signs, leaving local authorities with the responsibility to develop commercial signage controls, and to decide whether these controls are necessary in historic cities.

The first section of this chapter explores the influences of commercial signs on the appearance of city centres. Next, it analyses the application of aesthetic controls based on an approach known as “branding of public space”. This discussion focuses on the influence of this approach on the design of commercial signs, and the effect of these media in the appearance of city centres and/or entire cities. The cases of Toronto in Canada, and Cashmere and Celebration in the United States are analysed. This research does not ignore the fact that this kind of approach is applied in other countries, but it discusses the Canadian and American contexts because they reflect the extreme results that aesthetic controls based on “branding of public space” can have on urban settings.
Next, this chapter analyses positive current commercial signage controls implemented in cities of different urban contexts. First, general issues related to aesthetic controls applied in some European, American and Brazilian historic city centres are discussed. This chapter also presents a general comparison between the planning systems adopted in England and Brazil in terms of commercial signage controls. This examines guidelines and laws adopted to control the design of commercial signs in these two urban contexts. The results of commercial signage controls applied in six English historic cities are discussed: Leeds, Dartmouth, Exeter, Bath, Oxford and York. Four Master Plans designed and implemented in Brazil to improve the visual quality of the historic city centres of Rio de Janeiro, Sao Paulo, Sao Luiz and Salvador are also debated.

At the end, this chapter presents the remaining issues taken into account to build the theoretical and conceptual framework applied in this research to explore which factors are involved in the operation of commercial signage controls in historic city centres of different urban contexts. This chapter also shows a graph illustrating the framework of this research, which is the result of the theoretical discussion presented in Chapters Two, Three and Four. Finally, the propositions and working hypotheses that emerged from the theoretical part of this thesis and will be tested in later chapters (Six, Seven and Eight) are presented.

4.2 POSITIVE AND NEGATIVE INFLUENCES OF COMMERCIAL SIGNS ON THE APPEARANCE OF CITY CENTRES

Studies have shown that shopfronts and advertisements can influence the appearance of city centres been positively or negatively (Baines & Dixon, 2003; Venturi, Izenour, Steven & Brown, 1998; Moles, 1997; Taylor, 1991; Ashihara, 1983). In light of this issue, this research investigates the effects of different commercial signage approaches on the visual quality of historic city centres. This study assumes that different approaches may result in distinct commercial streetscapes and therefore, influence user perception and evaluation of the appearance of these places in different ways. The discussion below highlights factors which are taken into account in this thesis.

Shopfronts and advertisements are common ways of communication. As discussed earlier (see Chapter Three, section 3.1.1), these media have promoted changes on the commercial streetscape of many cities in different countries (Baines & Dixon, 2003, pp.118-119, 136-
Chapter Four: Review of current commercial signage approaches adopted in different urban contexts.

At the present time, these signs are important landmarks in many cities, and, sometimes, then become the predominant features of commercial city centres (Cauduro, 1981). Minami (2001, p.2) and Zukin (1995, pp.67-68) suggest that the lack of commercial signs can harm the social and economic vitality of city centres because, in many situations, it is the commercial atmosphere promoted by these media that attract consumers, visitors, and investors. In this regard, Piccadilly Circus in England and Times Square in the United States are examples of a positive influence of commercial signs on the streetscape: shopfronts and advertisements are central points of attention creating and reinforcing the character of these places. In this context, Zukin (1995, p.134) describes Times Square as a “centre of commercial culture” due to its cosmopolitan appearance and commercial appeal (see Figure 4.1). According to Venturi (1998, pp.23-35), commercial signs can also increase the legibility and imageability of places and, consequently, contribute to wayfinding. These media can be recognized by pedestrians as landmarks that can help their navigation through city centres (see Chapter Two, section 2.2.1).

Figure 4.1: Piccadilly Circus in London (left), and Times Square in New York (right). Commercial signage is one of the most important landmarks of these places (Source: author; http://legeros.com/photos/ny03/images/times-square-one-view.jpg).

Two other positive influences that commercial signs can have on streetscapes are identified in the literature: (i) first, when commercial signs are part of the aesthetic composition of historic buildings, the design of these media contribute to reinforcing the historic character of public spaces (Portella, 2003; Minami, 2001; Cauduro, 1981), (ii) second, in accordance with Ashihara (1983, pp.96-97), at night shopfronts and advertisements can promote “spectacle sensations” caused by bright colours, lights and shapes, and, as discussed by Zukin (1995, p.188), building facades plated with electrical light signs make fantasy
accessible in city centres (see Figure 4.2). In addition, as discussed earlier, Moles (1987, p.55) suggests two positive functions of these media – the environmental and the aesthetic (see Chapter Three, section 3.1.1.1, item b).

![Figure 4.2: Commercial signage as part of the aesthetic composition of a historic building reinforcing the historic character of the place – High Street in Oxford, England (left). Commercial signage creates “spectacle sensations” caused by bright colours, lights and shapes – Fremont Street in Las Vegas, US (right) (Source: author; http://www.vegas-online.de/images1/fourqueens.jpg).](image)

At the same time, early studies have already identified negative influences of commercial signs on the appearance of streetscapes; these happen when these media are disordered. According to a study carried out by the researcher (Portella, 2003) in a historic city in Brazil, disorder caused by commercial signs in commercial areas was repeatedly mentioned by residents as threatening their quality of life. Similarly, Herzog, Kaplan and Kaplan (1976) investigated which kind of environment users prefer among five categories of places - cultural, contemporary, commercial, entertainment, and countryside; the results suggested that most people dislike scenes with disordered commercial signs. Winkel, Malek and Theil (1970) also suggested that these media are highly noticeable by users. When Nasar in one of his early studies (1979) investigated the physical elements that most reduce the visual quality of city centres according to user perception and evaluation, the results showed that shopfronts and advertisements were mentioned by the majority of people. Moreover, in recent years, other authors (such as Baldock, 1988, and Michell, 1986) have reported problems that historic city centres face because of the design of commercial signs.

As briefly discussed in Chapter Two (see section 2.4.1), visual overload has a negative impact on the visual quality of city centres (Carr, 1973, pp.10-11; Rapoport & Hawkes, 1970 quoted in Nasar, 1988, p.300). This overload is promoted by excessive numbers of
shopfronts and advertisements with different physical characteristics such as size, colours, and lettering style. In many city centres, each retailer, attempting to call attention to his or her establishment, displays on their building facades distinctive signs that present a desirable image and stand out from the surroundings. In this regard, Hardin (1968), four decades ago, already argued that this problem is similar to “the tragedy of the commons”. In other words, when each sign is observed individually, this may have a favourable image and attract people’s attention, but when these media are placed side by side, the result is often chaos (Nasar, 1988, p.300; Carr, 1973, pp.24-25). According to Cauduro (1981, p.11), the visual overload caused by commercial signs can provoke a pathology known as “perceptual stress” on user perception of the built environment (see Figure 4.3).

Figure 4.3: Commercial signs can create visual overload, when put next to each other. Visual overload can decrease the visual quality of commercial streets. Berlin, Germany (Source: author).

At the same time, Moles (1987, p.226) suggests that commercial signage functions (see section 3.1.1.1, item b) can be harmed by an excessive number of shopfronts and advertisements. There is a limit in the quantity of signs that can be perceived by users in a single vision (see Chapter Two, section 2.4.1). If this limit is exceeded, the user’s capacity to read and understand commercial messages decrease. In historic city centres, problems are usually caused by the lack of commercial signage approaches to guide and control the design of shopfronts and advertisements in order to preserve historic buildings and places. In many cases, the quantity of commercial signs provokes disorder, decreasing user satisfaction with the appearance of historic city centres (Portella, 2003, pp.49, 145; see Figure 4.4). The decrease of user satisfaction can also occur when retail occupants treat historic buildings as mere background for commercial signs, such that shopping streets become “a hotchpotch of store fronts and fascias” (Davies, 1986, p.126). Cauduro (1981, pp.28-29) demonstrates that if the design of shopfronts and advertisements located in a specific area does not follow the same approach in order to reinforce the visual character of the place, the final result will be a chaotic streetscape. Taking this issue, the British
Council of Shopping Centres has given criticism: it has sought to provide a forum in which those involved with the shopping industry can exchange ideas about how to reinforce the visual character of commercial areas (Wells, 1991, p.2).

In terms of changes in the appearance of commercial city centres caused by the “consumer culture” (see Chapter Three, section 3.1.1.1), the degradation of historic character in central areas has been mainly noticed since new technologies in illumination and interest in colour were refined into what Taylor (1991, p.235) described as a new “commercial aesthetic”; commercial aesthetic concerns the creation of merchandising and advertising for mass urban markets (see Chapter Three, section 3.1.1.1, item A). Following that, Taylor (1991, p.358) demonstrates that many city centres have become visual illusions because of images created by an excessive number of signs and contemporary buildings designed to be a background for these media. This kind of building is anonymous and recessive, upstaged and dematerialised by commercial signs, and can be called “non-architecture of place”. In addition, commercial signage of franchises usually contributes to increase this problem: generally, franchise companies have standard signs used in different cities; these signs do not take into account the visual character of places and therefore can harm historic city centres. According to Landry (2006, p.144), “Coca Cola versus local distinctiveness is a supreme dilemma of globalization. It operates in over 200 countries. Its iconic logo has a beauty, but it is increasingly intrusive”.

Concerning the discussion above, the studies by Portella (2003) and Minami (2001)
demonstrate that in many historic cities in Brazil, the relationship between commercial
signs and architecture decreases the visual quality of these places and user satisfaction with
those. An increasing process of degradation of historic buildings and public spaces in this
country has been seen in the last decades (Portella, 2003, pp.41-42). Until the beginning of
the twentieth century, commercial signs were discreet and, usually, part of the aesthetic
composition of historic buildings in Brazil (Cruz, 1996, pp.82-83). However, mainly since
the second part of that century, shopfronts and advertisements have became predominant
features in city centres, and historic building facades have been approached as inexpressive
backgrounds for these media (Ohtake, 1982; Cauduro, 1981) (see Figure 4.5).

Figure 4.5: In the beginning of the 20th century, commercial signs were designed as part of the
aesthetic composition of historic facades in Brazil (left); at the present time, these media have
harmed the majority of historic buildings (right) (Source: Pesavento, 1982; author).

Another example of the process of degradation of the appearance of cities can be seen in
Brasília, the Federal Capital of Brazil. This city has been part of the List of World Heritage
Sites since 1987, and is recognized as the city with the most concentration of modern
architecture and public spaces in the world. Even though the visual qualities of the World
Heritage Sites need to be protected against the negative effects of shopfronts and
advertisements, Brasília is categorized as “heritage in risk” by Unesco. One reason for this
is the visual pollution caused by commercial signs in the “Pilot Plan”, which is the central
zone of the city. The lack of norms to guide and control design of shopfronts and
advertisements is one of the main issues that increase this problem. The lack of political
motivation to apply guidelines to control these media has also contributed to this situation
Chapter Four: Review of current commercial signage approaches adopted in different urban contexts.

(Savini, 2004, pp.1-2).

With consideration to the process of degradation of the appearance of historic city centres, Ohtake (1982, pp.13-14) says: “(…) alterations in the streetscape happen so quickly that buildings have been taken by surprise. Before we can readapt old buildings to commercial functions, shops and malls are improvised, and old buildings are transformed into modern stores. Sometimes, two or three buildings are connected by shopfronts and advertisements displayed on their facades. In other cases, colours and decorations are applied on facades to link two buildings (…) this scenario is extremely mutated and ephemeral. What we see today, tomorrow can be totally different. Today we see a building with ornaments and details on its facade, tomorrow it can be an enormous metallic box with luminous letterings and images (…)”.

With regard to this context, Coeterier’s study (1996, pp.120-128) shows that visual stability in commercial streetscapes is necessary for most people. In other words, constant alterations in the appearance of city centres can prejudice mental images that users have of these places. Consequently, these alterations can make wayfinding difficult (Golledge, 1999; Golledge, Dougherty & Bell, 1995; Arthur & Passini, 1992; Downs & Stea, 1973). Passini’s investigation (1992, pp.93-94) in Montreal identifies this problem; commentaries of users about the case study of Place Alexis-Nihon sum up this issue: “For me, everything was confused, (…) there was a lot of lettering, arrows, (…) there were a lot of shops, colours. I don’t like Alexis-Nihon, its commercial aspect with its flashes of light and colour, (…) it is impossible to get anything precise, (…) there is so much going on, that one sees nothing. It is loaded with publicity. Every shop has its sign that shines in your eyes, so one does not know where to look anymore”.

In addition, in an early study (Design Council & the Royal Town Planning Institute, 1979, pp.73-76), a common problem in many contemporary cities at the present time was already identified: the fragmentation of building facades into two parts – ground floor and upper floors. In this regard, usually above shop level, the architecture of facades reflects the historic character of the city, but the ground floor is converted into large expanses of glass and aluminium, in spite of the character of the original building (see Figure 4.6).
Cullen (1998, p.152) describes some of the main objections put forward against commercial signs in historic city centres: (i) signs can be incongruous and therefore injurious to the amenity, (ii) they exploit the public highway and the public has no choice but to take notice of them, and (iii) they can vulgarize a public environment and degrade public taste. In many American and South American historic cities, a common problem is identified by the literature: the design and insertion in existing historic streetscapes of a building typology known as “crowning/marquise/shop window” (Portella, 2003; Minami, 2001; Azevedo, 1996; Cauduro, 1981; see Figure 4.7 below).

In this kind of typology, decorative elements are not part of the aesthetic composition of building facades and commercial signage is the most important feature of these buildings. Usually, the largest area of the facade is designed to be covered by shopfronts and...
advertisements, and an open space in the ground floor is used as shop window and main entrance. There is no conflict between commercial signage and the aesthetic composition of this kind of building; however, many users recognize this typology as one reason for the loss of visual quality in historic city centres. They argue that commercial interests alone guide the aesthetic configuration of this kind of building, and the historic character of the place is not taken into account (Portella, 2003).

There are other issues involved in the process of degradation of the appearance of commercial city centres. Researchers cannot have a naïve perspective about the problem of visual pollution caused by commercial signs. The lack of commercial signage controls and the increased interest of shop owners in displaying big and colourful signs are not the only reasons for this problem. The publicity industry encourages competition among shop owners. Industries that design shopfronts, advertisements and billboards, for instance, persuade shop owners to buy huge signs. This business promotes the idea that to get consumers attention, shops need to display on their facades huge, colourful and many commercial signs. It is the approach adopted by this industrial sector to increase its own profits. What could happen with this sector if enormous shopfronts and advertisements were prohibited in city centres? Or if shop owners realized that too many commercial signs can decrease the visual quality of places, harm commercial signage functions, decrease the number of visitors and investors, and, consequently, reduce their profits? (Scenic America, 1999, pp. 21-23). According to Scenic America (1999, p. 21), there is no scientific evidence that cities have been prejudiced economically from controlling commercial signs or benefited from weakening this control. However, city centres where commercial signage controls are applied have been benefited economically and socially. This positive consequence might happen because places that people prefer to live, work and visit do not correspond to areas where guidelines to control shopfronts and advertisements are not adopted by the local authority.

This section has highlighted the main factors that can influence the visual quality of historic city centres. The positive and negative influences of commercial signs on the appearance of these centres (see Table 4.1) are taken into account in this study to identify the aspects of the operation of commercial signage controls and the physical characteristics of commercial signage and buildings that need to be taken into account in the development of a general commercial signage approach.
Table 4.1: The positive and negative influences of commercial signs in the appearance of city centres taken into account in this research (Source: author).

<table>
<thead>
<tr>
<th>IMPACTS OF COMMERCIAL SIGNAGE IN THE APPEARANCE CITY CENTRES</th>
<th>POSITIVES IMPACTS</th>
<th>NEGATIVES IMPACTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The commercial atmosphere promoted by shopfronts and advertisements can attracts consumers, visitors and investors.</td>
<td>1. Disordered commercial signage can decrease user satisfaction with the appearance of places.</td>
<td>6. Commercial signs of franchises, which are standard signs displayed without taking into account the local character of places.</td>
</tr>
<tr>
<td>2. Commercial signage can increase legibility and imageability of places and, consequently, contribute to wayfinding.</td>
<td>2. Visual overload caused by excessive number of shopfronts and advertisements with different physical characteristics, such as size, colours and lettering style. This can cause “perceptual stress”.</td>
<td>7. Constant alterations in the appearance of city centres can prejudice mental images that users have of these places, and make wayfinding difficult. Visual stability in commercial streetscapes is necessary for most people.</td>
</tr>
<tr>
<td>3. When commercial signs are part of aesthetic composition of historic buildings, their design can contribute to reinforce the historic character of public spaces.</td>
<td>3. Commercial signage functions can be harmed by excessive numbers of shopfronts and advertisements. Too many signs can decrease user capacity to read and understand commercial messages.</td>
<td>8. Commercial signs can be incongruous and injurious to amenity.</td>
</tr>
<tr>
<td>4. At night shopfronts and advertisements can promote “spectacle sensations” caused by bright colours, lights and shapes.</td>
<td>4. Retail occupants treat historic buildings as mere background for commercial signage.</td>
<td>9. Commercial signs exploit the public highway and the public has no choice but to take notice of them.</td>
</tr>
<tr>
<td>5. Environmental and aesthetic functions.</td>
<td>5. Buildings designed to be just a background for commercial signs.</td>
<td>10. Commercial signs can vulgarize public environment and degrade public taste.</td>
</tr>
<tr>
<td></td>
<td>6. Commercial signs of franchises, which are standard signs displayed without taking into account the local character of places.</td>
<td>11. Insertion of a building typology known as “crowning/marquise/shop window” in historic city centres.</td>
</tr>
</tbody>
</table>

4.3 THE AESTHETIC CONTROL APPROACH KNOWN AS “BRANDING OF PUBLIC SPACE”

This section analyses the application of aesthetic controls based on an approach that Klein (2000, p.35) describes as “branding of public space”. This discussion focuses on the influence of this approach on the design of commercial signs and the effect of these media on the appearance of city centres and/or entire cities. Branding of streets, city centres, districts or cities refers to the application of marketing the city and urban tourism strategies and specific aesthetic controls in order to create and promote images of places associated with specific products (in this case, goods or buildings, for example). The problem is that, in some cases, this approach can harm the original character of places by promoting manufactured streetscapes (Klein, 2000, p.36). Three examples can be used to illustrate this problem: (i) Queen Street in Toronto, Canada, (ii) Cashmere town, and (iii) the city of Celebration in the United States. The first two cases are analysed as examples of how commercial signs can damage the character of places when these media are ordered and do not provoke visual pollution, while the last case is explored as an example of a “thematic park” where shopfronts and advertisements are controlled to reinforce the manufactured image of the place. All these cases suggest what city centre managers and local authorities
in historic cities should avoid in terms of aesthetic controls related to building facades and signage. This analysis helps to build the theoretical and conceptual framework applied to identify the aspects of the operation of commercial signage controls and physical characteristics of commercial signs and buildings that need to be taken into account in the development of a general commercial signage approach.

4.3.1 Queen Street in Toronto, Canada

The character of Queen Street in Toronto, Canada, was originally characterized by formal and symbolic factors related to the streetscape. As described by Klein (2000, p.36), funky clothing stores, artists on the patios and graffiti art on the walls were part of the users’ mental representations of this street. At the beginning of the 1990s, publishers started to enjoy the idea of commercial graffiti, and they began the advertising practice of “building takeover.” This practice refers to painting commercial signs directly onto historic building walls, and the lettering size of each sign determining the dimensions of the advertisements. The original character of Queen Street has been harmed since this new commercial signage approach has been adopted by publishers and accepted by the local authority. This approach takes into account the commercial signage as an edifice. According to Klein (2000, pp.36-37), walls are rented to display billboards reaching 20,000 square feet, and gradually to shopfronts and advertisements covering more and more parts of building facades.

Since 1996, Queen Street has been known as “The Queen Street Takeover” (Klein, 2002, p.37). Between 1996 and 1997, the majority of buildings were turned into billboards, with 3-D extensions, mirrors and neon. Klein (2002, p.38) describes that advertisers liked the original character of Queen street; however, due to commercial interests, they assume that the change in the appearance of this street is the result of the contemporary phenomenon known as “consumer culture”, and they believe that these transformations could not be avoided. On the other hand, the local community did not approve this reshaping of the streetscape character, and, most residents say that “it is not Queen anymore” (Klein, 2000, p.39). This is an example of how commercial signage can prejudice the visual quality and character of places affecting user perception and evaluation of public space. The mental images that people have of this street have been harmed because of commercial interests (see Figure 4.8).
4.3.2 Cashmere Town in Washington, United States

The idea of “privatised branded cities” has been applied in urban sites with regard to commercial signage controls, city centre management, marketing the city, and urban tourism strategies. The adoption of this idea can be seen in Cashmere town, in Washington. This town of 2,500 people has as its major industry the Liberty Orchard candy factory, which has been making Applets and Cotlets chewy sweets since 1918 (Klein, 2000, p.38).

In 1997, the owner of the factory decided to leave the town unless the Town Council agreed to transform Cashmere into a tourist attraction for the Applets and Cotlets candy. According to Klein (2000, p.38), the manager of the factory wanted to display commercial signs along the highway turning the town centre into a “gift shop”. As quoted by this author (2000, p.38), The Wall Street Journal reported the demands of the company as: “They want all road signs and official correspondence by the city to say Cashmere, Home of Applets and Cotlets. They have asked that one of the two main streets in town be changed to Cotlets Avenue, and the other one be renamed Applets Avenue. The candy maker also wants the Mayor and Council to sell City Hall to them, build new parking lots and possibly go to the bond market to start a tourism campaign on behalf of the worldwide headquarters of a company that says its story is America in a nutshell”. The aim of this industry is to control the design of any signage in the town in order to reinforce the image of its commercial products.

This present research recognizes that the idea of converting the character of cities into a consumer product can harm historic buildings and public spaces and the local essence of cities and towns (see Figure 4.9). In many cases, cities are recognized by people because of
their regional products and economic activities; however, these products and activities need to be approached to reinforce the local character of these places and, through this, attract potential residents, tourists, and investors. The design of commercial signage controls which do not consider the local character and history of cities, even whether these regulations promote ordered commercial signs, can be seen, therefore, as negative.

Figure 4.9: Billboard displayed in the entrance of Cashmere Town. The sign does not show the name of the town, it just outlines the goods available there (Source: http://www.beans-around-the-world.com/photos/cashmere1.jpg).

4.3.3 Celebration in Florida, United States

Fake historic architecture has become very common throughout America: malls, shopping centres, theme parks, and even entire cities have been designed with regard to this new trend. Celebration, in Florida, is an example of an historical theme environment (Levi, 2005; Sorkin, 1992; Boyer, 1992). Visual pollution caused by shopfronts and advertisements is not a problem in this city. However, this city is an example of how commercial signage can be designed and controlled to create manufactured streetscapes without real character. The appearance of Celebration does not reflect any kind of historic character and even any changes promoted in commercial streetscapes by the “consumer culture” (Klein, 2000, p.154). Celebration is a city where the brand becomes life itself. It was founded in 1996, and by 2003, it already had 5,000 residents, with a projected population of 20,000 by 2010 (Moran, 2003, p.1). This is known as the first Disney city where the image of public spaces is entirely created and controlled by Disney’s management. The design approach adopted in Celebration refers to the promotion of an artificial city, where the commercial signs, building facades, historic features, and public spaces are designed as a thematic park, such as Disney World, Disneyland and Euro Disney. The entire city has been designed to pretend to be old and historic (Proto, 2006, pp.9-12; Klein, 2000, pp.154-155).
The first idealization for Celebration was a branded place: an artificial paradise with mid-fifties futuristic technology and automation. Alternatively, managers opted to create an idealized re-interpretation of an ideal American city, which may have existed before the twentieth century. Celebration is not even a sales vehicle for Disney licensed products (Klein, 2000, p.155); this city is the opposite of the commercial aesthetic discussed by Taylor (1991, p.235). According to Moran (2003, p.1), town planners wanted to create the following image for the city: “There was once a place where neighbours greeted neighbours in the quiet summer twilight (...). There is a place that takes you back to that time of innocence (...). A place of caramel apples and cotton candy, secret forts and hopscotch on the streets”.

In Celebration, people are not exposed to excessive numbers of commercial signs and shop franchises common in other contemporary cities, and the streetscape is free of billboards and big shopfronts and advertisements. Another aspect that differentiates Celebration from other places is the amount of public space offered — parks, communal buildings, and village squares (Klein, 2000, p.155). According to Moran (2003, pp.1-2), the idea is to reproduce a Midwestern American city at the end of the nineteenth century, where everyone is within walking distance of the commercial city centre. Celebration city centre is designed to be composed by small stores and have no corporate brand names (Moran, 2003, p.2).

The problem with Celebration is the lack of character. Trying to promote the life style of cities at the end of nineteenth century, city centre managers missed one important issue: the city is dynamic and an integral part of society changes, in terms of culture and period of time. The image of this place is just an illusion. In addition, in fact this city does not have real public spaces because Disney managers control everything. These managers define the kind of activity that can happen in all areas of the city. Unlike other cities where public areas, such as squares, high street and even parks, can be sites for community discussion, protests and political rallies, the only type of activity that is welcome in Celebration is that ones decided by its managers (Klein, 2000, pp.156-157, 183). Moreover, the control of user life can be seen through some regulations designed by the City Council managers, such as: “no more than two people are allowed to sleep in one bedroom”, and “the colour of all curtains needs to be white”. The freedom to live in this manufactured city free of visual pollution caused by commercial signs costs other
freedoms. According to Klein (2000, p.156), the families who have chosen to live in Celebration are living a branded life style (see Figure 4.10).

Figure 4.10: Visual pollution caused by commercial signs is not a problem in Celebration. This city is an example of how commercial signage controls can be approached to create manufactured streetscapes (Source: http://www.34747forum.com).

The city of Seaside, which is also in Florida, is another example designed under the banner of the New Urbanism and considered one exemplar of what Lang (2005, pp.97, 209-214) defines as “an all-of-a-piece new town design”. This city is the antecedent of a large number of later developments including Celebration. Seaside was founded in 1981 in the Gulf of Mexico coast of Florida, and has been recognized as a themed resort for wealthy people. In Seaside, commercial signage related to brands and franchises are not displayed. According to Moran (2003, p.3), this city is nothing less than another fake urban site. In England, this kind of built environment can be seen in Bicester Village in Oxfordshire (Reeve & Simmonds, 2000, pp.141-153), which is described as a townscape mall by Southworth (2005, p.155), and in Poundbury on the outskirts of Dorchester (Lang, 2005, p.214) (see Figure 4.11). The same kind of fake environment can also be found in the northern coast of Egypt: in Alexandria, there is a tourist village known as “Marina”, which was designed and built to be reminiscent of Venice canals. Its commercial signs are also
controlled to reinforce this image of the place and avoid disorder (see Figure 4.12).


![Marina Village in Alexandria, Egypt](http://www.lsharch.co.uk; http://www.cyburbia.org).

The aesthetic controls designed and applied in these places attempt to create urban sites that look what a group of town planners may believe that is the ideal image of a city, town or public space. Studies of Relph (2007, 1976), Auge (2000, 1995), and Arefi (1999) describe these kinds of places as “non-places”. These authors say that “non-places” are related to an infusion of images and ideas from elsewhere, irrespective of local context, reflecting places that could be anywhere. In this regard, a set of images and narratives associated with other times and places are applied in the constitution of what Edensor and Kothari (quoted in Lasansky & MacLaren, 2004, p.198) and Thorns (2004, pp.138-141) describe as “themed spaces” or “theme parks”. According to Gottdiener’s study (1997), this kind of built environment has extended from designed parks, such as Disneyland and Disney World, to the urban space itself.

In this present thesis, commercial signage is recognized as a vital element of contemporary life style, as already discussed in Chapter Three (see section 3.1.1). This study does not
intend to inform theoretical concepts to guide and control commercial signs with the aim of creating cities like Celebration and Seaside. The focus of this research is to explore how to approach commercial signage controls as a tool to reinforce historic and local character and, at the same time, promote the commercial appeal of city centres.

4.4 CURRENT CONTROLS ADOPTED TO MINIMIZE THE VISUAL POLLUTION IN HISTORIC CITY CENTRES

In order to identify what has been done to minimize visual pollution in historic city centres, this section reviews commercial signage control approaches adopted in historic cities in different urban contexts. It then explores more specific approaches adopted in England and Brazil. These countries have been chosen because they reflect two distinct perspectives of how commercial signage controls are approached in historic cities: (i) in England, a national approach to help local authorities to guide and control commercial signage in historic city centres is applied in practice, and (ii) in Brazil, there is no national approach to control commercial signage leaving local authorities with the responsibility to develop commercial signage controls, and to decide whether these controls are necessary in historic city centres. This discussion helps to identify those aspects of the operation of commercial signage controls and the streetscape that need to be taken into account in the development of a general commercial signage approach.

In light of the importance of preserving the visual quality of public spaces, the Council of Europe has begun to discuss the creation of a European Landscape Convention justified by the following statement: "landscape, has an important public-interest role in the cultural, ecological, environmental and social fields and constitutes a resource favourable to economic activity and whose protection, management and planning can contribute to job creation (...); landscape contributes to the formation of local cultures and that it is a basic component of the European natural and cultural heritage, contributing to human well-being and consolidation of the European identity; (...) landscape is an important part of the quality of life for people everywhere: in urban areas and in the countryside; in degraded areas as well as in areas of high quality; in areas recognised as outstanding as well as everyday areas" (Council of Europe, 2000). Many local authorities have been designing and implementing aesthetic controls in order to protect the visual quality of the natural and built environment (Boyer, 1990; Hedman & Jaszewski, 1984). Marcus (1986 quoted in
Lang, 2005, pp.205-206) suggests that design guidelines related to aesthetic controls in public spaces including building facades and commercial signs are the link between research and practice. Lang (2005, p.205) defines three kinds of aesthetic controls which have been adopted to increase the visual quality of urban sites: prescriptive, performance, and advisory. In this research, the focus is given to the first control, which describes the aesthetic pattern that buildings and signs must follow in terms of physical aspects, such as colour, height and fenestration.

According to Scheer (2007, pp.491-492), Stamps (2000, p.3), and Duerksen and Goebel (1999, pp.9-27), one of the most known approaches to guide and control aesthetic variation in urban sites is the Design Review. This has been implemented in many countries, such as the United States (Stamps, 2000; Scheers & Preiser, 1994), France (Loew, 1994), Germany (Pantel, 1994), Sweden (Nystrom, 1994), Italy (Vignozzi, 1994), the Netherlands (Nelissen & de Vocht, 1994), Spain (Calderon, 1994), and Japan (Hohn, 1997). The aim of the Design Review approach is to preserve and improve the aesthetic of a place (Levi, 2005, pp.150; Scheer & Preiser, 1994, p.2). Stamps (2000, p.3) defines Design Review as “a governmental function the purpose of which is to manage the physical development of a geographical area in a manner, which reflects public determination of what that area should look like in the future”. In the United Kingdom, aesthetic controls promoted through building regulations and planning controls are applied to minimize the visual impact of buildings in the natural and built environment (Uzzell & Jones, 2000, p.331). Madanipour (1996, p.162) says that the Design Review definition adopted in the UK concerns the term aesthetic control, and means: “that aspect of the regulation of development that seeks to control the physical attributes and uses of new buildings, and the spaces between them, so as to ensure a rewarding sensuous experience for the public who use the environment thus created”.

The Design Review approach often contains many guidelines to control the aesthetic variation of shopfronts, advertisements, and building facades. This approach recognizes commercial signage as one of the most important features that can harm the visual quality of streetscapes. Consequently, this approach includes several guidelines related to the control of physical characteristics of shopfronts, advertisements, and window displays (Jones, 2001, pp.27-35; Stamps, 2000, p.3-4). In England, several physical aspects of the built environment related to architecture and commercial signs are controlled by Local
Plans, such as advertisements and shopfronts, character, residual amenity, context, setting, morphology, identity, intrusions, street scene, contemporary design, elevation, style, richness and visual interest, materials, rooftscape, proportions, fenestration, detailing, colour, rhythm, silhouette profile, plant, vertical and horizontal emphasis, and texture (Punter & Carmona, 1997, pp.156, 195, 206-209, see Figure 4.13). Usually, special policies on shopfronts are recommended to embrace alterations and installations on existing buildings, design of these media on new buildings, and for security measures (Punter & Carmona, 1997, p.193).

One study undertaken in the United States shows that 74% of the Design Review guidelines applied in that country concern guidance and control of commercial signs, 72% concern guidelines regulating building height, and 49% of them refer to guidelines related to building bulk. There are also other regulations related to the physical characteristics of building facades, such as colour variation, material, facade articulation, and fenestration (Stamps, 2000, pp.4-5).

![Figure 4.13: Example of an architecture insertion in an existing context. Policy applied in Epping Forest District Council (Source: Punter & Carmona, 1997, p.168).](image-url)

The support of local communities is a key factor that makes successful the implementation of aesthetic controls. Acceptance and cooperation of local residents allow the adoption of design review regulations in commercial city centres. In England, design controls are part of the development control system in which urban conservation practice helps to define the principles of contextual design and the practice of involving the local community in the decision process (Punter quoted in Scheer & Preiser, 1994, p.59). In the United States, the
power of local communities in organizing actions to increase the visual quality of cities has been recognized since the beginning of the twentieth century. In 1913, residents in Hawaii organized a group called “Outdoor Circle”, which aimed to preserve the visual character of the city by identifying and denouncing shopfronts and advertisements that harmed the historic heritage. This group also promoted a boycott of all products advertised by commercial signs which were damaging the visual quality of the city. As a result, the companies responsible for those signs began to design shopfronts and advertisements taken into consideration the local character of the city in order to avoid loss of profits (Scenic America, 1999, p.10).

Since this event, several guidelines to control commercial signs have been adopted in many American cities. For example, in 1978, an American group known as “National Coalition to Preserve Scenic Beauty” was organized to protect the visual quality of commercial city centres. At the present time, this group has been know as “Scenic America” and has a strong influence on the design of Design Review guidelines and other regulations related to commercial signs (Scenic America, 1999, pp.10-11). Public participation in the development of commercial signage controls and residents’ perceptions and evaluations of historic city centres are taken into account in this present research as fundamental components to guide and control commercial signs.

Commercial signage of franchises is another aspect taken into account in this thesis (see section 4.2). Usually, these signs have standard layouts displayed in different countries and cities, independently of the local character of each place. For this reason, in many city centres, local authorities have designed and applied guidelines to control the appearance of shopfronts and advertisements of franchises. These regulations do not intend to interfere with the identity of franchises. They just seek to encourage these companies to design commercial signs in accordance with the historic surrounding areas; features such as size, proportion and colours are advised to be adjusted to the character of the city centre. Successful examples of this kind of control can be seen in Cambridge and Chichester in England (see Figure 4.14), Hilton Head and Sedona in the United States, and Porto Seguro in Brazil. In these places, regulations related to colours, height, size, shape, and materials of signs of franchises are adopted. The results of the application of these controls prove that identity of franchises and the local character of places can co-exist (Duerksen & Goebel, 1999, pp.28-32).

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In many cities, commercial signage guidelines have been applied to increase social and economic vitality. Vermont, for example, was categorized as the State with the highest degree of visual pollution caused by commercial signs in the United States. This situation was harming the economic and social vitality of the cities in this State. Many tourists preferred to spend time and money in other places evaluated as more pleasant in terms of appearance than in Vermont. For these reasons, in 1968, the State authority of Vermont determined norms to control commercial signs for the preservation of local character and visual quality of public spaces. These norms were related to the variation of the physical characteristics of shopfronts and advertisements, such as height, size, shape, colour, and materials. In 1997, one study suggested that the local community supports these regulations, and recognizes that these are fundamental to improving the visual quality of the cities in Vermont (Scenic America, 1999, p.10).

Next, the issues related to commercial signage controls taken into account by local authorities of historic cities in England and Brazil are explored, providing a theoretical background to investigate what needs to be considered for a general commercial signage approach applicable to historic city centres of different urban contexts. This discussion also contributes to the selection of the case studies and the research methods of data collection (see Chapter Five). But first, to analyse and compare how commercial signage controls are approached in English and Brazilian historic cities, it is necessary to understand the main differences between the planning systems adopted in England and Brazil. The next section examines the regulations and laws which have been adopted to control the design of commercial signs in both these two countries.
4.4.1 Planning system and commercial signage controls in England and Brazil

The main difference between commercial signage controls adopted in England and Brazil is at the national or federal level of each planning system. In England, the government is a constitutional monarchy and the legal system is based on common law tradition with early Roman and modern continental influences. In this system, the Department of Communities and Local Government (DCLG) currently determines national policies on different aspects of planning and the rules that govern the operation of the planning system. This department is responsible for the design and implementation of national planning policies known as Planning Policy Statements (PPSs), which are gradually replacing Planning Policy Guidance Notes (PPGs). In terms of shopfronts and advertisements controls, the main English national guidance is still the PPG19 - Outdoor and Advertisement Control - published in March 1992. This national guidance (i) defines the professionals responsible for the operation of commercial signage controls, and (ii) specifies how different kinds of commercial signs must be designed across the country in terms of size, materials, location of signs on facades, and so on (Cullingworth, 2006; Federal Government of Brazil, 2006; Charles, 1992).

Table 4.2 highlights the main aspects of the new English planning system adopted in May 2004 through the Planning and Compulsory Purchase Act 2004 (Stationery Office, 2004). This act amends existing legislation, and has changed the former planning system in several important ways. Local Plans are replaced by Local Development Frameworks, which include Local Development Schemes (LDS), Statements of Community Involvement (SCI), Development Plan Documents (DPDs), and Supplementary Planning Documents (SPDs). As part of the new planning system, each local authority has to prepare its Local Development Framework by 2007. These Frameworks will replace existing development plans, which provide the basis for determining planning applications and future development in an area. However, as Local Plans will still exist until 2007, this research takes in account these Plans to (i) analyse current commercial signage approaches implemented in historic cities in England (see section 4.4.2), and (ii) to make a comparison between the Planning Systems in England and Brazil.

<table>
<thead>
<tr>
<th>Level of government</th>
<th>English Planning System ¹</th>
<th>General issues</th>
</tr>
</thead>
</table>
| NATIONAL            | • Planning Policy Statements (PPSs)  
  Responsibility: Department for Communities and Local Government (DCLG). | The Government prepares national planning guidances which have to be taken into account by local authorities in preparing their Local Development Frameworks (LDF), and in decisions on individual planning applications. The aim is to secure a national approach across the country by setting out clearly the Government's policy priorities. The following guidance is published to control commercial signs: PPG 19 - Outdoor advertisement control. |
| REGIONAL            | • Regional Spatial Strategy (RSS)  
  Responsibility: Prepared by the regional assembly and published by the secretary of state. | This is prepared by the regional assembly and published by the secretary of state. It contains policies beyond land use (such as those having to do with social issues and natural resource issues). It also includes a statement of how the regional planning body will involve the community in its work on the strategy. |
| LOCAL               | • Local Development Framework (LDF)  
  Responsibility: Local authorities. | The framework includes the policies, proposals and other documents about land use and spatial planning in your area. Usually, regulations about commercial signage controls are categorized as supplementary planning documents (new planning system) or guidances (former planning system). Such guidelines can be a material consideration in decisions on planning applications. |

¹ New English Planning System defined by the Planning and Compulsory Purchase Act 2004.

The English Guidance PPG 19 (Great Britain, 1992) establishes a national approach that must be adopted by Local Plans for the control of commercial signs. PPG 19 says that local planning authorities are responsible for the day-to-day operation of the commercial signage control system. This also establishes that they can decide whether a particular advertisement might be permitted or not. In addition, this guidance classifies commercial signs in 10 groups excluded from control, and in 14 classes, which should respect a set of control guidelines (see Table 4.3). These guidelines are related to the following physical aspects of commercial signs: (i) number of shopfronts and advertisements per shop, (ii) size, (iii) duration of display, (iv) size of letters, figures, symbols or similar features, (v) illumination, (vi) number of fascia panel, (vii) location on facades, (viii) distance between commercial sign and building facade, (x) thickness of sign structure, (xi) percentage of building facade area covered by commercial signs, (xii) distance between the bottom part of the commercial sign and the sidewalk (Great Britain, 1992).

Table 4.3: Classification of commercial signs according to PPG 19 (Source: Great Britain, 1992).

<table>
<thead>
<tr>
<th>Signs excluded from control</th>
<th>Categorization of commercial signs according to PPG 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1: Captive balloon advertisements.</td>
<td></td>
</tr>
<tr>
<td>Group 2: Advertisements displayed on enclosed land.</td>
<td></td>
</tr>
<tr>
<td>Group 3: Advertisement displayed on or in any vehicle or vessel.</td>
<td></td>
</tr>
<tr>
<td>Group 4: Advertisements, which are an integral part of a building fabric.</td>
<td></td>
</tr>
<tr>
<td>Group 5: Advertisements in the form of price tickets or markets, trade names on branded goods, or displayed on petrol pumps or vending machines.</td>
<td></td>
</tr>
<tr>
<td>Group 6: Advertisements relating specifically to a pending Parliamentary, European Parliamentary, Welsh Assembly or local government election.</td>
<td></td>
</tr>
<tr>
<td>Group 7: Advertisements required by any Parliamentary Order, or any enactment, to be displayed.</td>
<td></td>
</tr>
<tr>
<td>Group 8: Traffic signs.</td>
<td></td>
</tr>
<tr>
<td>Group 9: A national flag of any country.</td>
<td></td>
</tr>
</tbody>
</table>

CONTINUATION ON THE NEXT PAGE.
continuation:

<table>
<thead>
<tr>
<th>Class</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1:</td>
<td>Functional advertisement by public bodies.</td>
</tr>
<tr>
<td>Class 2:</td>
<td>Miscellaneous advertisements on any premises.</td>
</tr>
<tr>
<td>Class 3:</td>
<td>Temporary advertisements.</td>
</tr>
<tr>
<td>Class 4:</td>
<td>Illuminated advertisements.</td>
</tr>
<tr>
<td>Class 5:</td>
<td>Advertisements on business premises.</td>
</tr>
<tr>
<td>Class 6:</td>
<td>Advertisements on forecourts of business premises.</td>
</tr>
<tr>
<td>Class 7:</td>
<td>Flag advertisements.</td>
</tr>
<tr>
<td>Class 8:</td>
<td>Poster hoarding around temporary construction sites.</td>
</tr>
<tr>
<td>Class 9:</td>
<td>Four-sheet poster panels displayed on purpose-designed highway structures.</td>
</tr>
<tr>
<td>Class 10:</td>
<td>Properly authorised signs for approved neighbourhood watch and similar schemes.</td>
</tr>
<tr>
<td>Class 11:</td>
<td>Directional advertisements.</td>
</tr>
<tr>
<td>Class 12:</td>
<td>Advertisements displayed inside buildings.</td>
</tr>
<tr>
<td>Class 13:</td>
<td>Sites used for displaying advertisements on 1 April 1974.</td>
</tr>
<tr>
<td>Class 14:</td>
<td>Advertisements displayed after the expiry of express consent.</td>
</tr>
</tbody>
</table>

PPG 19 also explains how to obtain advertisement consents, how applications for these consents are decided, what happens after the authority decision, what happens if the planning authority refuses an advertisement consent, and, in this last case, how and when people can appeal to the Secretary of State. This guidance also defines penalties applied when irregular commercial signs are displayed. The PPG 19 also recognizes that two expressions adopted in its regulations – “amenity” and “public safety”- can allow vague and ambiguous interpretation. To solve this problem, this guidance says that local planning authorities must define what these terms mean for each particular urban context. Moreover, this guidance establishes general concepts related to “amenity” and “public safety” that need to be taken into account by local authorities of each city and town (Great Britain, 1992).

As a result of the implementation of this Planning Policy Guidance, a national approach to control commercial signage is applied in all cities, towns and villages across England helping local authorities to control the aesthetic variation of signs and preserve the historic character mainly in conservation areas. In addition, some specific regulations are designed by local authorities in accordance with the local character of each place; however, the general conceptualisation of these norms is the same across the country (Great Britain, 1992). The English Historic Towns Forum also designed and published a guide, which helps to establish bases for the promotion of good shopfronts and advertisement design in historic city centres. The principles set out in this document are usually consulted by local authorities in the production of their own design guides (Bore, Bowley, Figueiredo & et al, 1991).

In Brazil, general laws and regulations related to urban issues are defined by the Federal
Government, and regional and local authorities take these into account to design and implement planning policies in their federal states and cities. The Brazilian government is a federal republic where the Constitution is the major law which defines the rights and obligations of authorities and citizens. The Constitution establishes which level of the government (Union, Federal States, Federal District or Municipal District) is responsible for legislating different kinds of issues. According to this Constitution, there are two articles related to the control of visual pollution caused by shopfronts and advertisements – articles 24 and 30 (Federal Government of Brazil, 2006). Other regulations, such as federal laws, federal decree of laws, Environmental Code and Statute of the City, also present norms which can be interpreted and applied as commercial signage controls. These were not specifically written to control these media, but they are related to all kinds of visual stimulus that affect the visual quality of public spaces.

The vagueness and ambiguity of these articles and regulations make the implementation of commercial signage controls difficult in Brazil. Here, the problem also concerns the lack of a national commercial signage approach to help local authorities to design and apply controls related to shopfronts and advertisements. Federal laws and the State Constitutions define that local authorities are responsible for the operation of the commercial signage control system, but these regulations do not say how this control should be approached in order to help City Councils to ensure the preservation of the character of historic cities (Federal Government of Brazil, 2006; Minami & Guimaraes Jr, 2001). Taking this context, Table 4.4 summaries the main issues related to the urban legislation adopted in Brazil.

Table 4.4: General aspects of the legislation adopted in Brazil (Source: Federal Government of Brazil, 2006).

<table>
<thead>
<tr>
<th>Level of government</th>
<th>Brazilian Planning System</th>
<th>General issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEDERAL</td>
<td>Constitution of the Federative Republic of Brazil, Federal Laws, Federal Decree of Laws and Codes.</td>
<td>The Constitution of the Federative Republic of Brazil defines general laws taken into account by Union, Federal States, Federal District and Municipal districts. In terms of commercial signage controls, for example, the article number 24 of the Constitution says: “the protection of built environment and the control of visual pollution are responsibilities of Union, States and Federal District”. However, this does not indicate how this protection needs to be approached.</td>
</tr>
<tr>
<td>STATE</td>
<td>State Constitution, State Laws, and State Decree of Laws.</td>
<td>The State Constitution defines general laws applied in cities, towns and villages of each Federal State. These laws have to respect the principles of the Constitution. State regulations do not define approaches to guide and control commercial signage. They only establish that this control is responsibility of local authorities.</td>
</tr>
<tr>
<td>MUNICIPAL</td>
<td>Local Plan, Municipal Laws, Municipal Decree of Laws.</td>
<td>Cities with 20,000 people or more have Local Plans developed by the City Council. In cases of small towns and villages, Codes of Postures are designed and implemented. Local authorities are responsible for maintaining the visual quality of public spaces, including control of commercial signs. They can decide whether these controls are necessary to preserve the character of historic city centres.</td>
</tr>
</tbody>
</table>
In Brazil, local authorities are responsible for the design and implementation of commercial signage controls, and for the decision whether these regulations are necessary to preserve the character of historic city centres. Because of the lack of a national commercial signage approach, some City Councils design specific strategies to control commercial signs in their cities; while others just do not take any action in terms of this issue. Moreover, each City Council regulates commercial signage according to its interests and political ideologies, since there is no national guidance to ensure congruence among local authorities from different cities. The differences among commercial signage approaches adopted by local authorities in Brazil can be illustrated by the cases of Rio de Janeiro, Gramado, and Pelotas. These are historic cities where the historic core coincides with the commercial centre. However, the commercial signage approach adopted in each of these places is designed for different purposes. In the first city, commercial signage controls are developed and applied in areas of the city centre recognized as historic by the Master Plan known as Cultural Corridor; these regulations protect the visual quality of historic buildings and places. In Gramado, commercial signage controls are designed and implemented to reinforce the manufactured image of the city promoted by the City Council and advertised by marketing the city and urban tourism strategies. In Pelotas, regulations related to shopfronts and advertisements are too vague and not effective for avoiding the visual pollution in the historic core. Moreover, the lack of an effective control to ensure that shop owners are respecting these controls increases the problem in Pelotas (Portella, 2003).

Analysing historic cities in Brazil, three scenarios related to the control of commercial signs are identified by the researcher’s early work (Portella, 2003): (i) commercial signage controls designed and applied to recuperate and preserve the historic character of places; these are implemented in some streets of the historic core and, later, extended to other parts of the city (such as in Rio de Janeiro), (ii) commercial signage controls designed and implemented to reinforce the manufactured image of the city promoted by the local authority (such as in Gramado and Campos do Jordao), and (iii) commercial signage controls not effective to avoid visual pollution because they are too vague and ambiguous, and the local authority does not enforce shop owners to respect these regulations (such as in Pelotas, Porto Alegre and Brasilia). This present research takes into account as possible case studies in Brazil these two last cases as they represent different commercial signage approaches, which may affect the visual quality of historic city centres.
4.4.2 Commercial signage approaches adopted in English historic city centres

Commercial signage controls have been adopted in all historic cities, towns and villages in England. Regulations are applied to (i) preserve the historic character of places, (ii) avoid visual pollution, and (iii) stimulate social and economic vitality attracting visitors, potential residents and investors. Participation and support of local communities and civic societies in the process of design and implementation of commercial signage controls are the most important factors related to the efficiency of the national commercial signage approach adopted in England (Kelly & Kelly, 2003, p.8). The positive results of commercial signage controls can be seen in the streetscapes of Leeds, Dartmouth and Exeter, as discussed below. The cities of Bath, Oxford and York are also good examples, which will be explored later in this chapter.

Leeds is a major city in the northern county of West Yorkshire. The city has a population of 716,513 people, making it the 3rd biggest city in England by population (Nationmaster, 2004). The diverse range of shopping from individual one-off boutiques to large department stores has expanded the Leeds retail base. The city centre is characterized by shopping arcades whose visual quality is maintained through aesthetic controls related to commercial signs and shop facades. This centre can be categorized as an open shopping mall, and the arcades reinforce this image. The Victoria Quarter is the main shopping arcade of the city located on the main shopping street, the Briggate. This arcade is an upmarket shopping area, which consists of three blocks situated between Briggate and Vicar Lane, comprising of the County Arcade, Cross Arcade, Queen Victoria Street and King Edward Street. The Victoria Quarter was built around 1900 and restored between 1990 and 1996, during which a glass roof was also erected over Queen Victoria Street (Wikipedia, 2006; see Figure 4.15). In the city centre of Leeds, shopfronts and advertisements are controlled to avoid visual overload and promote social and economic vitality. In the arcades, rigorous commercial signage guidelines define size, colour, shape, lettering style and materials of shopfronts and window displays. These guidelines contribute to preserving the character of the place and making the shopping arcades tourist points. Residents and visitors recognize the visual quality of the streetscape of Leeds city centre, and shop owners realize that the adoption of commercial signage guidelines increases user satisfaction with the city centre contributing to their business (Nuttgens, 1979, pp.45-64).
Another example of commercial signage controls applied to reinforce the historic character of places can be seen in **Dartmouth**, a town in Devon in the south-west of England; a tourist destination set on the banks of the River Dart. The town has a population of 5,800 people, and contains a number of historic buildings, such as the Butterwalk built between 1635 and 1640 (Nationmaster, 2004) (see Figure 4.16). Dartmouth is described in its Local Plan as an “Area Centre”, which provides facilities, shops and services for the surrounding rural area. Its character is composed of buildings and streets in a layout built during the eighteenth and nineteenth centuries, commercial shipping, a fishing industry, the navy, and, in recent times, water-based recreations. Guidelines to control commercial signs are adopted in the whole town to preserve the local character and visual quality of the place. These regulations also aim to promote commercial vitality and attract visitors. The controls deal with the physical characteristics of shopfronts and advertisements, such as the size, material, colour and lettering style (South Hams District Council, 1996, pp.3-10).

Figure 4.16: In Dartmouth, the commercial signage control is designed to reinforce the historic character of the town. Butterwalk building (left) and another historic exemplar (right) (Source: Keith Burley; author).
Exeter is another case where commercial signage controls have been applied to reinforce the historic character of the city. Exeter is the capital city of Devon, and its population is around 111,067 people according to the Census of 2001 (National Statistics, 2001). This city was heavily bombed during World War II; particularly adjacent areas to the central High street and Sidwell Street were flattened. Many historic buildings were destroyed and others, including Exeter Cathedral, damaged. However, the city was rebuilt in the 1950s in an attempt to preserve its ancient character. At the present time, the city centre of Exeter is formed by a mix of contemporary and historic buildings. New buildings and commercial signs are designed to respect the aesthetic composition of remaining historic exemplars, and reinforce the historic character of this area. The commercial signage approach adopted in this city defines five general inter-related principles to ensure that shopfronts and advertisements do not harm the appearance of the city centre: (i) structural integrity of buildings, (ii) harmony, (iii) vertical emphasis, (iv) link with upper floors, and (v) facade details and decorations. These five principles take into account physical features of commercial signs and their relationship with the aesthetic composition of building facades. The implementation of commercial signage guidelines contributes to preserving the remaining historic character and increasing the social and economic vitality in the city centre (Exeter City Council, 1991) (see Figure 4.17).

Figure 4.17: City centre of Exeter (Source: author).

In the next three sections, commercial signage control approaches adopted in the historic English cities of Bath, York and Oxford are investigated in more detail in terms of regulations defined by local plans and supplementary planning guidances. Particular attention is given to these cities because they are characterized by strong historic character recognized across the country and their city centres are located in conservation areas.
4.4.2.1 City of Bath

Bath is a city in South West England. This was founded on the only naturally-occurring thermal spa in the United Kingdom, and was first documented as a Roman spa. This city has a population of over 90,000 inhabitants, and has been a World Heritage Site since 1987 (Nationmaster, 2004; Bath & North East Somerset City Council, 2003). The Roman and Georgian architecture, street patterns, building lines, spaces, ground surfaces, landscaping, and others physical aspects contribute to building the character of the city centre of Bath. Indeed, in order to preserve the historic character of this city, 6,834 properties were included in the national List of Buildings of Special Architectural or Historic Interest by Bath Local Plan (Bath & North East Somerset City Council, 1997). The visual quality of the historic centre is also protected by the local authority through the application of aesthetic controls, which regulate commercial signs and building facades. The application of these regulations results in a harmonious relationship between commercial signs and the physical characteristics of buildings such as facing, scale, fenestration, proportions, and materials (Buchanan, 1968, p.14).

The current Local Plan, adopted in 1997, defines guidelines which control the aesthetic variation of commercial signs, building facades, and public spaces. At the same time, this legislation recognizes that regional retail, leisure areas, and tourist attractions also build the character of the city. According to this Plan, diversity of uses and tourist attractions help to maintain the vitality and viability of the city centre. The Plan defends that local and national shops, as independent specialist retail, contribute to the economic vitality of this area. Complementary shopping activities, such as banks, building societies, restaurants, cafes and pubs, are also identified in this Local Plan as elements that reinforce the character of the city centre.

In this regard, the Bath Local Plan (1997) recognizes that commercial signs (i) are important elements in promoting the social and economic vitality in the city centre and (ii) have significant influence on the visual quality of the streetscape. The commercial signage control approach adopted in Bath says that well designed shopfronts and advertisements can enhance the streetscape and commercial activities, and there can be room for innovation since the overall design of these media are consistent with the character of the city. This Plan emphasises that commercial signs should not be designed in isolation; this
Chapter Four: Review of current commercial signage approaches adopted in different urban contexts.

says that design, scale and proportion of shopfronts and advertisements should be related to building facades for which they are intended, and those adjacent as well (Bath & North East Somerset City Council, 1997).

Two sections of the Local Plan (1997) are related to shopfronts and advertisements controls: these regulate size, design, illumination, and materials of commercial signs in order to protect the character of historic buildings and public spaces. This Plan also establishes that internally illuminated box fascias and projecting signs are not allowed in historic areas (Bath & North East Somerset City Council, 1997). There is also a supplementary planning guidance designed to control commercial signs in Bath: “Advertisements & Illuminations” adopted in 1998 (Bath and North East Somerset City Council, 1998). In general, this guidance is mainly related to the final layout and materials of shopfronts and advertisements and the relationship between these media with buildings and their setting. This guidance reinforces in a more detailed way the regulations defined by the Bath Local Plan. As a result of this kind of commercial signage approach, the historic character of Bath is preserved, ordered streetscapes characterize the city centre, and visual pollution caused by commercial signs is not evident in this city (see Figure 4.18). Consequently, this scenario contributes to promoting Bath as a tourist destination.

Figure 4.18: City centre of Bath. The Local Plan emphasises that the design, scale, and proportion of commercial signs must be related to buildings (Source: author).

4.4.2.2 City of Oxford

Oxford is a city and local government district in Oxfordshire, with a population of 134,248 inhabitants (National Statistics, 2001). According to Tyack (1998, p.1), this is a historic
world city mainly because of its architecture, and it is where the oldest university in the English-speaking world is placed, the University of Oxford. The city centre of Oxford is characterized by intense commercial activities and a high concentration of historic buildings mainly in the High Street, Queen Street, Cornmarket Street, George Street, and Broad Street.

The current Local Plan, adopted in 2005, emphasises the importance of Oxford architectural and natural heritage, setting out the policies and proposals for the future development and land use for the period 2001 to 2016. This Plan recognizes the importance of commercial signs for the vitality of the city centre, but also says that these media need to be designed with regard to the historic character of this place. The highest standard of advertisement and shopfronts is required in conservation areas. According to this Plan, shopfronts and fascias are only permitted in the city centre if their design and materials respect the style, proportion, and character of existing buildings, and enhance the streetscape. In Chapter 12 of this Plan, it says that shopfronts should always be seen as an integral part of the whole building facade (Oxford City Council, 2006).

With regard to advertisements, the Local Plan determines that these media can be displayed in the city centre if (i) they suit the visual setting in terms of scale, design, appearance, and materials, (ii) preserve or enhance the visual amenity of building facades, and (iii) do not prejudice highway safety or residential amenity. Letters illuminated individually on an opaque background or external illuminations are recommended. In sensitive areas of the city centre, such as in High Street, Broad Street, and other historic streetscapes, the Local Plan suggests discretion in the use of illuminated advertisements in order to protect the character and appearance of these areas. In addition, this regulates that one single projecting sign per occupier at a fascia level is considered appropriate. This also specifies that security shutters, awnings, blinds and canopies should be integrated into shopfront design, and the character of buildings should be respected (Oxford City Council, 2006).

As a result of the implementation of this commercial signage approach, Oxford city centre is marked by ordered streetscape comprised of preserved historic buildings and intense commercial and economic vitality. This scenario makes Oxford city centre a place of trade and a tourist destination (see Figure 4.19).
4.4.2.3 City of York

York is the county town of North Yorkshire, and has a population of 182,362 inhabitants. This city is known for its history, which is preserved in its architecture and streetscape. York was founded over 2000 years ago, and, for much of the intervening period has been the main city in the North of England. The city attracts many tourists particularly to see the medieval buildings, interspersed with Roman and Viking remains (Nationmaster, 2004). The character of York is comprised of many elements, such as the mixture of architectural styles, the tight grouping of buildings, the streetscapes, and the broken profiles of buildings and skylines (City Council of York, 1998). This city is the home of York Minster, the largest medieval cathedral in England, and its city centre is still surrounded by the city walls built by in 1220.

One of the most popular tourist attractions, which reflects the character of York, is comprised of the old commercial streets in the city centre with overhanging timber-built shops, now occupied by souvenir shops as opposed to the original butchers (Nationmaster, 2004). The identity of these streets, such as Stonegate Street, Minster Gates, and the Shambles, is mainly built by the medieval buildings and the local retail activities (see Figure 4.20). These streetscapes are characterized by local shops, which contribute to reinforcing the historic character of the city centre (City Council of York, 1998).
The current Local Plan, adopted in 1998, provides a local framework to guide and promote development where it is needed, and protect the quality of York historic, natural, and built environment. This Plan sets out norms to balance the need for economic growth with the protection of the historic environment, and emphasizes that economic and heritage interests do not need to be in conflict with each other. This Plan accepts that, in some cases, modern shopfronts may be appropriate and can contribute to the character and appearance of conservation areas. Its general polices suggest that new development should concern layout, scale, mass, and design compatible with buildings and spaces, using building materials appropriate to the character of each particular area. The commercial signage approach adopted in York recognizes that the preservation of historic heritage is a key strategy for promoting social and economic vitality. The intention of the Local Plan is to use the planning system to enhance the quality of life for residents and visitors (City Council of York, 1998; Chapter Two of the Local Plan).

York Local Plan recognizes that the display of goods through well-designed shopfronts and advertisements can contribute to create an attractive city centre. This Plan contains two general polices related to the control of commercial signs: one refers to shopfronts (General Policy 16), and the other to advertisements (General Policy 21). According to these policies, commercial signs should respect the scale, proportion, materials, and architectural style of building facades to which these are attached, and the area in which they are located. The use of standardised aluminium shopfronts and advertisements, together with plastic canopies, proportioned illuminated signs, and externally mounted
roller shutters are specifically mentioned as detrimental to the visual quality of the city. Internally illuminated box signs are also not allowed on listed buildings or in conservation areas because of their negative impacts on the appearance of the city. Physical elements of commercial signs, such as size, materials, colour and illumination, are controlled. Moreover, the display of advertisements is restricted under the Town and Country Planning Regulations 1992 (Charles, 1992; City Council of York, 1998). The application of these norms has resulted in streetscapes where the historic character is preserved and the social and economic vitality are stimulated by commercial activities (see Figure 4.21).

Figure 4.21: City centre of York. Guidelines to control commercial signs help to preserve the historic heritage of the city (Source: author).

The discussion so far suggests that to understand how commercial signage controls are approached in different urban contexts, the analysis of legislation and guidelines for commercial signage controls and interviews with City Council officers are essential. Documentation review and interviews can help to identify whether commercial signs are designed as elements to reinforce the historic character of city centres, and whether the relationship of these media with the aesthetic composition of building facades is positive. The general aims of the commercial signage controls adopted in the English historic cities described above, as their positive results on the appearance of their city centres help to identify the aspects of the operation of commercial signage controls that will be explored in the empirical investigation of this research. These aspects are presented and discussed in Chapter Five (see sections 5.3.3.1 and 5.3.3.4).

The next section of this theoretical discussion examines commercial signage approaches adopted in historic cities in Brazil.
4.4.3 Commercial signage approaches adopted in Brazilian historic city centres

In Brazil, there is no national guidance for the control of commercial signs in historic cities. However, in few historic cities, local commercial signage control approaches are applied, and they can be classified into two groups: (i) group one - commercial signage controls are designed and implemented in some historic cities by local authorities just when the visual pollution caused by shopfronts and advertisements has become a problem, and (ii) group two - in a minority of cases, commercial signage regulations are designed and adopted by local authorities before visual pollution becomes a problem. Usually this last control strategy is instigated by the abandon and negligence with maintenance of historic buildings and places. Both these groups represent initiatives which prove that the application of commercial signage controls is fundamental to increasing the visual quality of Brazilian historic cities. In this regard, this section analyses the Master Plans designed and implemented to control and guide commercial signage in Rio de Janeiro, Sao Paulo, Sao Luiz, and Salvador. In Brazil, these Plans represent the first initiatives to combat visual pollution in historic cities.

4.4.3.1 Cultural Corridor applied in the historic city centre of Rio de Janeiro

Rio de Janeiro is the capital of the Federal State of Rio de Janeiro in south-eastern Brazil. This city has a population of 6,094,183 inhabitants (IBGE, 2005), and it is Brazil’s second largest city. Its city centre is composed of a mix of contemporary, modern, and historic buildings, of which these last mainly date from the nineteenth century. The actual appearance of this centre is characterized by visual pollution caused by an excessive number of commercial signs, which do no respect the aesthetic composition of historic buildings. The “Cultural Corridor” is a Master Plan of revitalization of this historic city centre that has been adopted since 1979. In the international context, the design of this Plan was inspired by the principles defended by Unesco in 1976. These principles were set out for the protection of historic and traditional cities and their role in the contemporary life, suggesting that historic buildings and places should be preserved, but not treated as museums. These buildings and places should be integrated in the contemporary city life, and be able to accommodate different land uses (Choay, 2001, p.223).

The aim of “Cultural Corridor” Master Plan is to rescue the historic character of the city centre, and increase its visual quality. According to Lima (2006), four factors contributed
to the implementation of this Master Plan: (i) serious commitment by the local authority, (ii) participation of different key actors in the development of the Plan, (iii) support of local newspapers and broadcast TV through divulgation of the purposes of the Plan in order to get the support of local communities, and (iv) exemption of IPUT (equivalent of Council Tax in England) to owners who agree to restore and preserve their historic properties. This Plan involves several theoretical concepts and practical management strategies which attempt to (i) guide and control commercial signs, (ii) offer technical support for owners of historic buildings who agree to restore and preserve their proprieties according to the Plan, (iii) define land uses that should be encouraged in the city centre, and (iv) define a chromatic palette to help owners to choose an appropriate colour for their buildings (Pinheiro, 2002, p.1; Iplanrio, 1995, p.6).

Initially the Master Plan was adopted in four zones recognized by the local authority and local community as important historic areas: Lapa Cinelandia, Praca XV, Largo Sao Francisco, and SAARA. In 2004, this Plan began to be applied in other areas of the city centre recognized by the local community as culturally and historically important, such as Lavradio Street. This street was founded in 1771 and was composed of theatres and other houses of spectacles. Since 1980, this street had being affected by the visual pollution caused by commercial signs and the abandonment and neglect of its historic buildings. The implementation of the “Cultural Corridor” Master Plan recovered the visual quality and cultural character of this street, making this place becomes a centre of cultural and social events again. The great concentration of restored historic buildings dating from the nineteenth century and ordered commercial signage has attracted many visitors, residents, and investors to this area (Pinheiro, 2002, p.11; Iplanrio, 1995, p.6) (see Figure 4.22).

Figure 4.22: Lavradio street in Rio de Janeiro, Brazil. Since the implementation of the Cultural Corridor Master Plan, the visual quality of this street has been recovered, and this place has become a cultural and social centre (Source: http://www.smo-internet.rio.rj.gov.br).
Different groups are involved in the implementation of this Master Plan. The “Executive Group” is responsible for the analysis and approval of projects of restoration of historic buildings (Iplanrio, 1995, pp.6-10), and the “Technical Office” is in charge of helping tenants and owners with the restoration of historic buildings. Architects, planners, technicians and photographers are part of both these groups. Another group, known as “Technical Camera”, was instituted by the City Council in 1984, and during a period of 18 months was involved in theoretical discussions related to a more symbolic, poetic, and evocative interpretation of the importance of preserving the historic city centre of Rio. Writers, poets, philosophers and thinkers interested in popular music were part of this group. Indeed, as in the Design Review approach (Stamps, 2000, pp.3-4), the cooperation between the local authority and local community has been essential for the successful implementation of the Plan (Pinheiro, 2002, p.6).

According to Pinheiro (2002, p.3), the development and implementation of the “Cultural Corridor” Master Plan can be divided in four stages: the implementation (1979-1984), the structure (1984-1989), the consolidation (1989-1996), and the integration (from 1996 until now). The first period referred to studies and theoretical debates related to the identification of historic areas. This also included the design of regulations to guarantee that the strategies of preservation in these areas were in accordance with local land use legislation. The second stage was to make an inventory of all the buildings within the zones that were delimited by the Plan. This stage also focused on promoting the historic importance of these areas to the public in order to win the support of local communities. Marketing approaches were then adopted to convince residents that the visual quality and social and economic vitality of the delimited zones could be improved through the application of guidelines proposed by the Plan. During the third period, the City Council began to apply the Plan to other areas of the city centre. In the last stage, other proposals, based on the “Cultural Corridor” approach, to preserve the historic character of the city centre have been designed. The local authority of Rio has also been applying marketing strategies and urban tourism ideas to explore the cultural, social, and economic potential of the historic areas where the Plan was applied (Pinheiro, 2002, p.6).

The following citation highlights the general principles taken into account by the “Cultural Corridor” Master Plan to control commercial signs (Iplanrio, 1989, p.52): “There is a relationship between commercial signs and building facades. In Rio, most shopfronts and
advertisements harm the character of historic buildings. Many times, these media cover partially or totally aesthetic elements of facades (…) The Plan takes into account commercial signage as an element directly linked to the aesthetic composition of buildings and public spaces. In short, one of the main aims of this Plan is to promote a harmonic relationship between commercial signs and built environment. In the past, many commercial signs displayed on facades were good examples of harmonic relationships between these media and historic buildings (…). At the present moment, these signs are more aggressive because of the commercial competition created among shops, brands and services. In the zones delimited by the “Cultural Corridor”, this competition harms the character of historic buildings and the function of commercial signs. Shop owners display on their building facade huge shopfronts and advertisements without considering the aesthetic composition of the building and its surrounding areas (…). The design of commercial signs needs to take into account the character of the place (…)”.

In this regard, the following features of shopfronts and advertisements are regulated by the “Cultural Corridor” Master Plan: position (perpendicular or horizontal) and location (coronation, body or base) in relation to building facades, dimension, material, colour, distance between the bottom of the sign and the pavement, and lettering style. In addition, this Plan gives fiscal incentives to shop owners who respect the character of their proprieties.

4.4.3.2 Pro Centro applied in the historic city centre of Sao Paulo

Sao Paulo is the capital of the Federal State of Sao Paulo in south-eastern Brazil. This city has a population of approximately 10.9 million, and is the biggest city of the country (IBGE, 2005). As in Rio de Janeiro, the city centre of Sao Paulo is comprised of contemporary, modern, and historic buildings, and the streetscape is characterized by historic facades harmed by commercial signs (Minani, 2001; Cauduro 1981). According to the Council of Cultural Heritage and Environmental Preservation of Sao Paulo, this city centre has the major concentration of historic buildings of the city: around 400 buildings have been recognized for their cultural and historic importance, and more than 1500 other buildings are in the process of recognition. At the same time, this area concentrates the majority of commercial signs in the entire city (Nogueira, 1996, p.16). There are some regulations to control commercial signs in Sao Paulo; however they are useless because of...
the lack of enforcement to make sure that shop owners and advertisers are respecting them. In the central area, 87% of shopfronts and advertisements are irregular. According to Ramos (2004, p.1), there are around 10 million commercial signs in Sao Paulo; however only 100,000 are registered and 55,000 authorized by the City Council. To increase the visual pollution of this city centre, the local authority has often rented spaces in public places, such as on trees and urban furniture, for shop owners to display any kind of commercial sign. Another problem is the advertisements painted on blank lateral walls of high buildings (Ramos, 2004, p.2) (see Figure 4.23).

Figure 4.23: High buildings where blank lateral walls are rented to display commercial signage. Sao Paulo, Brazil (Source: http://www.vitruvius.com.br).

In this context, “Pro Centro” Master Plan has been developed to revitalize the historic city centre of Sao Paulo. The aim of this Plan is to increase the visual quality and social and economic vitality of this centre. Its objective is to reverse the process of visual degradation of this place caused by the visual pollution provoked by shopfronts and advertisements (Rietti, Arieira, Lopez & Rei, 2002, p.2; Official Diary Journal of Sao Paulo, 1993, p.10). The following citation sums up the main idea which is the base of the approach adopted in this Plan (Official Diary Journal of Sao Paulo, 1993, p.10): “Projects of restoration involve rehabilitation of buildings and, consequently, of the built environment as a whole (…). In order to restore and preserve historic buildings which contribute to create the character of Sao Paulo city centre, the visual pollution caused by commercial signs, such as fascias displayed on facades, is combated”. Interests of different key actors have been taken into account in the implementation of this Master Plan. Marketing strategies are applied in order to get the support of the local community and attract investors to the city centre. This Plan has been implemented since 1993, and its structure is regulated by Municipal Laws.

The head of the Department of Habitation and Urban Development of the City Council of Sao Paulo is the manager of this Master Plan. Together with him, two groups participate in
the design, discussion, and implementation of theoretical concepts and practical management strategies related to “Pro Centro”. These groups are: (i) “Association of Viva Centre” formed by members of the local community, and (ii) the “Institute of Engineering and Architecture of Brazil” composed of civil engineers, urban designers, urban planners, and architects. The implementation of this Plan, as with the “Cultural Corridor” Master Plan and the Design Review approach, has demonstrated the importance of the support of local communities in order to put into practice commercial signage controls. Marketing strategies were also adopted by this Plan to get the cooperation of residents in Sao Paulo (Official Diary Journal of Sao Paulo, 1993). Likewise, the “Pro Centro” initiative has stimulated the design of other plans in Sao Paulo with similar objectives. For example, the Plan to improve the visual quality of “Sao Bento Street” and “Florencio de Abreu Street”, and the project of revitalization of “Vieira de Carvalho Street” and “Arouche Street” have been implemented since 1993. Another Plan of revitalization of Sao Paulo city centre, “Plano Reconstruir o Centro”, was adopted in 2001 in accordance with the principles defined by the “Pro Centro” Master Plan (Portella, 2003, p.43).

In addition, in September 2006, the City Councillors of Sao Paulo approved a new commercial signage control that was designed and proposed by the local planning authority. This regulation is now a municipal law known as “Lei da Cidade Limpa nº 14.223” (Law of the Clean City). It regulates all kinds of commercial signs displayed in Sao Paulo, such as billboards, shopfronts, window displays and commercial signs displayed on urban furniture and on the sides of buses and taxis. This control has been implemented since January 2007, and is already recognized as one of the most controversial and effective commercial signage controls that has ever been applied to combat visual pollution in Sao Paulo. Owners of franchises and worldwide known brands are opposed to this law, and are searching for legal measures to bypass this regulation (Sao Paulo City Council, 2007, 2006; Garcon, 2006; Rohter, 2006).

4.4.3.3 Project Reviver applied in the historic city centre of Sao Luiz

Sao Luiz is the capital of the Federal State of Maranhao. This city is located in the northeast coast of Brazil, and has a population of 942,300 inhabitants (IBGE, 2005). Its historic city centre was made a Unesco World Heritage Site in 1997. This city is known for its ceramics which most buildings in the historic centre are covered with. The city centre is
composed of around 3,500 Portuguese colonial buildings across 220 hectares. Around 2,500 buildings are protected by regional laws related to the historic heritage of the State, and 1,000 buildings are looked after by Iphan (Brazil’s Institute of Historic and Artistic National Heritage). In the past three decades, an economic decline had reached the central area contributing to the abandon of some historic buildings and negligence with the preservation of others by shop owners, residents, and the local authority. Aware of this problem, the City Council has begun to develop and apply an extensive program known as the “Reviver Project”.

“Project Reviver” is a Master Plan of restoration and preservation of the historic city centre of Sao Luiz. This Plan differs from the ones applied in Rio and Sao Paulo: this was not implemented because visual pollution was harming the appearance of historic buildings. The design of this Plan was intended to address the need for the preservation and restoration of historic buildings and public spaces abandoned and neglected. This Plan also attempted to control commercial signs before they start to harm the historic character of the city centre. This Plan reflects a recent change in how approaches related to commercial signage controls are designed and implemented in Brazil. Before visual pollution becomes an eminent problem, the local authority recognized that shopfronts and advertisements have a strong influence on the streetscape of the city centre, and established regulations to guide and control these media. These regulations aim to reinforce the historic character and stimulate social and economic activities in the central area (Maranhao City Council, 2004).

This Master Plan has been applied in 250 hectares and 3,500 historic buildings within the city centre since 1979, and has been implemented in five stages. The first stage (1979-1982) concerned the delimitation of zones where the restoration of historic buildings should start. In a joint action, the local community and the local authority defined specific zones, where the character of the place was harmed by the lack of preservation of historic buildings. After that, local and federal laws regulate these areas. Since 1979, architects, planners and engineers have been responsible for managing this Plan; they form a group known as the “Coordination Commission”. This group is responsible for the design of projects to revitalize the city centre, and members of the local community are able to help the development of these projects. In workshops, residents and representatives of civic societies help to define the best alternatives to preserve and restore the character of the historic city centre (Maranhao City Council, 2004).
In the second period (1983-1987), the implementation of the projects of revitalization was temporarily suspended because of the lack of funding. So, the focus was given to scientific investigations related to historic aspects that characterize the city centre. Original documents dating from 1646 to 1900, which describe the history of the city, were analysed. Field visits were also organized in order to identify historic buildings and places not included in the first stage of this Plan. The “Commission of Historic Heritage of Sao Luiz” was formed, and it is composed of officers of Iphan (Brazil’s Institute of Historic and Artistic National Heritage), the Department of Historic, Artistic and Landscape Heritage of the State, and the Department of Urbanism of Sao Luiz. This group is responsible for the analysis and coordination of projects of revitalization of the city centre. In 1986, an inventory of all buildings within the city centre recognized as historic by federal, regional and local laws was compiled. This document and general information about the “Reviver Project” Master Plan were published in a book. This publication helped to make public the aims of the Plan on a national scale, stimulating groups from different parts of Brazil, such as universities, governments, population, architects and planners, to participate in the implementation of the “Project Reviver” (Maranhao City Council, 2004).

In the third stage (1987-1990) was related to urban renovation projects (such as water supply, urban drainage, and underground electricity), and building restorations. At the same time, commercial signage controls were implemented in the city centre, and old signs were replaced by new ones designed to reinforce the historic character and the aesthetic composition of buildings. At the end of this period, the visual quality and historic character of many streets in the city centre of Sao Luiz was already recovered (Maranhao City Council, 2004). The aim of the fourth stage (1990-1994) was to extend the Plan to other areas of the city; the main objective was to implement guidelines to reinforce the character of the city as a whole (Portal do Estado do Maranhao, 2004). The last stage of this Plan began in 1995, and has been characterized by the implementation of marketing strategies and urban tourism ideas. A proposal has been designed and applied to promote Sao Luiz as a national and international tourist destination. This latest stage has been supported economically by the Inter American Bank of Development (BID).

In 1995, the city of Sao Luiz was included in the List of Cultural Heritage by Unesco, and the local and regional authorities believe that this was a result of the implementation of the “Reviver Project”. This Plan has recovered the historic character of the city helping to
promote its historic importance, and “sell” the image of Sao Luiz as a preserved and beautiful historic setting (see Figure 4.24; Maranhao City Council, 2004). The results from the implementation of this Plan demonstrate that a successful approach to restore the historic character of a city involves different key actors which work together, and the adoption of marketing the city and urban tourism strategies to improve and promote the image of the city.

![Figure 4.24: Sao Luiz do Maranhao, Brazil. Example of a commercial sign, which does not damage the historic building facade (left), and a common shop entrance in the city centre of Sao Luiz (right) (Source: http://www.pbase.com/martinusso/maranhao).](image)

### 4.4.3.4 Program of Recuperation of the historic city centre of Salvador

Salvador is a city in the northeast coast of Brazil, and it is the capital of the Federal State of Bahia. This city has 2,673,560 inhabitants (IBGE, 2005) and was built on two levels, with administration buildings and residences constructed on the hills, and forts, docks and warehouses on the beaches. Today the city is still divided into upper and lower city zones. The period of 1500 to 1815 was a golden age for Salvador; homes and churches resplendent in gold decoration were built. Many of the city baroque churches, private homes, squares and even the hand-chipped paving bricks have been preserved as part of the historic heritage of Brazil. The historic city centre of Salvador was made a Unesco World Heritage Site in 1997 (Urban Conservation, 2001).

In 1991, a Master Plan call “Program of Recuperation of the city centre of Salvador” was designed and implemented to clean up and restore the historic core of the city known as “Pelourinho”. This area is in the oldest part of the upper city, and is characterized by colonial architecture, cobbled-stoned streets, art, and culture. The process of degradation of
its public spaces and negligence of maintenance of its historic buildings began in the twentieth century. In the 1960s, this area was characterized by crime and anti-social behaviour: this was comprised of decayed buildings occupied by an economically deprived population and prostitution activities, and public spaces were characterized by the lack of social and economic vitality (Urban Conservation, 2001).

Similar to the “Reviver Project” Plan applied in Sao Luiz, the Master Plan in Salvador attempts to restore the historic city centre and control the commercial signage before these media begin to harm the visual character of buildings and places. This Plan has been applied to an area of 228,637.81 square metres with 2,253 historic buildings (Urban Conservation, 2001). This has developed and implemented projects to recover degraded public areas, historic monuments, and buildings with cultural and historic value. Guidelines to control commercial signs have been designed to reinforce the historic character of the city centre, and promote it as a commercial centre as well. Shopfronts and advertisements are taken into account as elements that can increase the visual quality of commercial streets and stimulate social and economic vitality. This Plan also adopts marketing the city and urban tourism strategies to promote the historic importance of the city, and attract visitors and investors (Urban Conservation, 2001). Figure 4.25 shows the city centre of Salvador after the adoption of this Master Plan of recuperation.

Figure 4.25: Pelourinho in Salvador. Commercial signage controls are designed to reinforce the historic character of the city centre (Source: http://www.salvador.gov.br)

The implementation of the Plan in Salvador can be divided into two stages. The first one (1992-1995) is related to the restoration of 334 historic buildings. The second period, which began in 1995 and is still going on, has sought financial support from private companies and international banks. This stage has involved the design and implementation of projects of restoration of more than 305 historic buildings, public spaces, and
monuments. Four groups have been working together in this stage: the Institute of Artistic and Cultural Heritage of Bahia, the Company of Development of the Metropolitan Region of Salvador, and the City Council of Salvador. In addition, as identified in the other Plans presented earlier, the support of the local community is one key factor for the successful implementation of the Master Plan in Salvador. The approach adopted by this Plan emphasizes that the preservation of historic buildings and places stimulates social and economic activities, increasing retail profits, tourist industry, and private and public investments (Urban Conservation, 2001).

The factors involved in the implementation of the four Master Plans described in the previous sections have been taken into account in this thesis to analyse commercial signage control approaches adopted in historic cities of different urban contexts.

4.5 CONCLUSION

The conclusion of this chapter highlights seven main issues, which are taken into account in the theoretical and conceptual framework of this research applied to (i) explore the factors involved in the operation of commercial signage controls in historic city centres of different urban contexts, and (ii) investigate user perception and evaluation of these places. At the end, the theoretical and conceptual framework and the propositions and working hypotheses tested in the empirical investigation are presented. In addition, the research problem, questions, aim, and objectives are described.

1. This research investigates the effects of different commercial signage approaches on the visual quality of historic city centres in distinct urban contexts. This study assumes that different approaches may result in distinct commercial streetscapes and, therefore, influence user perception and evaluation of these places in different ways. In this regard, positive and negative influences of commercial signs in central areas of historic cities are analysed. This analysis seeks to identify the factors involved in the operation of commercial signage controls and the physical characteristics of commercial signs and buildings that need to be taken into account in the development of a general commercial signage approach.

2. This research recognizes that commercial signs can harm the historic character of city centres even when these media are ordered. If the design of shopfronts, advertisements and
windows displays does not relate to the historic character of these areas, these media may affect user perception and evaluation of public spaces. In this sense, this study investigates the aims of commercial signage controls adopted in historic city centres of different urban contexts in order to explore whether these controls take into account the preservation of historic heritage. In addition, this thesis explores user perception and evaluation of the appearance of these city centres.

3. This study recognizes that the idea of converting the visual character of cities into a consumer product can harm the history and local essence of places. According to the theoretical discussion presented in this chapter, this research assumes that commercial signage controls can be used to reinforce the local character and improve social and economic vitality of historic cities without overlooking the local history of any particular community.

4. Commercial signs are recognized as vital elements of the contemporary lifestyle. In this regard, this thesis does not intend to identify factors that can be taken into account in the development of a general commercial signage approach which aims to create manufactured built environments like in the city of Celebration in the United States. The focus of this present research is to explore how commercial signage controls can be approached as a tool to reinforce the historic character and, at the same time, promote the commercial appeal of city centres.

5. In this study, public participation in the development of commercial signage controls, local community interests and resident perception and evaluation of historic city centres and commercial street facades are taken into account as a base to analyse which issues need to be considered in the development of a general commercial signage approach.

6. The main difference between the commercial signage control systems adopted in England and Brazil has been identified at the national or federal level: in England, there is a national approach that helps local authorities to guide and control commercial signs in historic city centres, while, in Brazil, there is no national approach to controlling commercial signs leaving local authorities with the responsibility to develop commercial signage controls, and to decide whether these controls are necessary in historic cities. Because of the lack of a national approach, if city council officers in Brazil decide to apply commercial signage controls, they need to design specific strategies for their individual
cases without the help of any general guidance. The result is that disconnected and conflicting commercial signage approaches are currently applied in Brazilian historic cities with similar urban contexts. In this regard, this research assumes that a general commercial signage approach designed for historic city centres of different urban contexts can help regional and local authorities of countries like Brazil to develop commercial signage controls. This general commercial signage approach can also be applied as a theoretical base in the development of a national approach to a whole country. In this regard, this thesis recognizes that the analysis of (i) current commercial signage approaches adopted in different case studies, and (ii) user perception and evaluation of historic city centres can contribute to identify the factors that need to be taken into account in this general approach.

7. The review of commercial signage controls adopted in England and Brazil has helped to define issues that will be explored in the empirical investigation of this research (see Chapters Six, Seven and Eight). In this chapter, the analysis of current commercial signage controls adopted in English historic cities suggested that the following three main issues can be taken into account to analyse how the operation of commercial signage controls is carried out in different urban contexts:

a. In historic cities where commercial signage is ordered and the historic heritage is preserved, commercial signage controls are usually designed to (i) preserve the historic character of places, (ii) avoid visual pollution, and (iii) stimulate social and economic vitality.

b. Support of local communities and civic societies in the process of implementation of commercial signage controls is one of the most important factors that make effective the national commercial signage approach adopted in England.

c. The review of commercial signage approaches adopted in Leeds, Dartmouth, Exeter, Bath, Oxford and York through the analysis of local legislation suggested that documentation review and interviews with city council officers can help to understand how the operation of commercial signage controls is carried out in different urban contexts.

Table 4.5 summarizes other issues that are taken into account by the local authorities of
Table 4.5: Summary of the issues related to the commercial signage controls adopted in Leeds, Dartmouth, Exeter, Bath, Oxford, and York, in England (Source: author).

<table>
<thead>
<tr>
<th>Cities</th>
<th>General aim of the commercial signage controls</th>
<th>Physical features of commercial signs that are controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEEDS</td>
<td>Shopfronts and advertisements are controlled to avoid visual overload and promote social and economic vitality. The controls contribute to preserving the character of the place and making this a tourist destination.</td>
<td>Size, colour, shape, lettering style, and materials of shopfronts and window displays.</td>
</tr>
<tr>
<td>DARTMOUTH</td>
<td>Guidelines to control commercial signs have been adopted in all area to preserve the character and visual quality of the town. These regulations aim to promote commercial vitality, attract visitors, satisfy resident needs, and reinforce the local character of the place.</td>
<td>Size, material, colour and lettering style.</td>
</tr>
<tr>
<td>EXETER</td>
<td>Commercial signs are designed to respect the aesthetic composition of remaining historic buildings, reinforce the last historic character of Exeter city centre, and increase social and economic vitality.</td>
<td>The relationship between commercial signs and building facades in terms of structural integrity of buildings, harmony, vertical emphasis, links with upper floors, and details and decorations.</td>
</tr>
<tr>
<td>BATH</td>
<td>Local Plan (1997): it controls aesthetic variation of commercial signs, building facades and public spaces. This Plan emphasises that design, scale and proportion of shopfronts and advertisements should be related to building facades for which they are intended, and those adjacent as well.</td>
<td>Guidelines linked to size, design, illumination and materials are applied. Internally illuminated box fascias and projecting signs are not allowed in historic areas. The supplementary planning guidance “Advertisements &amp; Illuminations” regulates the final layout and materials of commercial signs as the relationship between these media with buildings and their setting.</td>
</tr>
<tr>
<td>OXFORD</td>
<td>Local Plan (2005): it defines that new shopfronts and fascias are just permitted in the city centre if their design and material respect the style, proportion and character of existing buildings and enhance the streetscape. Commercial signage can be displayed if (i) it suits its visual setting in terms of scale, design, appearance and materials, (ii) preserves or enhances the visual amenity of building facades, and (iii) does not prejudice highway safety or residential amenity.</td>
<td>Letters illuminated individually on an opaque background or external illuminations are recommended. One single projecting sign per occupier at a fascia level is considered appropriate. Security shutters, awnings, blinds and canopies should be integrated into shopfronts design and respect the character of buildings. The use of standardized aluminium shopfronts and advertisements, together with plastic canopies, proportioned illuminated signs and externally mounted roller shutters are categorized as detrimental to the visual quality of the city. Internally illuminated box signs are not allowed on listed buildings or in conservation areas. Physical elements of commercial signs such as size, materials, colour and illumination are controlled.</td>
</tr>
</tbody>
</table>

Reviewing the initiatives adopted in Brazil to control commercial signs, the following six preliminary issues can also be considered to analyse the operation of commercial signage controls adopted in historic cities of different urban contexts:

a. In historic city centres where visual quality has been improved, commercial signage...
control approaches are designed and implemented to increase visual quality and social and economic vitality of central areas harmed by visual pollution. The following strategies are considered to reduce visual pollution in Brazil: (i) commercial signage controls, (ii) technical support from local authorities to owners of historic buildings who agree to restore and preserve their proprieties, (iii) definition of land uses that can be encouraged in city centres, and (iv) elaboration of chromatic palettes to orient owners to choose an appropriate colour for their building facades.

b. In aesthetic control approaches mainly addressed to the preservation and restoration of abandoned and neglected historic buildings and public spaces, guidelines to control commercial signs are recognized as tools to reinforce the historic character of city centres.

c. The control of the following physical characteristics of commercial signs are identified as strategies to reduce visual pollution in historic city centres: position (perpendicular or horizontal) and location (coronation, body or base) in relation to facade, dimension, material, colour, distance between bottom of sign and pavement, and lettering style.

d. Fiscal incentives given to shop owners who do not harm the historic character of their proprieties can be one way to make this user group support commercial signage controls.

e. Participation and support of different departments of the local authority and key actors (such as architects, planners, technicians, photographers, writers, poets, philosophers and thinkers interested in popular music) in the process of development and implementation of commercial signage controls are essential to guarantee the successful adoption of commercial signage regulations. In workshops, residents and representatives of civic societies can help to define the best alternatives to preserve the character of historic centres and combat visual pollution.

f. Marketing the city and urban tourism strategies are recognized as tools (i) to promote the positive effects that commercial signage controls can have on the appearance of city centres, and (ii) to get the support of local communities and civic societies. These strategies can help to inform local communities of the cultural, social and economic potential of historic city centres where visual quality has been improved though implementation of commercial signage controls.
4.5.1 Theoretical and conceptual framework, research problem, questions, aim, objectives, propositions and working hypothesis

The issues discussed in the three chapters of literature review (Chapters Two, Three and Four) helped to build the theoretical and conceptual framework of this research (see Figure 4.26 at the end of this section). These issues also support the research problem, the research questions and the aim of this study, which were introduced in Chapter One (see Figure 4.27), contributing to the definition of the research objectives and the propositions and working hypotheses tested in the empirical investigation.

**Figure 4.27: Research problem, questions, and aim (Source: author).**

Based on the issues discussed in the chapters of literature review, nine research objectives have been designed to help to answer the research questions:

A. Development of a theoretical and conceptual framework by defining working concepts related to (i) visual quality and user perception and evaluation of the built environment, (ii) formal and symbolic factors that influence aesthetic judgments, and (iii) issues linked to the operation of commercial signage controls in city centres such as consumer culture, city centre management, marketing the city and urban tourism, and by reviewing current commercial signage approaches adopted in different urban contexts. This is necessary for a comprehensive investigation of the issues addressed in research questions 1, 2 and 3.

B. Investigation of what issues are involved in the operation of commercial signage controls adopted in a historic city centre of a country where a national commercial signage approach is applied to help local authorities to guide and control commercial signs, and in historic city centres of a country where there is no national commercial signage approach to help local authorities to design and apply commercial signage controls. This will help to answer research question 1.
C. Identification of the influence of different commercial signage approaches on the streetscape of historic city centres in terms of (i) order among commercial signs and buildings, (ii) the relationship between aesthetic composition of these media and historic building facades, and (iii) general visual character of commercial street facades. This will help to answer research question 2.

D. Analysis of user perception and evaluation of commercial signage controls in historic city centres with regard to the (i) necessity of commercial signage controls, (ii) public participation in the development of these controls, and (iii) physical aspects that need to be taken into account in these controls. This will help to answer research questions 1, 2 and 3.

E. Evaluation of the effects that different commercial signage approaches have on historic city centres through residents’ perceptions and evaluations of the (i) appearance of the historic city centre, (ii) city centre functions, (iii) city centre image, and (iv) wayfinding through commercial signs. This will help to answer research question 2.

F. Analysis of preferences and satisfactions of users from different urban contexts in terms of (i) the appearance of commercial street facades where distinct commercial signage approaches are applied, and (ii) the physical characteristics of these streets that might influence those responses. This will help to answer research questions 2 and 3.

G. In a city where the appearance of commercial streetscapes are evaluated negatively, investigation of the perception and evaluation of residents in terms of the following issues: (i) which factors contribute to increasing visual pollution in the city centre and what can be done to reduce this problem, (ii) the relationship between commercial signage and building facades in the historic city centre, and (iii) whether residents’ evaluations of commercial street facades of their city coincide with evaluations of the same streetscapes by users from other places. This will help to answer research questions 1, 2 and 3.

H. Analysis of user perception and evaluation of commercial street facades where different commercial signage approaches are applied in terms of (i) beauty, interest, order, colour and complexity, (ii) variation of commercial signs and buildings, (iii) number of commercial signs and percentage of building facades covered by these media, and (iv) relationship between the aesthetic composition of commercial signs and building facades. This will help to answer research questions 2 and 3.
I. From the results obtained from the above objectives, identification of which aspects involved in the operation of commercial signage controls and physical characteristics of commercial signs and buildings need to be taken into account in the development of a general commercial signage approach inapplicable to historic city centres in different urban contexts.

In addition, the issues explored in the previous three chapters gave the theoretical support to formulate five propositions and a set of working hypotheses, which will be tested to satisfy the research objectives.

**Proposition 1:** There is no relationship between the commercial signage approach adopted in historic city centres and user perception and evaluation of the necessity for commercial signage controls, public participation in the development of these controls, and physical aspects that need to be taken into account in these controls.

- *Working hypothesis A:* There are no differences between users, who live in places where different commercial signage approaches are applied, in terms of perception and evaluation of the necessity for commercial signage controls, public participation in the development of these controls, and physical aspects that need to be taken into account in these controls. The test of this hypothesis refers to research objective D.

**Proposition 2:** There is a relationship between the commercial signage approach adopted in historic city centres and user perception and evaluation of historic city centres in terms of appearance, city centre functions, city centre image, and wayfinding through commercial signage.

- *Working hypothesis B:* Historic city centres where different commercial signage approaches are applied are perceived and evaluated differently in terms of appearance, city centre functions, city centre image, and wayfinding through commercial signage. The test of this hypothesis refers to research objective E.

**Proposition 3:** There is a relationship between the commercial signage approach adopted in historic city centres and user perception and evaluation of the appearance of commercial street facades and physical aspects of the streetscape that influence those responses.

- *Working hypothesis C:* Commercial street facades in historic city centres where
different commercial signage approaches are applied are perceived and evaluated differently in terms of their appearance and physical aspects of the streetscape that influence user responses. The test of this hypothesis refers to research objective F.

**Proposition 4:** Taking into consideration the appearance of the commercial street facades chosen as the worst streets in terms of appearance, there is a relationship between perception and evaluation of residents in the city where these streets are placed and perception and evaluation of users from other cities.

- **Working hypothesis D:** Residents in a city, where the commercial street facades chosen as the worst streets in terms of appearance are placed, and users from other cities share the same perception and evaluation in terms of the appearance of these streets. The test of this hypothesis refers to research objective G.

**Proposition 5:** There is a relationship between commercial street facades chosen as the best and the worst streets in terms of appearance and user perception and evaluation of (i) beauty, interest, order, colour and complexity, (ii) variation of commercial signs and buildings, (iii) number of commercial signs and percentage of building facades covered by these media, and (iv) relationship between the aesthetic composition of commercial signage and building facades.

- **Working hypothesis E:** Commercial street facades chosen as the best and the worst streets in terms of appearance are perceived and evaluated differently in terms of (i) beauty, interest, order, colour and complexity, (ii) variation of commercial signs and buildings, (iii) number of commercial signs and percentage of building facades covered by these media, and (iv) relationship between aesthetic composition of commercial signage and building facades. The test of this hypothesis refers to research objective H.

In addition, the following general assumption is investigated when perception and evaluation of users from different urban context are analysed and compared: while some visual preferences in the built environment may be influenced by the user’s urban context, others (universals) may be common to the majority of people from different countries and may be useful in defining general principles that guide preference and satisfaction.
The next chapter presents the research design and methodology applied to answer the research questions, satisfy the research objectives, and test the propositions and working hypotheses.

Figure 4.2: Summary of the issues which built the theoretical and conceptual framework of this research

Chapter Four: Review of current commercial signage approaches adopted in different urban contexts
Chapter Five

Research design and methodology

<table>
<thead>
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<td>5.1 Introduction.</td>
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<tr>
<td>5.2 Sample criteria.</td>
</tr>
<tr>
<td>5.3 Choice of research methods.</td>
</tr>
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<td>5.4 Fieldwork.</td>
</tr>
<tr>
<td>5.5 Conclusion.</td>
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</table>

5.1 INTRODUCTION

This chapter presents the research design and methodology of this thesis. In this introduction, a brief discussion of the research problem, questions, aim, objectives, research approach, and methodological framework is presented. This chapter is structured into two main sections: (i) sample criteria and (ii) choice of research methods. The first section explores the criteria adopted to select the case studies, the sample of commercial street facades, and the participants. The techniques applied in different urban contexts to get people involved in the fieldwork are also discussed. The second section presents the choice of research methods of data collection and analysis. At the end, issues related to the fieldwork are discussed, and a summary of the chapter is presented.

5.1.1 A brief discussion of the research problem, questions, aim, objectives, and research approach

Different approaches to the control of commercial signs have been carried out in several historic city centres. However, these approaches are usually isolated initiatives, which are not based on a general theory related to user perception and evaluation of commercial street facades. At the same time, in many historic centres, no commercial signage controls are applied to avoid visual pollution. As suggested by Portella (2006a, 2006b), Minami (2001), and Cauduro (1981), this is one of the main reasons for the decreasing level of user satisfaction with the appearance of commercial streetscapes. Therefore, the research problem concerns the lack of a general approach to guide and control commercial signs in historic city centres based on the perception and evaluation of users from different urban contexts. As historic city centres are places where people from different parts of the world
visit and often live and work, this investigation assumes that a commercial signage approach should be based on the physical characteristics of commercial and historic streetscapes that increase the satisfaction of users from different urban contexts. In light of this issue, the research questions are as follow:

- **Research Question 1**: Which aspects of the operation of commercial signage controls need to be taken into account in the development of a general commercial signage approach applied to the historic city centres of different urban contexts?
- **Research Question 2**: Which physical characteristics of commercial signs and buildings need to be taken into account in the development of a general commercial signage approach applied to the historic city centres of different urban contexts?
- **Research Question 3**: Are there common perceptions and evaluations between users from different urban contexts in terms of commercial signage controls and the appearance of commercial street facades in historic city centres?

The aim of this study is to identify those aspects of the operation of commercial signage controls and physical characteristics of commercial signage and buildings that need to be taken into account in the development of a general commercial signage approach. Table 5.1 shows the links between the research objectives, questions, and methods chosen in this investigation.

Table 5.1: Links between the research objectives, questions, and methods adopted in this study (Source: author).

<table>
<thead>
<tr>
<th>RESEARCH OBJECTIVE</th>
<th>LINK TO RESEARCH QUESTIONS</th>
<th>METHODS</th>
</tr>
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<tbody>
<tr>
<td>A. Development of a theoretical and conceptual framework by defining working concepts related to (i) visual quality and user perception and evaluation of the built environment, (ii) formal and symbolic factors that influence aesthetic judgments, and (iii) issues linked to the operation of commercial signage controls in city centres such as consumer culture, city centre management, marketing the city and urban tourism, and by reviewing current commercial signage approaches adopted in different urban contexts.</td>
<td>This is necessary for a comprehensive investigation of the issues addressed in research questions 1, 2 and 3.</td>
<td>Literature review.</td>
</tr>
<tr>
<td>B. Investigation of what issues are involved in the operation of commercial signage controls adopted in a historic city centre of a country where a national commercial signage approach is applied to help local authorities to guide and control commercial signs, and in historic city centres of a country where there is no national commercial signage approach to help local authorities to design and apply commercial signage controls.</td>
<td>This objective will help to answer research question 1.</td>
<td>Literature review, documentation review, archival records, and interviews.</td>
</tr>
<tr>
<td>C. Identification of the influence of different commercial signage approaches on the streetscape of historic city centres in terms of (i) order among commercial signs and buildings, (ii) the relationship between aesthetic composition of these media and historic building facades, and (iii) general visual character of commercial street facades.</td>
<td>This objective will help to answer research question 2.</td>
<td>Systematic observation and analysis of physical characteristics of commercial street facades on-site and through photographs.</td>
</tr>
</tbody>
</table>

CONTINUATION ON THE NEXT PAGE.
This investigation adopts the Environment Behavioural research approach, which contemplates questions about user perception and evaluation of the built environment (Uzzell, 2005; Rosnow & Rosenthal, 2005; Kimble, 1989; Kerlinger, 1979; Heimsath, 1977). This approach is a multi-disciplinary research field, which involves theories, concepts, and methodologies related to (i) environmental psychology (Uzzell, 2005; Romice & Uzzell, 2005; Mikellides, 2001; Bell, Greene, Fisher & Baum, 2001; Pomeranz, 1980), (ii) architecture (Weber, 1995; Nasar, 1988; Lang, 1987), (iii) planning, and (iv) urban design (Punter & Carmona, 1997).

5.1.1.1 Propositions and working hypotheses tested to answer the research questions

As presented in Chapter Five (see section 4.5.1), five propositions and a set of working hypotheses are tested to answer the research questions. The links between these propositions and hypotheses with the research questions and objectives are shown in Table 5.2.
The findings from the test of the above propositions and working hypotheses are presented in Chapters Six, Seven, and Eight.

5.1.2 Methodological framework

The methodological framework of this study adopts quantitative and qualitative methods of data collection and analysis to answer the research questions, satisfy the research aim and
objectives, and test the propositions and working hypotheses (Sommer & Sommer, 2002, pp.1-12; Nasar, 1998, p.5; Cherulnik, 1993, pp.3-12; Porteous, 1977, pp.vii-x). This framework applies a multiple method survey design in order to combine methods which compensate for the faults and limitations of each one (Brewer & Hunter, 1989). The choice of methods and techniques takes into account that this research compares samples of users from two countries in terms of their perception and evaluation of historic city centres and commercial street facades (Berry, Poortinga, Segall & Dasen, 2002). In this sense, the methodology is designed to bear in mind the practicality of developing a survey in different countries with different languages and urban contexts.

A multiple case study approach has been adopted for the empirical investigation. A frequent criticism of the case study methodology is based on the assumption that its dependence on a single case can render it incapable of providing generalizing conclusions (Silverman, 2005, pp.113-115; Yin, 1994, p.11; Cherulnik, 1993, pp.5-11). Therefore, three cities have been selected as case studies; the results are considered more reliable when the data from two or more case studies lead to the same conclusions. As suggested by Lipset, Trown and Coleman (1956, pp.419-420), the purpose of selecting three case studies in this research is to carry out a general analysis of different urban contexts, and not a specific analysis of an individual city. This thesis also takes into account more than one place in order to identify whether similar or different factors influence the operation of commercial signage controls in different case studies. Moreover, a multiple case study approach allows the opportunity to apply a multi method survey design to different urban contexts bringing a more holistic perspective to the research (Sommer & Sommer, 2002, pp.203-210; Yin, 1994, p.15).

Next, this chapter presents (i) the criteria chosen to select the samples, and (ii) the choice for the research methods of data collection and analysis.

5.2 SAMPLE CRITERIA

The logic of sampling is central to this thesis; the limits to generalization, sample size, and sampling techniques were considered when selecting (i) the case studies, (ii) the commercial street facades, and (iii) the participants (Coolican, 2004; Moser & Kalton, 1971). Given the research questions and objectives, three general criteria are used to select
these samples: (i) it has to be possible to compare user responses related to historic city centres of different urban contexts, (ii) it is necessary to obtain information of a comparable nature, and determine the minimum number of participants in each case study, to be able to compare responses in a reasonably precise way, and (iii) it is necessary to set limits for the maximum number of case studies, commercial street facades, and participants that can be sampled because of the financial and time constraints of the researcher. The following sections present the specific criteria used to select the case studies, the commercial street facades, and the participants.

5.2.1 Criteria for selection of the case studies: countries and historic city centres

A general distinction is often made in scientific research between “probability sampling” and “nonprobability sampling”. There are two variants of the former: (i) random samples, and (ii) stratified samples. In both cases, the probability for the inclusion of any given place is known, increasing representativeness of the sample. The “nonprobability sampling” is divided into three general types: (i) quota sample, (ii) purposive sample, and (iii) opportunity sample. In all of them, the likelihood of selection is not actually known, being usually applied for particular research purposes (Coolican, 2004, pp.37-43; Sommer & Sommer, 2002, pp.236-239). For the delimitation of the countries analysed in this research, the “probability sampling” has been adopted in order to produce the most representative sample (most like the population from which the sample is drawn). A stratified sample was selected on the basis of the three general criteria mentioned earlier (see section 5.2), and of the following two main stratification factors:

a. Stratification factor 1: a country where a national approach designed to help local authorities to guide and control commercial signage in historic city centres is applied in practice.

b. Stratification factor 2: a country where there is no national approach to guide and control commercial signage leaving local authorities with the total responsibility for developing commercial signage controls, and to decide whether these are necessary in historic city centres.

The choice for the sample of countries was also based on the researcher’s previous knowledge of commercial signage approaches applied in countries in South America
(Portella, 2003). In addition, the researcher had already carried out several investigations related to the visual pollution caused by commercial signs in historic cities in Brazil, and has a deep understanding of this problem in that country. Moreover, the choice for the sample was based on the fact that England, where the researcher is currently based, is an example where a national commercial signage approach is applied to help local authorities to guide and control commercial signage in historic city centres. These facts contributed to the selection of the following countries: England and Brazil. In addition, the factor that the researcher is fluent in the official languages of both countries - English and Portuguese - contributed to this delimitation. With regard to Brazil, this investigation concentrated the analysis in the southern most Federal State, Rio Grande do Sul, since part of the theoretical background of this thesis is based on the findings produced by the researcher’s Masters dissertation (Portella, 2003). Her study focused on the visual impact of commercial signs in historic cities in the south of Brazil. The territorial dimension of this country (8,514,876.599 km²) was also taken into account in the selection of only one State; the concentration of this study in one Brazilian Federal State avoided data collection becoming exhausting and impractical in terms of financial resources and time spent travelling.

Having chosen the countries for the analysis, historic city centres were selected as case studies because (i) in these places there are competitive pressures between commercial interests, linked with strategies of marketing the city and urban tourism, and preservation of historic heritage (see Chapter Three, section 3.2), and (ii) this research attempts to explore the influence of those pressures on the approaches adopted by local authorities to control commercial signs in these city centres. The limited financial resources and time available suggested that in total no more than three case studies could be chosen. A diagnostic exploration was conducted in terms of the size of population (i) in the thirty five major historic cities and towns in England, according to English Heritage (English Heritage, 2006), and (ii) in the main cities, colonies and villages, which marked the history of colonization and urbanization of the southern most Federal State of Brazil (Daros & Barroso, 1995, p. 83; Barroso in Weimer, 1992, p.44; see Appendix 5.1). This analysis demonstrated that the majority of these places, in England and in the State of Rio Grande do Sul, can be classified as small or medium sized (population ≤ 400,000 inhabitants). Therefore, this became the first main criterion in the selection of the case studies: only small or medium cities, towns, colonies or villages were considered as potential case studies. Taking this main criterion into account, the following three aspects were also
applied in the choice of the case studies:

a. They need to be cities because commercial activities are more intense in these places than in towns, colonies or villages.

b. They need to have a historic city centre with intense commercial activity.

c. They need to be different in terms of how commercial signage controls are approached in relation to the preservation of historic heritage, in order to explore fully the effects that distinct commercial signage controls can have on the appearance and character of historic city centres.

d. They need to include streets that have similar relationships between commercial signs and building form to other historic cities in each country, in order to explore the effects of commercial signage controls on typical historic and commercial streetscapes as opposed to individual streetscapes.

With regard to criterion “d”, three analyses were carried out to select the most representative case studies: (i) photographic analysis of commercial streets of historic city centres in England and Brazil, (ii) fieldtrips to historic cities in England and in the Brazilian Federal State of Rio Grande do Sul in May 2004 and June 2005 respectively, and (iii) analysis of legislation related to commercial signage controls in English and Brazilian historic city centres. While the impressions obtained from these explorative analyses cannot be taken to have more than superficial validity as a measure of recognition of the physical characteristics of historic city centres and the commercial signage controls applied in these places, they did allow the identification of common features across commercial streetscapes in different settings.

The results from these analyses show that in England there is one common scenario that represents the majority of historic city centres: commercial signage controls are currently applied in order to preserve the historic character of these places so that the streetscape is ordered and characterized by preserved historic buildings. In Brazil, two typical cases illustrate the majority of historic city centres: (i) commercial signage controls are designed and applied by the local authority in order to reinforce a manufactured image of the place, resulting in an ordered streetscape characterized by contemporary buildings, and (ii) commercial signage controls are not applied, resulting in a disordered streetscape characterized by historic buildings that are harmed by shopfronts and window displays.
These last two scenarios were used as criteria in the selection of two case studies in Brazil.

The following historic cities were selected as case studies because they conform to all of the criteria above: Oxford, in England, and Gramado and Pelotas in Brazil. In Oxford, commercial signage controls have been designed and applied to preserve the historic heritage of the city. In Gramado, commercial signage controls have been designed and applied to reinforce a manufactured image of the city promoted by the local authority. In Pelotas, commercial signage controls have not been applied. In this last case study, the researcher had already carried out a primary analysis of the effects of shopfronts and window displays on the historic core (Portella, 2003); this earlier study demonstrated that the disorder caused by commercial signs is recognized by residents as one of the main reasons for the deterioration of the historic heritage of this city. The study area in each of these case studies was delimited according to the following criteria: it needs to be (i) in the city centre, (ii) in the historic core, and (iii) in zones of intense commercial activity. The study areas of this research are presented in Appendix 5.2.

5.2.2 Criteria for selection of the commercial street facades

To analyse user perception and evaluation of commercial streetscapes with regard to the relationship between the aesthetic composition of commercial signs and buildings, probability sampling has been applied to select a set of street facades in each case study. Using the general sample criteria in section 5.2, two street facades in each case study were selected because this number was considered to be representative of the historic core of each city, and it met the time constraints of the research. The following stratification factors were adopted in their selection:

a. The street facade should reflect the general characteristics of the study area in terms of the relationship between commercial signs and buildings.
b. The street facade should be formed by (i) ordinary buildings and (ii) either lawfully recognised historic buildings or, in the Brazilian context, exemplars from the first period of the city which are not currently recognised by law.
c. The street facade should have historic buildings with commercial signs displayed on their facades.
d. The street facade should have 80% or more of the buildings related to commercial
activities. This is because this study analyses the relationship between commercial signs and buildings, and street facades where commercial activities are predominant and this relationship is conspicuous are preferred.

e. The street facade should not have empty plots (delimited or not by walls in the Brazilian context), buildings in the process of construction or buildings in the process of restoration or renovation. As suggested by Portella (2003), these variables may affect user perception and evaluation of commercial street facades.

f. The width of the street needs to be 3 metres or more in order to allow photographs to be taken (see section 5.3.3.3, item b). A previous study suggested that road widths of less than 3 metres makes it difficult to apply the method adopted in this research to produce the media representation of street facades (Portella, 2003).

g. The street facade should not have buildings with more than five floors. High buildings tend to be difficult to photograph, and usually, when photos can be taken, the level of parallax distortion is extremely high.

In addition, to analyse the influence of different physical characteristics of commercial signs and buildings on user perception and evaluation, the commercial street facades in the sample should vary in terms of (i) number of commercial signs and percentage of street facades covered by these media, (ii) square metres of commercial signs per linear street metre, (iii) number of buildings harmed by commercial signs according to the literature review (see Chapter Two, section 2.2), (iv) order and level of complexity in terms of the relationship between commercial signs and buildings, (v) visual character, and (vi) colour.

Using all these criteria, two commercial street facades were selected in each case study (see Table 5.3). The location of these streets in the study areas is shown in Appendix 5.3.

Table 5.3: The commercial street facades in the case studies of Oxford, Gramado and Pelotas (Source: fieldwork 2005).

<table>
<thead>
<tr>
<th>COMMERCIAL STREET FACADES IN THE SAMPLE</th>
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<tbody>
<tr>
<td><strong>Legend</strong>: Historic buildings are marked with a cross. Buildings harmed by commercial signs are marked with a circle.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Street 1: case study of Oxford – High Street.</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Street Facade Image]</td>
</tr>
</tbody>
</table>

General characteristics (see Appendix 5.7):

- **Number of commercial signs**: 46 shopfronts and window displays.
- **Percentage of street facade covered by these media**: 2.70% (34.60m²).
- **Number of buildings harmed by commercial signs**: none.
- **Square metres of commercial signs per linear street meter**: 0.31m²/m.  

CONTINUATION ON THE NEXT PAGE.
COMMERCIAL STREET FACADES IN THE SAMPLE

Legend: Historic buildings are marked with a cross. Buildings harmed by commercial signs are marked with a circle.

Street 1: case study of Oxford – High Street.
- **Order and level of complexity in terms of commercial signs and buildings**: ordered streetscape, and the second highest complex street in the sample.
- **Visual character**: this street has the highest number of historic buildings in the sample. Buildings are classified as Medieval/Tudor, Medieval/Tudor with apparent timber framing, Building stone, Georgian, and Georgian with visible roof and dormer windows and Art Deco (Appendix 2.2). The majority of buildings have three and four storeys; 50% of buildings have hip roof with dormer windows; and they are symmetric in terms of aesthetic composition of facades.
- **Colour**: in terms of building facades, this street is mainly characterized by brown to red hues in hot and light colours and harmony by contrast.

Street 2: case study of Oxford – Cornmarket street.

General characteristics (see Appendix 5.7):
- **Number of commercial signs**: 25 shopfronts and window displays.
- **Percentage of street facade covered by these media**: 5.62% (54.56m²).
- **Number of buildings harmed by commercial signs**: none.
- **Square metres of commercial signs per linear street meter**: 0.68m²/m.
- **Order and level of complexity in terms of commercial signage and buildings**: ordered streetscape, and the second lowest complex street in the sample.
- **Visual character**: this street has the third highest number of historic buildings in the sample. Buildings are classified as Building stone, Modern, First period modern, Georgian and Medieval/Tudor with apparent timber-framing (Appendix 2.2). The majority of buildings have three and four storeys; 50% of buildings have flat roof and another 50% have hip roof with gable. Because of the dimensions (width) of buildings with flat roofs, this type can be perceived as more prominent. The majority of buildings are symmetric in terms of aesthetic composition of facades.
- **Colour**: in terms of building facades, this street is mainly characterized by white, brown to red hues in hot and light colours and harmony by light-dark contrast.

Street 3: case study of Gramado – Borges de Medeiros Avenue.

General characteristics (see Appendix 5.7):
- **Number of commercial signs**: 39 shopfronts and window displays.
- **Percentage of street facade covered by these media**: 3.48% (30.54m²).
- **Number of buildings harmed by commercial signs**: 1 (4% of street facade = 36.51m²).
- **Square metres of commercial signs per linear street meter**: 0.25m²/m.
- **Order and level of complexity in terms of commercial signage and buildings**: ordered streetscape (apart the commercial signage of building 4), and the third highest complex street in the sample.
- **Visual character**: this street has one building from the first period of the city (building 3). There are buildings classified as Neo-Bavarian or Tourist architecture, and Contemporary (Appendix 2.2). The majority of buildings have one and two stories, while the buildings at the corners have three and five floors. The majority of buildings have hip roof with gable, and they are symmetric and partial symmetric in terms of aesthetic composition of facades.
- **Colour**: in terms of building facades, this street is mainly characterized by yellow to orange hues in hot and medium colours and harmony by light-dark contrast.

Street 4: case study of Gramado – Borges de Medeiros Avenue.

General characteristics (see Appendix 5.7):
- **Number of commercial signs**: 37 shopfronts and window displays.
- **Percentage of street facade covered by these media**: 6.28% (58.08m²).
- **Number of buildings harmed by commercial signs**: 2 (35% of street facade = 319.41m²).
- **Square metres of commercial signs per linear street meter**: 0.50m²/m.

CONTINUATION ON THE NEXT PAGE.
### COMMERCIAL STREET FACADES IN THE SAMPLE

Legend: Historic buildings are marked with a cross. Buildings harmed by commercial signs are marked with a circle.

**Street 4: case study of Gramado – Borges de Medeiros Avenue.**
- **Order and level of complexity in terms of commercial signage and buildings:** ordered streetscape (apart commercial signage displayed on buildings 5 and 9), and the highest complex street in the sample.
- **Visual character:** this street has two buildings from the first period of the city (buildings 1 and 10). Buildings are classified as Neo-Bavarian or Tourist architecture, and Contemporary (Appendix 2.2). 40% of buildings have three and four storeys. The majority of buildings have hip roof with, or not, gable, and they are symmetric and partial symmetric in terms of aesthetic composition of facades.
- **Colour:** in terms of building facades, this street is mainly characterized by white, brown to red hues in hot and light colours and harmony by light-dark contrast.

**Street 5: case study of Pelotas – General Osorio street.**

![Diagram of General Osorio street]

General characteristics (see Appendix 5.7):
- **Number of commercial signs:** 20 shopfronts and window displays.
- **Percentage of street facade covered by these media:** 11.31% (79.97m²).
- **Number of buildings harmed by commercial signs:** 4 (56% of street facade = 397.96m²).
- **Square metres of commercial signs per street meter:** 0.85m²/m.
- **Order and level of complexity in terms of commercial signage and buildings:** disordered streetscape, and the lowest complex street in the sample.
- **Visual character:** this street has the second highest number of historic buildings. Buildings are classified as Eclectic, Contemporary box, and Art nouveau (Appendix 2.2). The majority of buildings have one and two storeys, flat roof and they are symmetric and partial symmetric in terms of aesthetic composition of facades.
- **Colour:** in terms of building facades, this street is mainly characterized by white, yellow to orange hues in hot and medium colours, and brown to red hues in hot and light colours and harmony by contrast.

**Street 6: case study of Pelotas – Sete de Setembro Street.**

![Diagram of Sete de Setembro street]

General characteristics (see Appendix 5.7):
- **Number of commercial signs:** 40 shopfronts and window displays.
- **Percentage of street facade covered by these media:** 9.11% (93.34m²).
- **Number of buildings harmed by commercial signs:** 2 (46% of street facade = 470.18m²).
- **Square metres of commercial signs per linear street meter:** 0.85m²/m.
- **Order and level of complexity in terms of commercial signage and buildings:** disordered streetscape, and the third lowest complex street in the sample.
- **Visual character:** this street has the third highest number of historic buildings. Buildings are classified as Eclectic, Contemporary box, Art deco and Art nouveau (Appendix 2.2). The majority of buildings have two and three storeys, flat roof, and they are symmetric and partial symmetric in terms of aesthetic composition of facades.
- **Colour:** in terms of building facades, this street is mainly characterized by blue to purple hues in cold and light colours, green to yellow green hues in cold and medium colours, and brown to red hues in hot and light colours and monochromatic harmony.

### 5.2.3 Criteria for selection of the participants

The non-probability sampling principle has been adopted to select participants. The criteria adopted for this selection are presented below with regard to each method of data collection (see section 5.3.3).

1. **Interviews:** a purposive sample was selected. The interviews were designed to investigate how the operation of commercial signage controls is carried out in each case.
study. The selection of interviewees was made by the researcher on the basis of those who are most representative of the issues to be investigated (see section 5.3.3.4), and who are likely to have more expertise in these matters. The head of the City Council department responsible for the design and application of commercial signage controls in each case study was contacted by the researcher. An invitation letter was sent to them by e-mail and by post (addresses obtained from City Council websites). This letter explained the purpose of the survey inviting them to participate in an interview (Appendix 5.4). The researcher received replies from the City Council Officers in all case studies; appointments were arranged and the interviews were carried out. As a consequence of this kind of selection, the sample size in each case study varied: two officers in Oxford (the principal planning officer and the tourist officer), two officers in Gramado (the principal planning officer and the environmental officer assistant), and four officers in Pelotas (the principal planning officer, the City Council lawyer, and two officers of the planning department).

2. Questionnaires: an opportunity sample was selected. A volunteer sample, comprised of people who are willing to participate in the survey, is an opportunity sample, and the characteristics and behaviour of volunteers may be quite different from those of non-volunteers. However, as the nature of this research assumes that people can not be forced to be part of this survey, users decide whether they would like to answer the questionnaire or not. Respondents volunteered to answer two types of questionnaire: type A, designed to be answered on-site, and type B, designed to be answered off-site. The only pre-requisites to be part of this sample were: (i) to be resident in the case study location surveyed, (ii) to be 18 years old or more, and (iii) to be a volunteer for just one type of questionnaire (type A or B). This last criterion was necessary to avoid user perception and evaluation of commercial street facades observed on-site influencing user perception and evaluation of the same street facades observed through colour images.

The following techniques were used to search for volunteers: posters were displayed in universities, cafes, public places and City Council halls, and given to pedestrians in Oxford, Gramado, and Pelotas as pamphlets. These media explained the purposes of both questionnaires (types A and B), and invited people to participate (see Appendix 5.5). Invitation letters were also sent by post to professionals and lay people selected randomly from phone lists. In addition, a snowball approach was adopted: volunteers were allowed to invite friends to participate. As a result of these techniques, several people contacted the
researcher by e-mail or phone (contact information was included on posters, invitation letters and cover pages of questionnaires, which most volunteers kept) and asked to take part in the study. Articles in local newspapers of the Brazilian case studies were published in order to encourage people to become involved in the survey (see Appendix 5.6); the other techniques mentioned above (such as posters and invitation letters) were not effective in the Brazilian case studies of Gramado and Pelotas.

In both questionnaires (type A and B), the sample size was not pre-fixed. In relation to questionnaires answered on-site (type A), a small sample was considered enough due to the purpose of this method (see section 5.3.3.3) and time available; 11 volunteers in each case study contacted the researcher. In relation to questionnaire type B, a minimum number of individuals was defined in order to guarantee the validity of data analysis (see section 5.3.4.3); at least thirty lay people and thirty professionals (architects, planners, urban designers or civil engineers) must answer this questionnaire. As a result of a self-selection process, the sample sizes in the three case studies were different: 114 respondents in Oxford (63 professionals and 51 lay people), 120 respondents in Gramado (41 professionals and 79 lay people), and 127 respondents in Pelotas (51 professionals and 76 lay people).

3. Focus group: a purposive and opportunity sample was selected because the main objective of the focus group discussion was to explore what a specific set of people (City Council officers, professionals and lay people) think and feel about the impacts of commercial signs in one of the historic city centres analysed. The focus group was conducted in the case study where the commercial street facades chosen as the worst streets in terms of appearance by the majority of respondents to questionnaire type B are located. The purposive sampling criterion was applied to select City Council officers: the same individuals who participated in the interview in the case study analysed were invited to join the focus group. The owners of shops located in the commercial street facades chosen as the worst streets in terms of appearance were also invited; however, they did not show any interest in participating (this issue is discussed later, see section 5.4).

At the same time, the opportunity sampling criterion was adopted to select professionals and lay people in the case study surveyed. The techniques applied to get volunteers were: (i) posters displayed in universities, cafes, public places and in the City Council hall, and
given to pedestrians as pamphlets, and (ii) an article published in a local newspaper inviting people to play a part in the discussion (see Appendix 5.6). The poster and the article advertised the objectives of the focus group underlying the following question as a starting point to the discussion: “What do you think about the appearance of the commercial signs displayed in the historic and commercial city centre?” As a result of this process, the sample was formed by all City Council officers invited by the researcher and eighteen more volunteers.

Table 5.4 sums up the total numbers of individuals that participated in this research.

Table 5.4: Total sample of participants in the fieldwork of this research (Source: fieldwork 2005).

<table>
<thead>
<tr>
<th>METHOD</th>
<th>OXFORD CASE STUDY</th>
<th>GRAMADO CASE STUDY</th>
<th>PELOTAS CASE STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Interviews</td>
<td>Questionnaires</td>
<td>Focus group</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>On-site</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off-site</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>11</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>114</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>11</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>120</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>126</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>131</td>
<td></td>
</tr>
<tr>
<td>Sub-Total</td>
<td></td>
<td></td>
<td>22</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>417 volunteers</td>
</tr>
</tbody>
</table>

5.3.1 Techniques applied to select participants in different countries

In England, two techniques proved to be very successful to persuade people to answer the questionnaires: (i) display of posters in universities, cafes, public spaces, and so on, explaining the purpose of the survey and inviting people to participate, and (ii) invitation letters sent by e-mail and post. After three weeks, in Oxford, 114 volunteers contacted the researcher to answer the questionnaires. On the other hand, in Brazil, both strategies were ineffective and, during a two week period, the researcher did not receive any replies from potential respondents. In order to persuade people from Gramado and Pelotas to take part in the survey, articles were published in local newspapers, which introduced the study to the community and invited people to answer the questionnaires. After that, in a two week period, the researcher received 120 replies from volunteers in Gramado, and 127 replies from volunteers in Pelotas.

5.3 CHOICE OF RESEARCH METHODS

In order to provide empirical evidence to answer the research questions, the research methods were chosen to fulfil the research objectives (see Table 5.1), and test the propositions and working hypotheses (see Table 5.2).
5.3.1 The role of quantitative and qualitative approaches

To understand the reasons that drive the research design and methodology of this investigation, it is necessary to highlight the general characteristics of two approaches of research methods: quantitative and qualitative.

According to Rosnow and Rosenthal (2005, p.7), the scientific method is a strategy that embraces different approaches, which involve methods and techniques of data collection and analysis that can be quantitative or qualitative. In general, a quantitative approach concerns research methods that deal with numbers and anything measurable; it searches to generate quantifiable data on a relatively large number of people who are representative of a wider population in order to test hypotheses. Research mainly based on the quantitative approach is often conceptualized as having a logical structure in which theories determine the problems which researchers address in the form of hypotheses. On the other hand, a qualitative approach involves methods that investigate user perceptions, evaluations, behaviors and experiences from individuals’ points of view. This approach attempts to study the social world in order to describe and analyse culture and behaviour of humans and their groups taking the opinion of those being studied. Qualitative methods use logical inferences to obtain and decipher gathered data dealing with the human element (Bryman, 1988, pp.11-42, 45-50).

The choice of quantitative or qualitative methods depends on the aims of each study. The purely quantitative position argues that only by using quantitative methods can social sciences become truly scientific. Accurate observation and data analysis are fundamentals to develop “laws” that account for all relationships between variables. On the other hand, the purely qualitative position argues that quantitative methods tend to obscure the reality of the social phenomena under study because they underestimate or neglect the non-measurable factors, which may be the most important (Coolican, 2004, pp.45-49, 220-226). Although radical views like these still exist in the scientific community, the use of both approaches to complement each other has become popular (Lofland & Lofland, 1995; Bogdan & Taylor, 1975). For example, Hughes and et al (1997) carried out focus group discussions (qualitative method) and questionnaires (quantitative method) to analyse one issue, and the overall tenor of the results of the combined use of these two methods was mutually reinforcing.
Chapter Five: Research design and methodology.

The methodology adopted in this thesis combines quantitative and qualitative methods of data collection and analysis (Dandekar, 2005; Bryman, 2004; Neuman, 1997). The methodological design is built on the basis that the choices for the research methods are determined by the research questions, aim, and objectives (Smith, Harre & Langenhove, 1995, p.2). In this investigation, quantitative methods have been used with a global qualitative frame, and qualitative methods have been adopted to understand the meanings of the numbers produced by the quantitative methods. The idea is that the quantitative methods can give precise and testable expression to the qualitative ideas (Sommer & Sommer, 2002, pp.1-12).

5.3.2 Multiple method survey design

This investigation is based on a multiple method survey design (Rosnow & Rosenthal, 2005, p.13). This approach was chosen because there is no ideal research method and technique in the behavioural sciences. The intention of this thesis is not to find the single best method to answer the research questions, but to identify an adequate combination of methods and techniques of gathering the data. Studies that apply just a single type of research method leave untested rival hypotheses that call into question the validity of the study findings; each method, considered alone, is imperfect in some respect. Consequently, a diversity of imperfection allows the researcher to combine methods not only to gain their individual strengths, but also to compensate for their particular faults and limitations (Brewer & Hunter, 1989, pp.13-17). For instance, a questionnaire, which can be given to many people quickly, can be supplemented by interviews and a focus group with few people to probe more deeply into significant issues (Silverman, 2005, pp.121-122; Sommer & Sommer, 2002, p.6).

According to Brewer and Hunter (1989, p.17), the fundamental strategy of a multiple method survey design is: “to attack a research problem with an arsenal of methods that have no overlapping weaknesses in addition to their complementary strengths”. The diversity of methods adopted in this thesis provides opportunities for cross-validating and cross-fertilizing of the research procedures and findings. Each new set of data increases the confidence that the research results reflect reality rather than methodological error (Sommer & Sommer, 2002, p.7; Brewer & Hunter, 1989, pp.13-17).
5.3.3 Methods of data collection

Five methods of data collection were selected to gather the necessary information to answer the research questions: (i) documentation review and archival record, (ii) systematic observation of physical characteristics of commercial street facades on-site and through photographs, (iii) questionnaires, (iv) interviews, and (v) a focus group. The reasons for the choice for these sources of evidences, their design, and application are discussed in the following sections of this chapter. Apart from these methods, the literature review (see Chapters Two, Three and Four) was taken into account to support the design of the research methods and the interpretation of the data, satisfying research objectives A and B (see Table 5.1). The review of current commercial signage approaches adopted in different urban contexts (see Chapter Four), for example, allowed a general understanding of the main issues involved in the operation of commercial signage controls in English and Brazilian historic city centres.

5.3.3.1 Documentation review and archival records

According to Yin (1994, pp.81-82), the most important use of documents and archival records is to corroborate and augment evidence from other sources. In this research, legislation and guidelines related to commercial signage controls applied in each case study were collected and analysed to satisfy research objective B (see Table 5.1). This analysis assists in understanding how local authorities approach the control of shopfronts and window displays in the historic city centres of Oxford, Gramado, and Pelotas. The following issues were considered in this analysis: (i) presence of commercial signage controls and the form they take, (ii) aims of these controls, (iii) groups responsible for the development of commercial signage controls, (iv) efficiency of these controls to manage commercial signs, (v) professionals consulted during the development of commercial signage controls, (vi) public participation in the development of these controls, (vii) enforcement of these controls by the local authority, (viii) influence of these controls on the appearance of the city centre, (ix) installation of new commercial signs in the city centre, (x) relationship between the aims of commercial signage controls and the image promoted of the city by the local authority, and (xi) development of new commercial signage controls.

Archival records were analysed in conjunction with the documentation review in order to
contextualize the case studies. Different types of evidence were collected: (i) maps and aero-photographs of England and Brazil, Oxfordshire County and Rio Grande do Sul State, and of the cities of Oxford, Gramado and Pelotas, (ii) geographic localization, total population, territorial extension, demographic density, population, immigrants, and general economic activities of Oxfordshire County and Rio Grande do Sul State and the cities of Oxford, Gramado and Pelotas, and (iii) general information about the local character, historic foundation, and physical characteristics of the commercial streetscapes in these cities. In addition, old photographs and postcards obtained from newspapers and senior residents, showing commercial streets in each case study, and research-generated photographs (August 2005) of the same streets were studied. These media were compared in order to identify how commercial streets appeared in the past and in the present in terms of the relationship between commercial signs and building form (see Table 5.5).

Table 5.5: Materials obtained in the stage of documentation review and archival record of the research (Source: fieldwork 2005).

<table>
<thead>
<tr>
<th>DATA</th>
<th>FORMAT</th>
<th>SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aero photographs of the historic city centres of Oxford, Gramado and Pelotas.</td>
<td>Print format.</td>
<td>Old newspapers and senior residents.</td>
</tr>
<tr>
<td>Old photographs of commercial streets in the historic city centres of Oxford, Gramado and Pelotas.</td>
<td>Print format.</td>
<td>Old newspapers and senior residents.</td>
</tr>
</tbody>
</table>

5.3.3.2 Systematic observations of physical characteristics of commercial streets

By making field visits to the study areas in each case study, systematic observation of commercial streetscapes were carried out in the early stages of this research. The purpose of these observations was to identify in each study area: (i) the level of order among commercial signs and buildings, (ii) the relationship between the aesthetic composition of these media and building facades, and (iii) the general visual character of the commercial
streets (see Chapter Six, Table 6.4). These observations helped the researcher to understand the phenomenon being studied in each urban context (England and Brazil), and were related to research objective C (see Table 5.1).

A. Detailed survey of the physical characteristics of the commercial street facades in the sample

Having recognized the general characteristics of the commercial streetscapes in each case study, the next stage of this research identified the physical characteristics of the commercial street facades in the sample (see Table 5.3). Taking into account research objective C (Table 5.1), this analysis focused on two issues: (i) the identification of which street facades are either more or less ordered in terms of the relationship between commercial signs and buildings, and (ii) the calculation of the level of complexity of these streets in terms of the variation of commercial signs and buildings. With regard to the first issue, the following factors were analysed: (i) number of buildings, (ii) number of commercial signs (shopfronts and window displays), (iii) percentage of street facade covered by these media, (iv) number of buildings harmed by commercial signs according to the literature review (see Chapter Two, section 2.2) and their level of damage, (v) percentage of street facade related to ordinary buildings harmed by commercial signs, (vi) percentage of historic buildings harmed by commercial signs and their level of damage, and (vii) square metres of commercial signs per linear street metre (see Appendix 5.7).

At this stage, the following criterion was applied to identify the street facades which are either more or less ordered: the percentage of street facade related to buildings harmed by commercial signs defines which streets are either more or less ordered (see Chapter Two, section 2.2). For example, street 3, with 4% of its street facade related to buildings harmed by commercial signs, is classified as more ordered than street 5, with 56% of its street facade related to buildings harmed by commercial signs. According to this criterion, the sample of street facades is classified in the following order: street 1 (most ordered), 2, 3, 4, 6, and 5 (least ordered tending to disorder) (see Table 5.6). This initial classification will be compared with the user perception and evaluation of these streets in the reporting of the results (see Chapters Seven and Eight). As has already been discussed in Chapter Two (see section 2.4.2.1), this study assumes that order is a pre-requisite to complexity. Consequently, the term “complexity” is not applied to streets 5 and 6 because from this initial classification they tend to have disorder. These streets were identified as having just
higher or lower variation of commercial signs and buildings.

Table 5.6: Classification of the street facades in the sample according to the criterion adopted in this research to define level of order (Source: fieldwork 2005).

<table>
<thead>
<tr>
<th>Streets facades</th>
<th>Percentage of street facade related to buildings harmed by commercial signs *</th>
<th>Level of order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street 1</td>
<td>0</td>
<td>Most ordered</td>
</tr>
<tr>
<td>Street 2</td>
<td>0</td>
<td>Tending to disorder</td>
</tr>
<tr>
<td>Street 3</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Street 4</td>
<td>35%</td>
<td></td>
</tr>
<tr>
<td>Street 6</td>
<td>46%</td>
<td></td>
</tr>
<tr>
<td>Street 5</td>
<td>56%</td>
<td></td>
</tr>
</tbody>
</table>

* See Appendix 5.7.

The method adopted in this thesis to calculate the level of complexity in commercial street facades was developed by the researcher in her Masters dissertation (Portella, 2003); it was called “the complexity method”. This study analysed the effects of high and low complexity in commercial streetscapes on user perception and evaluation of these places. The investigation demonstrated that the level of commercial signage and building variation resulting from the application of this method corresponded with the level of commercial signage and building variation perceived by users on-site (Portella, 2003, pp.114-200). This method is used to determine the level of complexity of commercial street facades by analysing the variation of a range of physical features of commercial signs and buildings (see Table 5.7); these features were discussed in Chapter Two (see section 2.4.2.1, items A and B). The application of this method consists of numbering the street facades in the sample according to the level of variation of physical characteristics of commercial signs and buildings, where the higher the variation, the lower the number allocated to each street. For example, in this Ph.D. research, when analysing the variation in the size of commercial signs, the street facade with the highest variation was numbered one and the street facade with the lowest variation was numbered six (see Table 5.7.4 in Appendix 5.7). After all of the physical features had been analysed, the numbers allocated to each street for every single feature were summed to provide a total figure indicating the final level of complexity of each street. The street with the lowest final sum was classified as having the highest complexity, while the street with the highest final sum was classified as having the lowest complexity. The application of this method in this Ph.D. research is described in Appendix 5.7. Table 5.8 below shows the final level of complexity of each street facade in the sample, as a result of this method.
Table 5.7: Physical features of commercial signs and buildings analysed in “the complexity method” applied in this research (Source: Portella, 2003).

<table>
<thead>
<tr>
<th>Physical features of commercial signs</th>
<th>Silhouettes</th>
<th>Facade details</th>
<th>Articulation</th>
<th>Visual character</th>
<th>Colour variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size; shape; number of chromatic groups; chromatic contrast between letters and sign background; proportion; arrangement on facades; type of sign; location on facade; presence of images; letter style; predominant letter style; size of letters in relation to sign background; size of images in relation to sign background; letter size (height).</td>
<td>Symmetry of shape perimeter (street as a whole); number of vertexes; number of turns in shape perimeter (street as a whole); symmetry of building perimeter; height of buildings; width of buildings; type of coronation.</td>
<td>Size of façades; fenestration; percentage of street façade fenestration; shape of windows and doors; overall proportion of windows and doors; number of building with broken mass; percentage of street façade cover by buildings with broken mass; proportion of buildings; presence of horizontal and vertical partition on building façades; presence of vertical features on building façades; thickness of vertical features on building façades; localization of buildings on plots; presence of vegetation.</td>
<td>Architectural styles; number of storeys; roof line; building symmetry.</td>
<td>Colour of building façades; colour of body façades.</td>
<td></td>
</tr>
</tbody>
</table>

Table 5.8: Final level of complexity of the street facades in the sample as a result of the application of “the complexity method” (Source: fieldwork 2005).

<table>
<thead>
<tr>
<th>Commercial street facades</th>
<th>Variation of physical features related to:</th>
<th>Final level of complexity (sum of the numeric classifications of each street facade).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Commercial signs</td>
<td>Silhouettes</td>
</tr>
<tr>
<td>Street 4</td>
<td>38</td>
<td>10</td>
</tr>
<tr>
<td>Street 1</td>
<td>43</td>
<td>22</td>
</tr>
<tr>
<td>Street 3</td>
<td>44</td>
<td>23</td>
</tr>
<tr>
<td>Street 6</td>
<td>39</td>
<td>25</td>
</tr>
<tr>
<td>Street 2</td>
<td>48</td>
<td>28</td>
</tr>
<tr>
<td>Street 5</td>
<td>49</td>
<td>29</td>
</tr>
</tbody>
</table>

The application of this method in this Ph.D. research is described in Appendix 5.7.
The term complexity is not applied to streets 5 and 6 because they are tending to disorder (see Table 5.6). These streets are classified as having higher or lower variation.

5.3.3.3 Questionnaires

Questionnaires are widely known in the Environment Behavioural research field as an effective method in the systematic gathering of information about people’s perceptions, attitudes, values, and behaviour (Coolican, 2004; Sommer and Sommer, 2002). This method can be effectively administered to large samples, and it is relatively economical and ensures respondent anonymity (Rosnow & Rosenthal, 2005, p.130; Goodrich, 1980, pp.239-241). In this research, two types of questionnaires were carried out to satisfy research objectives D, E, F, G and H (see Table 5.1); the purpose of each questionnaire is described in Table 5.9. Both questionnaires were designed using standardised formats to discover whether there are regularities between the perception and evaluation of residents from the different case studies by comparing their answers to the same set of questions.
Table 5.9: Purpose of the questionnaires adopted in this research (Source: author).

<table>
<thead>
<tr>
<th>TYPE OF QUESTIONNAIRE</th>
<th>PURPOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE A</td>
<td>• Analyse user perception and evaluation of the appearance of commercial street facades on-site. It was applied to confirm whether the media representation chosen in this research to represent commercial streets serves as an adequate substitute to analyse user perception and evaluation of streetscapes on-site. User perception and evaluation of commercial street facades observed on-site (sample A) and user perception and evaluation of the same commercial street facades observed through colour photomontages (sample B) were compared.</td>
</tr>
<tr>
<td>TYPE B</td>
<td>• Analyse user perception and evaluation of (i) necessity of commercial signage controls, (ii) public participation in the development of these controls, (iii) physical aspects of streetscape that need to be taken into account in these controls, (iv) appearance of historic city centres, (v) city centre functions, (vi) city centre images, (vii) wayfinding through commercial signage, (viii) appearance of commercial street facades, (ix) physical characteristics of these streets that influence user perception and evaluation, (x) beauty, interest, order, colour and complexity of commercial street facades, (xi) variation of commercial signs and buildings, (xii) number of commercial signs and percentage of building facade cover by these media, and (xiii) relationship between the aesthetic composition of commercial signs and building facades.</td>
</tr>
</tbody>
</table>

Questionnaires were designed to be as simple, precise, specific, and short as possible, to avoid respondents getting bored, confused or tired. Questionnaire type A comprised 22 questions, four open-ended and 18 multiple-choice (see Appendix 5.8), and questionnaire type B comprised 35 questions, four open-ended and 31 multiple-choice (see Appendix 5.9). As suggested by Sommer and Sommer (2002, p.137), a combination of open-ended and multiple-choice questions is better than relying on a single sort. The advantages of open-ended questions are: they deliver richer information; respondents are not frustrated by the imposed constraint of a fixed-choice answer; there is less chance of ambiguity; and the questionnaire becomes more realistic in terms of what users perceive as most positive and negative in the built environment. Open-ended questions were included in the questionnaires used in this thesis because the researcher (i) did not know all the possible answers to the questions, (ii) wanted to avoid suggesting answers to the respondents, and (iii) wanted answers in the respondents’ own words. With regard to this last reason, the purpose was to identify any positive or negative physical characteristics of commercial signs and buildings that stand out in a person’s mind when commercial streetscapes are first observed.

Multiple-choice questions were included in the questionnaires for the following reasons: (i) there were a large number of respondents in each case study (33 respondents for questionnaire type A, and at least 90 respondents for questionnaire type B), (ii) the answers were designed to be scored by statistical methods, and (iii) the responses of different user groups (users from different case studies, lay people, and professionals) needed to be compared. This controlled approach provides respondents with specific options for answers, such as “yes” or “no”, or multiple-choice alternatives that make numerical comparison relatively easy. Two different levels of measurement were applied: nominal
and ordinal. The first was adopted to inform categorical information, while the second was chosen to provide information about size and direction of people’s answers.

To analyse intensity, direction and quality of the variables expressing user perception and evaluation, choices of answers were arranged in a ranking order representing different degrees or magnitude. Ordinal precoded questions were based on the Likert Attitude scale procedure, in which statements were presented for respondents to indicate the intensity of their agreement or disagreement (from “strongly agree” to “strongly disagree”) on a five point scale. The level of importance attributed by users to some variables (from “very important” to “not important”), and the level of sympathy of users with the appearance of commercial street facades in the sample (from “I really like” to “I really do not like”) were also analysed using a five point scale (Fowler, 1995, pp.46-61).

Ranking scales were also adopted to identify which commercial street facades users like the most and like the least in terms of appearance. This scale was based on asking people to look at the commercial street facades in the sample, and report which ones they like the most in a decreasing order of preference (Sommer and Sommer, 2004; Bock & Jones, 1968; Guilford, 1954). In addition, two affective scales (beautiful-ugly, boring-interesting), and six perceptual/cognitive scales (ordered-disordered, colourful-colourless, complex-simple, many-few, high-low, and much-small) were taken into account in this investigation to analyse user perception and evaluation of historic city centres and commercial street facades (Stamps, 2000). A middle-response category, such as “undecided”, “moderate”, “neither beautiful nor ugly”, and “I do not know”, was also provided as an optional answer. This last category means a balance between positive and negative feelings on the issue under investigation, or a lack of interest or knowledge of the topic. This was adopted to avoid forcing a false appearance of opinion one way or the other, and to respect the respondent’s right to be neutral on the issues. As this study analyses and compares the responses of professionals, lay users, and residents in Oxford, Gramado and Pelotas (see Chapter Two, section 2.3.4), data related to users’ occupations and city of residence were recorded. Issues such as nationality, age, and gender were not taken into account in the analysis, but this information was recorded to draw a profile of the total sample (see Appendix 5.10). Table 5.10 summarizes the levels of measurement adopted in each questionnaire and outlines the issues addressed in each.
Table 5.10: The levels of measurement adopted in each questionnaire and the issues addressed in each (Source: author).

<table>
<thead>
<tr>
<th>Level of measurement</th>
<th>ISSUES INVESTIGATED IN THIS RESEARCH</th>
<th>Questionnaire type A</th>
<th>Questionnaire type B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NOMINAL MEASURE</strong></td>
<td>Characteristics assigned to categories. No underlying continuous dimension.</td>
<td>Descriptive data*: gender; occupation; nationality; age.</td>
<td>(q1) necessity of commercial signage controls; (q2) people’s wish to be consulted whilst commercial signage controls are developed; (q8) role of commercial signs on the reinforcement of historic or commercial appearance of city centres; (q10) commercial signs as positive or negative elements of city centre images; (q11) commercial signage as an element to help people navigate through city centres; (q14, q25) commercial street facades that users most like and least like; (q19, q30) presence of buildings harmed by commercial signage.</td>
</tr>
<tr>
<td><strong>ORDINAL MEASURE</strong></td>
<td>Characteristics ordered along an underlying dimension, but no information is provided about the distance between points.</td>
<td>(q1, q12) appearance of the commercial street facades in the sample on-site; (q1a, q12a) aspects of streetscape that influence on the commercial street facade appearance; (q2, q13) user perception and evaluation of beauty, order, colour and complexity, and user interest with the commercial street facade appearance; (q5; q16) number of commercial signs; (q6a, q17a) number of buildings harmed by commercial signs; (q7, q18) commercial signage and building variation; (q8, q19) coverage of buildings by commercial signage; (q9, q20) influence of commercial signage on historic building appearance.</td>
<td>(q3) important aspects of commercial signs and buildings on commercial signage control; (q4) appearance of city centres; (q4a) aspects that influence city centre appearance; (q5) city centre functions; (q6) level of order among commercial signage; (q7) how users describe city centres (historic, commercial, tourist, or cosmopolitan centre); (q9) aspects that make city centres attractive places; (q12) rank of commercial street facades from the one users most like to the one they least like; (q13) appearance of commercial street facades; (q14a, q25a) aspects of streetscape that influence on appearance of commercial street facades; (q15, q26) user perception and evaluation of beauty, order, colour and complexity, and user interest with the commercial street facade appearance; (q18, q29) number of commercial signs; (q19, q30) number of buildings harmed by commercial signs; (q20, q31) commercial signage and building variation; (q21, q32) coverage of buildings by commercial signs; (q22, q33) influence of commercial signage on the appearance of historic buildings.</td>
</tr>
</tbody>
</table>

\*: These data are asked only to identify general characteristics of the sample, and classify users as lay people and professional.

Both types of questionnaires were self-administered. However, because the sample of users who answered questionnaire type A was small (11 respondents in each case study), the researcher was able to accompany each participant on-site, answering queries and waiting for the questionnaire to be returned. In this case, appointments were arranged between the researcher and the volunteers, and they went on-site together. Generally, the respondents took no more than 30 minutes to complete this questionnaire, and the administration of this method took no more than four days to complete in each case study.

Questionnaire type B was delivered in person, and the researcher explained to the respondent what was expected to be done and made an appointment to collect it. Usually
questionnaires were collected on the following day. Clear instructions were presented in an introductory statement to avoid possible misinterpretation, as the respondents completed the questionnaire on their own. The researcher also mentioned that participants could contact her at any time if they had any doubts about how to answer or interpret the questions. Direct contact between the researcher and the participants was an important factor in committing them to complete the whole questionnaire. In addition, the sample criteria adopted to select users was a contributing factor to engage people: interest in participating in the survey came from the respondents who contacted the researcher. Therefore, this was interpreted as a sign that they were committed to completing the task.

In terms of the format of both questionnaires, as suggested by Sommer and Sommer (2002, p.146), appeal to the eye was an important issue. The questionnaires were printed in colour format: photographs of the case studies, coloured borders and backgrounds were applied in order to increase people’s interest in answering the survey. A cover letter introducing the researcher, the purpose of the survey, and general information, such as how long the questionnaire takes to be completed, confidentiality of users responses and so on, was printed in colour on official Oxford Brookes University paper. This gave credibility to the research in the eyes of the respondents. In addition, the media representation of the commercial street facades in the sample attached to questionnaire type B was printed on A1 (84.10cm x 59.40cm) gloss (photo) paper, using the best quality of resolution. Consequently, the visual appeal of the questionnaires was evaluated positively by participants from England and Brazil.

A. Pilot study

A pilot study was carried out to determine whether respondents understood the questions and were able to answer them. It aimed to reduce ambiguity, highlight pitfalls, and possible misinterpretation of the questions. As the questions presented in questionnaire type A were also part of questionnaire type B, a pilot study of questionnaire type B only was done. Two pilot studies were carried out: one in English and one in Brazilian Portuguese. The first was conducted with 13 volunteers from Oxford Brookes University, while the second was applied to a group of eight Brazilians who live in Oxford. Due to the financial resources available, the researcher went to Brazil only when all methods had been completely organized and finalized. Therefore, the selection of Brazilian Portuguese speakers in
England was the only option to test the questionnaire in this language. The choice of two pilot studies was based on the fact that question wording is culturally sensitive (Sommer & Sommer, 2004, pp.141-142): some expressions that mean one thing in English may mean something different in Portuguese. The purpose of both pilot studies was to identify whether the questions had the same meaning for English and Brazilian Portuguese speakers. The pilot studies were important since questionnaires were standardized for England and Brazil in order to allow comparison between users from these two different urban contexts in terms of their perception and evaluation of the built environment.

The limited time available determined the sample criterion adopted to select participants for the pilot studies: the snowball technique; respondents first contacted by the researcher recruited the other participants from their acquaintances. This sample criterion proved to be effective for the pilot study, and there were no problems of misinterpretation of the questions when the final questionnaires (types A and B) were carried out in England and Brazil. Respondents from both pilot studies (in English and in Portuguese) took about 45 minutes to complete the questionnaire, which was considered acceptable. The few problems identified during the pilot studies are highlighted in Table 5.11 with the solutions adopted.

Table 5.11: The problems identified in the pilot study, and the solution adopted in the final questionnaire (Source: fieldwork 2005).

<table>
<thead>
<tr>
<th>PROBLEMS IDENTIFIED IN THE PILOT STUDY</th>
<th>SOLUTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of font needs to be bigger. In the pilot study it was size 8.</td>
<td>Size of fonts was increased to 11.</td>
</tr>
<tr>
<td>Some multiple-choice questions need to present “I don’t know” as a choice of answer. Originally the questions q1, q2, q10 did not have this option of answer.</td>
<td>“I don’t know” was included as a choice of answer to questions q1, q2, q10.</td>
</tr>
<tr>
<td>The question q8 needs to present the following choice of answer: “the historic AND commercial appearance equally”. Originally, it presented only two choices of answers: “more the historic appearance”, and “more the commercial appearance”.</td>
<td>“The historic AND commercial appearance equally” was included as a choice of answer to question q8.</td>
</tr>
<tr>
<td>The media representation of the commercial street facades was originally printed in an A3 poster (42 x 29.70cm). Many respondents suggested that was not possible to analyse the relationship between commercial signs and building facade because the colour photomontages of each street were too small.</td>
<td>The media representation of the commercial street facades was printed in an A1 poster (84.10 x 59.40cm).</td>
</tr>
</tbody>
</table>

B. Media representation of the commercial street facades in the sample

Ideally, to ensure maximum realism, users from England and Brazil should observe the sample of commercial street facades on-site. However, because of the impracticality of bringing users from England to Brazil and vice versa, the experiment was based on colour
photomontages attached to questionnaire type B (Appendix 5.11 shows the poster attached
to the questionnaire).

Many researchers have been engaged in efforts to discover which, if any, media of
representation serve as adequate substitutes for actual streetscapes. Studies have suggested
ideas and sources (Sheppard, 1982; Zube, Sell & Taylor, 1982; Arthur & Boster, 1977),
and report specific findings related to correlations of preference judgments between
various simulation media (Nasar, 1994; Stamps, 1993, 1990b; Cooper, 1989; Rosenthal &
Rubin, 1986; Light & Pillemer, 1984; Evans and Wood, 1981). These investigations
suggest that user perception and evaluation of streetscapes observed through slides and
coloured photographs are very similar to user perception and evaluation of the same
streetscapes observed on-site. Colour is always identified as a relevant requirement for a
valid media representation: results obtained from colour photos have more validity than
those obtained from black and white photos. Other studies show that user perception and
evaluation of streetscapes observed through computer simulations, such as colour
photomontages, correspond with user perception and evaluation of colour photographs

One common photomontage technique applied in previous studies of user perception and
evaluation of streetscapes comprises an image of a block elevation. It consists of a set of
one point perspectives of individual buildings juxtaposed into a single image. However, a
criticism of using this technique is that such views are almost impossible to obtain in
reality because of the limitations of perspective and distance from which the entire block
facade can be seen. A study conducted by Stamp and Miller (1993) analysed whether
preferences obtained from this kind of photomontage might be related to preferences
obtained from photomontages based on two-point perspectives, which can be obtained in
real environments. The results from their study suggest that: (i) both these media
representations are valid for the purpose of identifying user preferences, and (ii) users are
more interested in the physical characteristics of the streetscapes than in the realism of the
photomontages.

The media representations adopted in this research were based on the method developed by
Stamps (1993). Each commercial street facade was represented by two kinds of
photomontage (type A and type B, see Figure 5.1): for the first one, the entire row of
buildings was photographed from one station point generating a two-point perceptive image, while for the second one, each building was photographed separately and the photographs pasted together to form an elevation montage. Another study by Stamp (1997) suggests that users tend to dislike photomontages of streetscapes with cars, poles, and wires, while photomontages of streets with pedestrians and trees tend to be preferred. As this research focuses on user perception and evaluation of the relationship between commercial signs and building form, other variables which may interfere with users’ answers, such as trees, cars, poles, wires, pedestrians, scaffolding, and street furniture, were deleted from the photomontage. These deletions were done to avoid misinterpretation of the findings. In addition, parallax distortion was corrected in both procedures.

![Photomontage A](image1)

![Photomontage B](image2)

Figure 5.1: Procedures showing how the photographs (views) were taken to produce the colour photomontages used in this research (Source: author).

To carry out the photomontages, the commercial street facades were photographed with a 50 mm lens camera. Photographs captured by this lens are the most realistic images that a photographic camera can produce in comparison to images obtained by human eyes (Objectives lenses, 1998, p.24; Thiel, 1997, p.204). Photographs were taken on Sundays at seven o’clock in the morning to avoid a high presence of people and vehicles. One morning at each case study was enough to take all of the required photographs. Coreal Photo-Paint 12 and Coreal Draw 12 were the software packages used to create the photomontages (see Figures 5.2 and 5.3).
Chapter Five: Research design and methodology.

5.3.3.4 Interviews

Interviews are recognized as a useful and effective data-gathering method for this research because: (i) they can provide an opportunity to establish rapport with City Council officers from each case study and stimulate the trust and cooperation needed between the researcher and interviewees to obtain the relevant information, (ii) they can provide an opportunity to pose questions that cannot be raised using the other methods adopted in this research, and (iii) they can allow flexibility in determining the wording and sequence of questions by providing the researcher with a greater degree of control. Structured interviews were used because the researcher had a clearly specified set of questions to investigate, and the views of City Council officers from different case studies needed to be combined and compared. This kind of interview was also chosen because it avoids the looseness and inconsistency that can result from informally gathered interview data (Rosnow & Rosenthal, 2005, p.130; Goodrich, 1980, pp.237-239).
The interview questions were designed to investigate how the operation of commercial signage controls is carried out in the historic city centres of Oxford, Gramado, and Pelotas (research objective B, see Table 5.1). The following issues were explored: (i) presence of commercial signage controls in the city centre and the form they take, (ii) aims of these controls, (iii) group responsible for the development of commercial signage controls, (iv) efficiency of these controls, (v) professionals consulted during the development of commercial signage controls, (vi) public participation in the development of these controls, (g) enforcement of these controls, (vii) influence of these controls on the appearance of the city centre, (viii) installation of new commercial signs, (x) relationship between the aims of the commercial signage controls adopted in each case study and the image promoted of the city centre by the local authority through marketing the city and urban tourism strategies, and (x) development of new commercial signage controls. These aspects were analysed first through the review of legislation and guidelines related to the commercial signage controls applied in each case study (see section 5.3.3.1). The results from the interviews were compared with these initial findings in order to have a full understanding of how commercial signage controls are approached in each historic city centre.

The interview sessions were designed using standardised procedures: the questions were formulated before the interview and asked in a specific order and manner to every interviewee. This helped to minimise the multiplicity of interpersonal variables involved in a two-way conversation, and to ensure greater consistency in the gathering of data (Sommer & Sommer, 2004, p.115; Coolican, 2004, p.153; Bryman, 2004, pp.319-320). The standardization of how the interviews were conducted in terms of both the asking of questions and recording of answers meant that any variation in responses was due to differences in how commercial signage controls are approached in each case study and not because of the interview delivery. The aim of each interview session was to keep the error component to a minimum, as error has an adverse effect on the validity of a measure. Eleven open-ended questions were designed. The interview itself was carried out in an informal, relaxed atmosphere in which complete and meaningful answers, kept in context, were forthcoming. In Gramado and Pelotas, where more than one officer participated in the interview, some questions were answered by more than one individual. The pre-set questions used in the interviews are presented in Appendix 5.12.

The interviews were conducted with City Council officers from Oxford, Gramado, and
Pelotas, who were selected as discussed earlier (see section 5.2.3). The sessions took place at the City Council offices of each case study, and did not last more than one hour. The interviews were audio-recorded with the permission of those taking part.

5.3.3.5 Focus group

The focus group is recognised as a useful method of data collection for this investigation. This method helped to explore what a pre-determined group of people think and feel about the relationship between commercial signage and building facade in a specific case study. This method offered the opportunity for: (i) people to probe each other’s reasons for having a certain view, (ii) participants to be able to bring to the fore any issues related to the topic that they deemed to be important and significant, (iii) individuals to be able to argue with each other and challenge each other’s views, and (iv) the researcher to be able to analyse the ways in which individuals collectively make sense of the phenomenon and construct meanings around it (Bryman, 2004, pp.345-349; Sommer & Sommer, 2002, pp.131-132).

A focus group discussion was carried out in the case study where the commercial street facades chosen as the worst streets in terms of appearance (by respondents of questionnaire type B) are located. The objective was to complement the results obtained from questionnaire type B, and clarify certain issues that could not be fully investigated through that method. The focus group attempted to identify: (i) which factors contribute to increasing the visual pollution in the city centre analysed, and what can be done to reduce it, (ii) what residents think about the relationship between the commercial signs and building facades in the historic city centre, and (iii) whether they agree with the perceptions and evaluations of users from the other case studies about the commercial street facades located in their city (research objective G). Another issue was also discussed: the lack of interest by shop owners in discussing the visual pollution of the city centre.

An exploratory approach was adopted to manage the focus group. A small number of very general questions to guide the debate were presented to the participants at the beginning of the session. The main advantage of allowing this kind of free debate is that the researcher stands a better chance of understanding what individuals see as important or interesting. The researcher’s role in the focus group was as moderator, asking questions in order to
facilitate the conversation but maintaining a neutral attitude towards the opinions expressed.

The focus group discussion took place at the School of Architecture and Urban Planning of the Federal University of Pelotas in Brazil. The sample comprised 22 people selected as earlier discussed (see section 5.2.3). They were formed by (i) City Council officers, (ii) students of law and architecture, (iii) lecturers of law, civil engineering, architecture and edification technician schools, (iv) university staff, and (v) professionals who have offices and/or offer services in the city centre (lawyers, architects, urban planners, philosophers, historians, dentists, agronomists, journalists and so on). The focus group began with an introduction in which the researcher thanked people for taking part, the participants introduced themselves, then, the researcher presented the goals of the research and the format of the focus group discussion. Support material such as photographs and postcards of the city centre, and a summary of the objectives of the focus group were given to the participants. The discussion took around 3 hours allowing full exploration of the topic, and it was audio-recorded with the permission of the participants. A second observer was contracted to make the recording and help the researcher organize the session.

The participants became fully involved in the discussion, and all of them expressed their views. The researcher noted that there were no dominant personalities during the discussion, and the participants felt comfortable about interacting with each other. This may have been a result of the sample criteria adopted (see section 5.3.3.5). As only volunteers took part in the focus group, this investigation assumes that, if someone was interested in participating in this kind of discussion, it is because he/she wanted to express his/her views about the relationship between commercial signs and building facades in the city centre.

At the end of the debate, a summary document was completed and sent to the head of the Planning Department of the City Council the following day. It presented the main issues discussed during the focus group, outlining the proposed actions put forward by the participants that could decrease the visual pollution in the historic city centre. At a later date, this document was used by the City Council as a theoretical argument to support a Municipal Law, which defines norms to control commercial signs in the historic city centre of the case study analysed.
5.3.4 Methods of data analysis

The method of generalization adopted in this study is known as “analytic generalization”, in which a previously developed theory is used as a template against which to compare the empirical results of the case studies (Yin, 1994, pp.30-32). In this research, this theory consists of the literature review, which covers aspects related to user perception and evaluation of the built environment, non-physical variables that influence the operation of commercial signage controls, and issues taken into account in the control of commercial signs in different urban contexts. Taking into consideration that the sample of users is not random (see section 5.2), the limitations of a generalization of the findings are clear. In this research, the results should be interpreted as pertaining to the sample of residents from Oxford, Gramado, and Pelotas, and not of a wider population. Instead of allowing a set of quantitative predictions to be made, the applicability of the research findings to other historic city centres can be treated as probable assumptions rather than something to which can be assigned with precise confidence intervals. Moreover, as argued by Mira, Uzzell, Real and Romay (2005, p.4), “social science deals with probabilities, not certainties”.

Qualitative and quantitative approaches were adopted to analyse the data. The methods of analysis applied in this research are described below.

5.3.4.1 Analysis of the documentation review and archival records: qualitative approach

The contents of the documents collected (legislation and guidelines related to commercial signage controls) in each case study were analysed and compared qualitatively in order to understand how commercial signage controls are approached in each urban context (see section 5.3.3.1). An explanatory approach was adopted to review these documents. The researcher assumed that these documents were written for a specific purpose and audience. By trying to identify these, the analysis was less likely to be misled, and more likely to be correctly critical in interpreting the contents of such evidence. The review of the documents was also carried out in relation to the appearance of the commercial street facades in the sample. This was done in order to identify whether the legislation and guidelines relating to the control of commercial signs in each case study have been effective in avoiding visual pollution. A comparative analysis between the case studies was made in order to identify similarities and differences related to the operation of commercial signage controls adopted in each city. A descriptive approach was also carried out to
analyse the archival records (maps, aerial photographs, general data related to the case studies, photographs, and postcards). This was done to identify the contextual conditions that might be pertinent to the subject of this research and help to contextualize the case studies. The findings from this stage of the study are presented in Chapter Six (sections 6.1.1 and 6.2).

5.3.4.2 Analysis of the physical characteristics of the commercial street facades in the sample: quantitative approach

The physical characteristics of the commercial street facades in the sample were analysed through systematic observation of these streets on-site and through colour photographs (see section 5.3.3.3). The colour photomontages adopted in this study (see section 5.3.3.3, item B) were also used to analyse the physical features of the streets, such as the percentage of street facade cover by commercial signs and the number of vertexes of a street silhouette. In this regard, graphics in Auto Cad based on the photomontages were designed to allow this kind of mathematical analysis (see example in Figure 5.4).

![Photomontage of street 6](image)

Figure 5.4: Example of a graphic, designed in Auto Cad, based on the photomontage of street 6 (Source: author).

The following data obtained on-site were tabled and compared in order to characterize the historic city centres of the case studies: (i) level of order among commercial signs and buildings, (ii) relationship between the aesthetic composition of these media and building facades, and (iii) general visual character of the commercial street facades (see Chapter Six, Table 6.4). A set of specific physical characteristics relating to commercial signs and buildings (see Table 5.7) were also tabled and quantified (frequencies) (see Appendix 5.7). These characteristics were pre-determined by the literature review (see Chapter Two,
sections 2.4.1 and 2.4.2), but the researcher also took into account any new features that were observed during the field survey. This analysis was done to determine the final level of complexity of each street facade (see Table 5.8). At this stage, record cards were designed and applied to aid observation of the physical characteristics of the commercial street facades in the sample on-site, and to allow the same characteristics observed in one street to be observed in another (see Appendix 5.13). Microsoft Excel 2003 was used to organize these data. Findings from this stage of the study are presented in Chapter Six (see sections 6.2.2).

5.3.4.3 Analysis of the questionnaires: quantitative approach

Data from questionnaire type A was analysed descriptively through the frequencies of user responses. As the purpose of this questionnaire was simply to test whether the media representation adopted in this research (see section 5.3.3.3, item B) served as an adequate substitute for the analysis of user perception and evaluation of commercial streets on-site, the user answers to questionnaire type A (sample A) were compared with the user answers to questionnaire type B (sample B). Statistical tests were not adopted to explore whether there are differences between these two samples because the total number of users from both samples (sample A: 11 users in each case study) and B (sample B: 114 users in Oxford, 120 users in Gramado, and 127 users in Pelotas) are too varied.

Nonparametric statistical tests were applied to analyse data from questionnaire type B. Sub-hypotheses that emerged from the working hypotheses were designed to guide the statistical analysis (see Chapters Six, Seven and Eight). The nonparametric statistical approach was chosen because it is difficult to make stringent assumptions about the population from which the sample is selected when user perception and evaluation of the built environment is investigated. This approach does not take into account an estimation of parameters of the distribution of scores in the population from which the data are sampled and assumptions concerning the shape of that distribution. In terms of studies of Environment Behavioural research, the main advantages of this approach are: (i) the validity of the tests is not affected by whether or not the distribution of the variable in the population is normal, and (ii) the tests of differences in central tendency are not affected by one or a few very extreme scores; in parametric tests, an extreme score in a set of data can make the tests less powerful (Russo, 2003, pp.168-175; Siegel & Castellan, 1988, pp.2-5;

Questionnaire type B produced 685 variables analysed through six nonparametric tests (see Table 5.13) and mean values. The mean was adopted because, according to Sommer and Sommer (2004, pp.249-250), this is the most frequently used measure of central tendency and the most reliable if compared to median and mode. As a common practice in the social sciences, the 0.05 probability level for testing the null hypothesis was taken into account. All significant results are presented in later chapters. The results which were not significant (probability level > 0.05) are not shown in numbers, such as \( x^2=1205.14, \text{DF}=2, \text{sig.}=0.09 \); the findings are just reported as “there is no relationship between the variables”. The correlation coefficient is measured on a scale that varies from +1 through 0 to –1: a very strong correlation between two variables is expressed as either +1 or –1, and an absence of correlation is expressed as 0 (Graham, 2003, p.209; Rowntree, 1981, p.163). According to Rowntree (1981, p.171), “the correlation between the values of two variables is a fact. Whether we regard it as strong or weak, satisfactory or otherwise, is a matter of interpretation”. In this research, all significant correlations (probability level ≤ 0.05) are used to draw the conclusions.

The software package adopted for the statistical analysis was SPSS (Statistical Package for the Social Sciences). When the findings of this thesis are discussed in later chapters, the nonparametric tests applied are not referred. The statistical results are presented between parentheses next to the reporting of the findings in Chapters Six, Seven, and Eight; an example of how this is done is shown in Table 5.12.

Table 5.12: Nonparametric tests carried out to analyse data obtained from questionnaire type B (Source: author).

<table>
<thead>
<tr>
<th>Level of measurement</th>
<th>Nonparametric tests</th>
<th>Objective</th>
<th>Example of how the statistic results are presented on later chapters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal (one sample case)</td>
<td>Chi-square goodness-of-fit test</td>
<td>To test whether a significant difference exists between an observed number of objects or responses falling in each category and an expected number based upon the null hypothesis.</td>
<td>( x^2=646.14, \text{DF}=2, \text{sig.}=0.001 ).</td>
</tr>
<tr>
<td>Nominal (two or more independent samples)</td>
<td>Chi-square test for ( r \times 2 ), ( r \times k ) tables</td>
<td>To determine the significance of difference between two independent groups. The focus is to test if differences between two groups exceed those expected as chance or random deviations from proportionality. This test assumes that ( N \geq 20 ).</td>
<td>( x^2=3.27, \text{DF}=1, \text{p}=0.001 ).</td>
</tr>
<tr>
<td>Nominal (two independent samples)</td>
<td>Fisher exact test</td>
<td>The same objective of the Chi-square test, but in this case ( N \geq 20 ). Fisher exact test needs be applied when Chi-square test results indicate: more than 20% of the cells with an excepted frequency less than 5, and cells with an expected frequency less than 1.</td>
<td>Two-tailed Fisher, exact ( p=1 ).</td>
</tr>
</tbody>
</table>
The content analysis was carried out to analyse data from the open-ended questions. However, as this analysis was based on an inductive approach, categories or themes created to examine user responses were not pre-determined. This happened because the researcher did not have a clear idea about which physical aspects of buildings and commercial signs could be noted as positive or negative by users. This analysis was divided into four stages: (i) the translation of user answers in Portuguese to English, (ii) the answers related to similar topics were grouped into categories, (iii) these categories were inserted into an SPSS data base, and (iv) the analysis was based on the frequencies of these categories. These categories and user answers related to the positive and negative characteristics of commercial signs and buildings are presented in Appendix 5.14. Findings from this stage of the study are presented in Chapters Six, Seven, and Eight.

5.3.4.4 Analysis of the interviews and focus group: qualitative approach

The method adopted in this study to analyse data from the interviews and the focus group discussion has been referred by Coolican (2005, pp.558-559) as a qualitative version of content analysis. With regard to the data from the interviews, transcripts were analysed to find themes, but these were not put into pre-determined categories. The data was not analysed quantitatively; the analysis of the results remained as qualitative, and the reporting of each theme was related to one or more quotations in the transcript. The process of data analysis involved (i) a careful translation of the interviews in Portuguese to English ensuring that the translation did not alter the meaning of user responses, (ii) transcriptions of the interviews (see Appendix 5.15), (iii) identification of themes related to the issues investigated (see section 5.3.3.4), and (iv) interpretation of the data.

As the transcriptions were analysed by identifying themes, the identification of these
themes involved coding. This coding concerned recognition of passages in the texts and definition of labels to them, which indicate thematic ideas related to the subjects investigated. Two different levels of codes were used in this study: one that reflected the representation of facts, and the other that was a heuristic tool to enable further investigation and discovery. To begin with, the codes were acting as collection points for significant data, while afterwards, the codes were markers or pointers to the way in which the researcher rationalised what was happening (Seidel & Kelle, 1995). Interpretation of data was the most important stage since the first three steps of this analysis were nothing more than descriptive summaries of what users said. The interpretation of the qualitative data focused on an analytical understanding that began to explain why things are as were found and what might be done to improve the problems identified by users.

The focus group discussion was audio-recorded with a digital recorder purchased at Oxford Brookes University Hardware Support. However, when the researcher tried to transfer the recorded file on to her personal computer, the digital recorder did not work. A computer support specialist from Oxford Brookes University Hardware Support reported that the digital recorder had a manufacturing fault. Consequently, the researcher lost the recorded file of the focus group discussion, and unfortunately a transcript of this meeting was not made. In this case, as suggested by Morgan and Krueger (1998, p.46), the analysis was based (i) on notes made by the researcher and by participants during the debate, and (ii) on a document produced at the end of the discussion (see Appendix 5.16). Findings from this stage of the study are presented in Chapters Six and Seven.

5.4 FIELDWORK

The fieldwork for this research can be divided into three stages: (i) field visits to the case studies, (ii) data collection of photographs of the commercial street facades in the sample, and (iii) application of questionnaires, interviews, and focus group. Two field trips to Brazil were organized: one from December 2004 to January 2005, and another from June 2005 to August 2005.

The first stage was carried out in November 2004 in Oxford and December 2004 in Gramado and Pelotas. This stage contributed to the understanding of the urban context and phenomenon being studied in each country, and helped to identify the general physical
characteristics of commercial streetscapes in each case study. The second stage began in January 2005 when the researcher went to Brazil: photographs were taken of the sample of commercial street facades in Gramado and Pelotas in order to create the colour photomontages. In February of that year, photographs of the street facades in Oxford were taken. Having this material, by the end of March 2005 all of the photomontages of the street facades in the sample were made and, subsequently, the pilot study of questionnaire type B was carried out.

The third and last stage began in April 2005. For each case study the fieldwork took six weeks and by the end of August 2005 all of the surveys had been completed (see Table 5.13). The City Council of Gramado and Pelotas supported this investigation during all steps of data collection: maps of the cities (in digital and print format), aerial photographs of the city centres, and copies of legislation and guidelines related to commercial signage controls were given to the researcher. Maps and aerial photographs were not provided by Oxford City Council because of the Ordnance Survey copyright. In this case, print formats were obtained from secondary sources, such as books and the internet. The support given to the fieldwork by the School of Architecture and Urban Planning of the Federal University of Pelotas, the local newspapers of Gramado, “Jornal de Gramado”, and Pelotas, “Diario Popular”, and City Council officers of Oxford, Gramado and Pelotas was very important. This support allowed all data collection to be completed in a reasonable period of time. During the later stages of the fieldwork in Brazil, the local newspaper of Pelotas, “Diario Popular”, contacted the researcher to publish the partial results of the survey; these were published in two articles (see Appendix 5.17).

During the selection of volunteers to answer the questionnaires and participate in the focus group discussion, no shop owners contacted the researcher. For this reason, direct contact with shop owners was made. In Pelotas and Oxford, the majority of shop owners contacted by the researcher said that they did not have time to participate in the survey. Others in Pelotas also suggested that the lack of commercial signage controls is a positive aspect of this city because they can do what they want to their building facades in terms of signs and colours. In this city, some shop owners said that: “the bigger and the more colourful the shopfront, the more people will visit my shop”. In Gramado, some shop owners mentioned that they did not have time to participate in the survey; and others explained that they support the guidelines proposed by the City Council, so they had nothing further to say.
Table 5.13: Fieldwork of this research - period of data collection (Source: fieldwork 2005).

<table>
<thead>
<tr>
<th>OXFORD CASE STUDY</th>
<th>GRAMADO CASE STUDY</th>
<th>PELOTAS CASE STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 14th to 16th December 2004: field visits to the historic and commercial city centre.</td>
<td>• 4th to 6th January 2004: field visits to the historic and commercial city centre.</td>
<td>• 13th to 15th January 2004: field visits to the historic and commercial city centre.</td>
</tr>
<tr>
<td>• 6th February 2005: photographs of the commercial street facades necessary to make the photomontages (section 5.3.3.3; item b).</td>
<td>• 9th January 2005: photographs of the commercial street facades necessary to make the photomontages (section 5.3.3.3; b).</td>
<td>• 16th January 2005: photographs of the commercial street facades necessary to make the photomontages (section 5.3.3.3; item b).</td>
</tr>
<tr>
<td>• 30th March 2005: pilot study.</td>
<td>• 25th to 28th July 2005: Questionnaires type A.</td>
<td>• 13th to 17th June 2005: Questionnaires type A.</td>
</tr>
<tr>
<td>• 19th May 2005: full approval of University Research Ethics Committee for the study begins.</td>
<td>• 11th to 24th July 2005: Questionnaires type B.</td>
<td>• 6th June to 6th July 2005: Questionnaires type B.</td>
</tr>
<tr>
<td>• 21st to 24th May 2005: Questionnaires type A.</td>
<td>• 27th July 2005: Interview.</td>
<td>• 22nd June 2005: Interview.</td>
</tr>
<tr>
<td>• 26th May to 4th June 2005: Questionnaires type B.</td>
<td>• 13th to 17th June 2005: Questionnaires type A.</td>
<td>• 10th August 2005: Focus group.</td>
</tr>
<tr>
<td>• 25th May 2005: Interview.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.5 CONCLUSION

The research design and methodology described in this chapter was developed to provide enough data to answer the research questions (see section 5.1.1). This study adopted the Environment Behavioural research approach, and applied quantitative and qualitative methods of data collection and analysis to answer the research questions, satisfy the research objectives, and test the propositions and working hypotheses. A multiple method survey design was applied in order to combine different methods, which compensate for their particular faults and limitations. This investigation also took into account that the selection of research methods should be based on the time and economic resources available, and on the practicality of data collection in different countries.

For the delimitation of the case studies, the probability sampling principle was adopted. The main criteria to select the countries to be analysed were: (i) a country where a national approach to help local authorities to guide and control commercial signage in historic city centres is applied in practice, and (ii) a country where there is no national approach to control commercial signage leaving local authorities with the responsibility to develop commercial signage controls, and to decide whether these controls are necessary in historic city centres. England and Brazil were chosen because they cover all the criteria specified in this chapter (see section 5.2.1). Three historic cities were defined as case studies: Oxford, in England, and Gramado and Pelotas, in Brazil.
The non-probability sampling principle was applied to select participants. The criterion of purposive sampling was adopted to select users for the interviews. City Council officers of each case study were selected since they were considered the most representative for the issues analysed and as having more appropriate expertise in the matter. The criterion of opportunity sampling was applied to select the respondents for the questionnaires: users would decide whether they would like to answer the questionnaires or not. A purposive and opportunity sample was selected to conduct the focus group discussion: City Council officers and shop owners were invited in person; other participants were volunteers, who contacted the researcher. Articles published in local newspapers to get people involved in the questionnaires and in the focus group discussion were recognized as an important technique to persuade users to participate in surveys in Brazil.

Five different research methods of data collection were adopted: (i) documentation review and archival record, (ii) systematic observation of physical characteristics of commercial streets on-site and through photographs, (iii) questionnaires (type A and B), (iv) interviews, and (v) focus group. The qualitative analysis of data from documentation review and archival records, interviews, and focus group discussion was related to processes and procedures whereby the researcher moves from the qualitative data that had been collected into some form of explanation and understanding or interpretation of the subject investigated. The quantitative analysis of data from (i) systematic observations of physical characteristics of commercial streets on-site and through photographs was related to frequencies, and (ii) questionnaires were related to nonparametric statistical tests and frequencies.

The method of generalization adopted to interpret the findings is known as “analytic generalization”. The results presented in the next three chapters should be interpreted as pertaining to the sample of residents in the case studies, and be considered as a qualitative understanding of people’s perceptions and evaluations of commercial and historic city centres. Instead of allowing a set of quantitative predictions to be made, the applicability of these research findings to other historic city centres can be treated as probable assumptions rather than something to which can be assigned precise confidence intervals.