PHYSICAL ATTRIBUTES OF STREETSCAPE IN THE INNER CITY OF KUALA LUMPUR: CASE STUDY OF BUKIT BINTANG STREET AND TUN PERAK STREET

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Abstract

Physical environment is one of the most influential factors on livability of urban spaces and eventually quality of life of city residents. Recently, the rapid urbanization in Kuala Lumpur city has raised the necessity of examination of the quality and livability of Kuala Lumpur urban spaces. The main aim of this study is to evaluate the quality and livability of Kuala Lumpur streetscapes through examining the physical attributes of studied areas and identifying the physical problems. Bukit Bintang Street and Tun Perak Street which are located in the inner part of Kuala Lumpur City Center were selected as the case studies. To achieve the research objectives, a sequential mixed method was adopted. Firstly, the 15 influential physical attributes on design and livability of streetscape were identified. Secondly, the current conditions of physical attributes of two case study streets examined qualitatively through observation and photography to explore physical problems of the studied areas. Then, questionnaire surveys conducted to examine the importance of identified problems and the role of different organizations on decreasing the problems. The quantitative data were analyzed using SPSS. Correlation was carried to identify the effects of identified physical problems on livability of the areas.

The results revealed that some problems such as the traffic congestion, small road, inadequate parking space, improper walkway paving, inadequate planting, lack of renovation of ruined buildings, inadequate facilities for disabled people and inadequate public services and maintenance, mostly deteriorate the livability of the studied streetscapes. In addition, the respondents recognized Kuala Lumpur City Hall as the major responsible organization for improving the problems. Finally, the researcher recommended two groups of strategies - KLCH role and government role - for improvement of the physical quality and livability of Kuala Lumpur city center's streetscapes.

Abstrak

Persekitaran fizikal merupakan salah satu faktor yang paling berpengaruh terhadap keadaan kehidupan, sekaligus menentukan taraf kualiti hidup penduduk bandar. Dewasa ini, kemajuan permodenan bandar yang pesat di Kuala Lumpur melahirkan keperluan untuk mengkaji kualiti dan keadaan kehidupan di bandaraya itu. Justeru, kajian ini bertujuan untuk menilai kualiti dan keadaan kehidupan di jalan-jalan sekitar Kuala Lumpur dengan mengkaji ciri-ciri fizikal dan mengenal pasti masalah fizikal kawasan tersebut. Dua buah jalan telah dipilih sebagai kajian kes, iaitu Jalan Bukit Bintang dan Jalan Tun Perak. Kedua-dua jalan ini terletak di tengah-tengah pusat bandaraya Kuala Lumpur. Untuk mencapai objektif kajian, kaedah campuran yang berurutan telah diguna pakai. Sebagai langkah pertama, sebanyak 15 ciri-ciri fizikal yang mempengaruhi reka bentuk dan keadaan jalanraya telah dikenal pasti. Seterusnya, keadaan sebenar ciri-ciri fizikal bagi kedua-dua kajian kes tersebut diselidiki secara kualitatif melalui pemerhatian dan kaedah fotografi untuk meneroka masalah fizikal kawasan-kawasan itu. Kajian soal selidik dijalankan bagi menentukan sejauh mana pentingnya setiap masalah yang disenaraikan, dan pada masa yang sama, Mengenal pasti peranan pihak yang bertanggungjawab untuk mengurangkan masalah-masalah. Maklumat kajian dianalisa melalui perisian SPSS untuk menentukan kesan hubungan antara masalah fizikal dan keadaan hidup kawasan tersebut.

Hasil kajian mendapati beberapa masalah utama yang menyumbang kepada kemerosotan keadaan hidup di kawasan kajian kes. Ini termasuklah kesesakan lalu lintas, lebar jalan yang kecil, ruang pakir kereta yang tidak mencukupi, laluan pejalan kaki tidak sesuai, dekorasi tumbuhan yang sedikit, bangunan lama yang tidak diselenggara, kekurangan perkhidmatan awam, dan kekurangan kemudahan untuk orang kurang upaya. Berikutan

dengan itu, hasil kajian membuktikan bahawa para responden mengiktiraf Dewan Bandaraya Kuala Lumpur (DBKL) sebagai organisasi utama yang sepatutnya bertanggungjawab untuk memperbaiki masalah-masalah ini. Walau bagaimanapun, di akhir kajian ini, penyelidik mencadangkan bahawa DBKL dan pihak kerajaan merupakan dua pihak yang perlu berkerjasama dan bertanggungjawab dalam memperbaiki keadaan kehidupan dan kualiti fizikal jalan-jalan di Kuala Lumpur.

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Chapter 1
Introduction

1.1 Introduction

Improvement of the quality of life has always been one of the main concerns of human thoughts and also academic researches. Researchers look for a specific aspect related to their professions that also has an influence on the quality of life of individuals or the whole society. Social and psychological conditions, economic cycles and welfare, educational conditions, insurance and health care, housing and urbanism, and many more are among the examples of the important factors of human life which committed researchers attempt to examine them and optimize their conditions to achieve the best quality.

Urban planners, urban designers and architects have always made their great contribution in developing the society beside other professions during the history. This study seeks to investigate the quality and livability of urban space which has a direct effect on the people's daily life. Streetscape as one the two main elements of urban space is the subject of this study. In order to achieve a livable streetscape or in general livable urban space, different aspects of urban space is identified and examined to discover the problems. Finally, the last step of this research is recommending improvement measures for decreasing the identified problems and improving the livability of the studied area.

In this chapter, an overview of the entire research will be outlined. An introduction to the research and a description of the research background, aim, objectives, questions, scope, and problem statements will be presented. The significance of the research, research methods, structure of the thesis and the summary of the chapter will be briefly provided.

1.2 Research background

In order to reveal the background of the study, this section discusses the problems in spatial structures of urban spaces of the modern cities which have been identified by various researchers who investigated the different aspects of urban spaces in the last century.

Researchers, who have studied streetscapes, squares and generally urban spaces after the 19th century, believe that modern world cities of today have lost their valuable traditional essentials (Krier, 1979; Tavasoli & Boniadi, 1992; Trancik, 1986). The reasons for this loss and the problems found are briefly highlighted in the following parts.

Trancik (1986) was one of the first architects who discussed 'the loss of urban space principles' in the 20th century. He called the most modern urban spaces as 'unshaped anti space' due to the lack of some features such as shape, scale and being connected to the other spaces in the city. In addition, five major factors were highlighted that have contributed to the lost space in our cities:

i. "An increased dependence on automobiles;
ii. The attitude of architects of the Modern Movement towards open spaces;
iii. Zoning and land use policies of the urban-renewal period that divide the city;
iv. An unwillingness on the part of contemporary institutions – both public and private – to assume responsibility for the public urban environment; and
v. An abandonment of industrial, military or transportation sites in the inner core of the city" (Trancik, 1986, p. 4).

He also argued that the negative effects of the factors such as mobility and communication, which dominated public space, had consequently caused losses as its cultural meaning and human purpose.

In addition, some studies especially examined the different aspects of street life after entering automobiles into the streets. Their findings revealed the negative effects of motorized vehicles and traffic volume on the livability of streetscapes. The impacts of this issue ranges from environmental pollution such as air pollution and sound pollution to decline in social interaction of people in the street (Appleyard, 1981).

Krier (1979) had earlier argued that “in our modern cities, we have lost sight of the traditional understanding of urban space” (p.15). After these issues, Jacobs and Appleyard (1987) identified various problems as the main obstacles in formulating a new manifesto for modern urban design such as a poor living environment, gigantism and loss of control, large-scale privatization and the loss of public life, centrifugal fragmentation, destruction of valued places, placelessness, injustice and rootless professionalism. However, these problems are not all related to the physical elements of urban space, their negative effects could easily be seen on the urban spaces' life.

Hedman and Jaszewski (1984) raised some questions about the spatial definition of urban space at the modern cities as follows:

> “Have the value and importance of spatial definition been collectively forgotten, or have they simply been displaced by a burgeoning agenda of new design concerns?” (p. 55).

In this book, lack of positive space with a coherent pattern is considered as part of the problems. It was also stated about rarely securing coherent and satisfying patterns of development in suburbs, towns or everywhere in the cities.

Then, Venturi (2002) recognized that most outdoor space created by the Modern Movement was exclusive space, or lost space isolated from its total surroundings. He responded to the

popular dictum of the Modern Movement "*less is more*" by Mies Van Der Rohe with "*less is a bore*" (p. 17).

Lo et al. (2003) tried to draw urban designer's attention to the main intention of designing an urban open space. They criticized the design of urban spaces which vastly fails to serve the user's needs. In addition, he highlighted that even design context or client's briefs rarely refer to people's need or an approach which contribute to providing user's need. It can be considered as one of the most important reasons for not going to urban open spaces that people largely need them. Carr et al. (1992) also challenged the design of urban spaces which are often motivated by commercial reasons and their function is more like corporate emblems. He thought that researchers should do more investigation on significance of design attributes of urban spaces from the human points of view.

Carr et al. (1992) and Lo et al. (2003) were not the only ones who discussed about the importance of user's need in designing urban space, besides Cherulnik (1993) stated that designers and planners differ widely in the attention they give to the needs of everyday users of the physical environment. He believed that designers ignore the people's needs significantly.

Amin (2008) implied to other aspects of modern urban spaces and asked, "how should we judge the civic and political achievements of urban public space in the light of the gap between readings within and beyond the urban canon?" (p. 7). The continues attrition of the urban space globally from privatization, extreme policing and mere neglect are some dark conditions of today urban open spaces which has caused destruction of public facilities, loss of safe streetscapes, moving to gated communities, the excessive monitoring and customizing the prime land (Low & Smith, 2006; Mitchell, 2003).

In addition, the other researchers emphasized on this situation and warned about the result of this trend in the near future. For instance, Low (2006) anticipated the eradication of the last remaining spaces "for democratic practices, places where a wide variety of people from different gender, class, culture, nationality and ethnicity intermingle peacefully". There for, she persisted that we:

> "...Make sure that our urban public spaces where we all come together, remain public in the sense of providing a place for everyone to relax, learn and recreate, and open so that we have places where interpersonal and intergroup cooperation and conflict can be worked out in a safe and public forum" (p. 47).

Some researchers and urban designers seek the roots of this problem at the loss of the tradition. Layne (2009) stated about the differences between traditional and modern design and defined tradition as idea which is being handed down among the consecutive generation where an apprentice learns from a master. Davis (1999) pointed out that although change did occur in that condition - despite the stereotypical perspective to the fixed traditional design - it took place during the longer period of time and in an evolutionary trend and not in a revolutionary form. He also stated that, however, the traditional design is based on relative stability with the iterative factors in a particular space, perhaps when it is essential, it is capable of altering or modifying. On the other side, modern design insists on novelty, diversity, invention, ingenuity and setting one's design apart from others. It looks for dissociation with continuity rather than harmony (Layne, 2009).

Overall, from the review of all studies, the identified problems can be categorized into two major groups; physical problems and non-physical (or social) problems. However, the main

aim of this research is looking for the physical problems of urban spaces; and representing both sides is useful for improving the urbanization process.

- Physical Problems

  Unshaped space without any appropriate scale and proportions, dependence on automobile, traffic congestion at streets, zoning and land use policies, an abandonment of obsolete sites in the inner core of the city, the inefficient urban – renewal project, gigantism and loss of control, centrifugal fragmentation, large-scale privatization, isolation of the newly created space from its total surroundings and lack of positive space with a coherent pattern, seeking rupture rather than harmony.

- Non-physical problems

  The attitude of some architects towards open spaces, losing sight of the traditional understanding of urban space, the loss of public life, poor living environment, destruction of valued places, placelessness, injustice, rootless professionalism, Less is a bore, not addressing users' needs, designing for commercial reasons not from human aspects, environmental pollutions like air pollution and sound pollution.

1.3 Problem statement

Reviewing the urban literatures - as mentioned in the research background - reveals that modern design approach is not able to create livable urban space which fulfills the human's needs and support urban life. In most studies of modern urban spaces, social and physical problems have been identified which deteriorate the livability of urban environment. However, these two types of problems have different roots and features; they have direct effects on each other. Studies show that most social problems of urban spaces derive from the physical problems of the area. Nevertheless, improving the physical environment

cannot solve all social problems, it may lead to the prevention of the most problems (Sauter & Huettenmoser, 2008).

Therefore, for creating livable space in cities, firstly, it is important to examine physical attributes of urban spaces to explore the physical problems of the area. Generally, poor conditions of the physical attributes of designed urban space and its physical problems deteriorate the quality and livability of urban space and eventually affect the user's life (Hamilton-Baillie, 2008; Layne, 2009; Trancik, 1986).

1.4 Research aim and objectives

The main aim of this research is to examine the physical attributes of streetscapes and describing their influences on the quality of space, for the design of livable streetscapes.

1.4.1 Research questions

To achieve this aim the following questions were designed:

i. What are the physical attributes of streetscapes?
ii. What are the current conditions of identified physical attributes of Kuala Lumpur's streetscapes which are located in the old fabric of the city?
iii. What are the effective strategies for improvement of the physical problems and quality of streetscape in inner parts of Kuala Lumpur?

1.4.2 Research objectives

To address the research questions the following objectives were derived:

i. To identify the physical attributes affecting the design and livability of streetscapes.

ii. To investigate the physical problems of old streetscapes with a special look at the Kuala Lumpur's streetscapes of Bukit Bintang Street and Tun Perak Street which are situated at the inner part of the city.

iii. To recommend effective strategies and design measures to improve the physical problems and enhance the livability of study areas.

1.5 Scope of research

In narrowing the scope of study, this research was delimitated into two aspects, as follows:

i. The main scope of this research is about physical, structural and visual aspects of streetscapes.

ii. The context of case studies is two selected streetscapes of Kuala Lumpur namely; Bukit Bintang Street and Tun Perak Street in Masjid Jamek area.

1.6 Research methods

The first step of gathering information is conducting a comprehensive literature survey to form a foundation of insight and knowledge on the key or related issues within the field of urban design, urban open space, streetscapes, livable streets, and physical attributes of streetscapes. It provides the basic information to design the research process and choose the research method.

Based on the objectives of this study and reviews on the pertinent literature and similar research on urban spaces, exploratory sequential mixed method is selected as the methodology of this research. Considering the sequential mixed methodology, two phases of data collection is adopted, qualitative and quantitative approach. Case study strategy is chosen for the first qualitative phase and conducting questionnaire survey is selected for the

second quantitative phase. Findings of the first phase of data collection provide the database for designing the questionnaire and implementing the second phase.

In order to conduct the first phase of the data collection, two streetscapes in Kuala Lumpur city - Bukit Bintang Street and Tun Perak Street - is selected as the case studies to examine the physical attributes of the areas. For examination of the study areas, preliminary observation and taking photographs were conducted to discover the common physical problems of Kuala Lumpur's streetscapes. At the second phase of the data collection, the questionnaire survey is conducted to understand the people's perspective regarding the identified physical problems of the case study areas. Furthermore, the users are asked about the organizations which could solve the problems and improve the quality of the selected areas. Figure1.1 shows the process of research, the selected methodology, the data collection phases and the objectives intend to achieve in each approach.

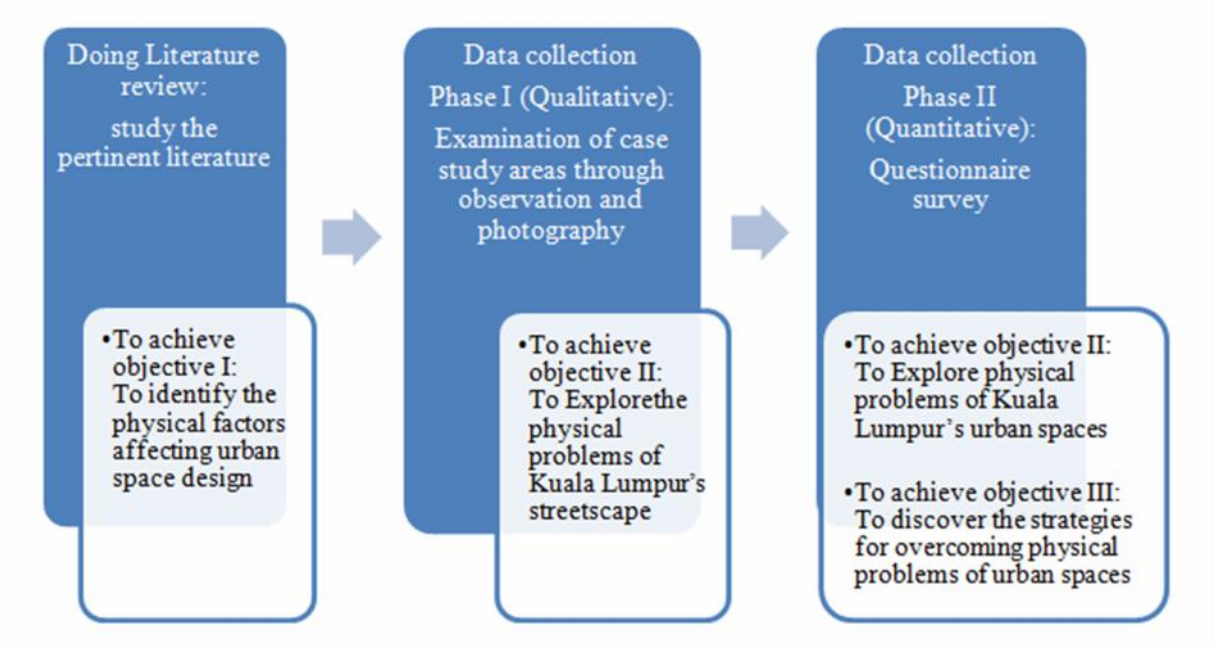

Figure1.1 Research process, selected methods, and the objectives intend to achieve in each approach

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1.7 Significance of the study

The research findings of this thesis have both academic and practical significance. From an academic perspective, in terms of scholarly research and literature, as pertinent studies of urban spaces do not examine most significant physical attributes of urban space, this research is an attempt towards covering the most significant physical attributes of urban space by a comprehensive research on all different aspects of urban design, as well as urban space.

For practitioners and urban designers, this research illustrates the problems of urban space at modern cities by reviewing significant literatures on this area. In addition, it recommends the most significant factors that they need to pay attention to for designing such livable spaces that can meet the human needs. Furthermore, the analysis of the physical problems of the case study streetscapes in Kuala Lumpur, the result of the questionnaire surveys and the suggestions made can be a good reference for the responsible organizations of Kuala Lumpur to understand the problems of the areas, users' comments for fulfilling their needs and solving the problems.

1.8 Structure of the thesis

This dissertation is structured into seven chapters as follows:

Chapter 1: Introduction

The first chapter provides an overview of the research by addressing the general background of urban spaces especially streetscapes of modern cities, research problems, objectives to achieve the aim of study, significance of the study, research methods and research structure.

Chapter 2: Literature review

This part reviews the literature relevant to physical attributes of streetscapes. In order to have a comprehensive image about streetscape, firstly, the definition of space, urban space and open space are reviewed. Secondly, two different types of urban space, square and street, as the two spatial elements of structure of city are defined. Then, the concept of livability and studies on livable streets are discussed briefly. Thereafter, the major attributes of streetscapes are identified and categorized in two groups of physical and non-physical attributes. In addition, regarding the purpose of this research, the physical attributes are studied in details. Therefore, it achieves the first objective of the study.

Chapter 3: Methodology

This chapter describes the design and structure of the methods used to achieve the objectives comprehensively. It also demonstrates the justification of selected methods and chosen case study areas. In addition, the data collection process, analysis of the data, and interpretation of the collected data are stated in details. At the end of the chapter, the limitation and strength of this research are discussed.

Chapter 4: Context of case studies

The fourth chapter of this study demonstrates the background and context of the two case study streets. Due to location of the two streets in the Kuala Lumpur city center and also in the Heritage Zones, the guidelines related to the design and conservation of these areas are reviewed. Since Kuala Lumpur City Hall is the responsible organization on planning and development of city center, the investigator refers to the documents of this organization for revealing the development plan of these areas.

Chapter 5: Findings and Analysis

This section reveals the result of examination of the two selected streetscapes of Kuala Lumpur - Bukit Bintang Street and Tun Perak Street in Masjid Jamek area - over the two phases of data collection and data analysis.

The first step of examination is qualitative approach of gathering data. To obtain the physical and spatial problems of these areas, the current conditions of identified physical attributes of the two streets are examined by deep observations and photography of different parts of the areas. The findings of this chapter are database for the next step of the research data collection.

The second step of evaluation of livability of the study streets is about the users' perception on identified physical problems of the streets. In addition, demographic information of respondents and the process of quantitative survey are explained. Then, information and data collected from the different parts of questionnaires are analyzed and interpreted in a tabulated and figural form.

Chapter 6: Discussion

This chapter comprises of two parts which discusses about collected data and compares the conditions of two case study streets, Bukit Bintang Street and Tun Perak Street. The first part compares the results of examination of case studies. Since for the examination of two case studies, two stages of data collection have been proceeded and two result received, so this part includes two separate sections which firstly compares the result of qualitative approach, and secondly the findings of quantitative surveys. Due to the fact that findings of questionnaires have different categories - people's perception about identified problems and

the role of different organization on solving the problems - the comparison of result of questionnaire survey, includes two sections as well.

As mentioned in the context of case study chapter, the two case studies are part of Secondary Heritage Zone and Tertiary Heritage Zone, and Kuala Lumpur City Hall has provided some guidelines for designing and performing some of the attributes of these streets. Since the researcher discovered a gap between the current conditions of the case study streets with the Kuala Lumpur City Hall's guideline, at the second part of this chapter, this gap is explained and discussed.

Chapter 7: Conclusion and Recommendations

The last chapter of this study includes the conclusion, the recommendation, the significance and limitations of this research, and the suggestion for further research. Firstly, the conclusion drawn through three steps of data collection is demonstrated. Then, improvement's measures which includes suggested strategies for addressing the identified problems are presented recommendations for improving the poor conditions of physical attributes and quality of the case studies areas are depicted. Finally, the researcher recommended some subjects for further research in the future to enhance the knowledge in this field of study.

1.9 Summary of the chapter

In general, this chapter illustrates the overall background and structure of the whole study. The main premise of this research is to show the importance and the role of the physical environment of streetscapes in the quality of people’s lives through finding the physical attributes of streetscapes and assessing them.

Through reviewing the background of the study, two types of problems - physical and non-physical - were identified and considering the purpose of this study, the physical problems of urban spaces were considered to be examined and also highlighted on the problem statement section. The selected methodology of this study and a brief demonstration about each chapter were illustrated too.

Chapter *2*

Literature Review

2.1 Introduction

The review of the pertinent precedent literature is the first step of each research that demonstrates the key terms of the study as well as its significance. How to set the objectives and how the research design starts are some examples of the significant questions that could be answered through accomplishing this phase of the study. In addition, it provides a platform for the comparison and discussion on the next chapters. In other words, this Chapter reviews the past relative literature on the different aspects of urban space to illustrate a clear picture of characteristics of the quality and livable streetscape.

Streetscape is one of the most important public designed spaces in the city and is considered as one of the two major elements of urban space. In order to identify and examine the physical attributes of streetscape, firstly, it is necessary to define the meaning of space. What is the space and how it can be distinguished from the other elements? Bacon (1975) highlighted the mass and space as the two basic elements of architectural design and named the interrelation between these two as the essence of design. In our culture, the preponderant preoccupation is with mass and to such an extent that many designers are "*space blind"* (Tavasoli & Boniadi, 1993, p. 3).

Secondly, since the streetscape is a part of urban space and also urban space is a part of public space, the distinction is made by stating the differences between urban space and

open space, as the two important types of public spaces. Then the two basic forms of urban space - street and square -as the two recognized elements of spatial structure of the city are defined. In addition, the notion and characteristics of livable streets are described and the relative researches on this issue are discussed briefly.

The last section highlights the attributes of streetscapes. In order to achieve this objective, all the literature which examines the attributes of urban spaces is reviewed. Since, the street is a part of urban space and the characteristics of streetscape is the same as the urban space's, and due to the fact that most literatures are generally focused on urban space and not only streetscapes, the attributes of urban space are examined. Then, the identified attributes of urban space can be generalized to streetscape as well. So the different attributes of urban spaces are categorized into two groups. And finally, the physical attributes are selected, explained and their influences on the livability of urban spaces are discussed.

2.2 Definition of space

The definition of space is always contested between scientists and designers. When defining it, it is sometimes referred to dictionaries or Newtonian physics and at other times, either to ancient Greek philosophical texts or to architects' perspective. Each profession examines it from its point of view.

Most literature discussed the definition of space as an abstract phenomenon. For instance, the meaning of space in the *American Heritage Dictionary* is:

> "A set of elements or points satisfying specified geometric conditions in a three-dimensional field of everyday experience; the distance between two points or area of

volume between specified boundaries” (The American Heritage Dictionary, 2001, p.880).

Furthermore, Zucker (1970) defined space as a three-dimensional expansion of any kind. Lee (1982) also defined the abstract concept of space as a non-object that cannot be touched, poured, seen, heard, broken, bent, or holed. He highlighted the similarities between experiencing the time and space and stated that space is such an interval between the objects that can be experienced indirectly just as time can only be experienced as an interval between events.

Philosophical debates about space, between absolute and relational theories, in the last three centuries were another issue of the dilemma of space. Einstein (1954, pp. xii-xv) described space as, "Positional quality of the world of material objects" - the relational meaning - versus "space as the container of all material objects" - the abstract theory of space.

However, in general, the definition of space specifically may not be a very familiar concept; people commonly use the space in compound words such as social and physical space, internal and external space, hard and soft space and, open and urban space. These words are defined with different meaning in various fields of study. For the purpose of this study, the definition of space is examined through architectural and urbanization point of view.

Madanipor (1996, p. 28) pointed the issue from urbanization perspective and discussed the concept of space as the way in which we interpret the space:

> “The dilemmas of space appear to lie in the way we relate to it: the way we understand, and therefore, transform it. In this sense, space could be seen as an abstract substitute for what we generally mean by our built and natural environment”.

Zevi (1957) with the architectural background defined the meaning of internal space by describing the facades and walls of a building - no matter what kinds of buildings (house, hospital, or church) or how they are designed - as a container, and considering its content as the internal space. He stated space as the *essence of architecture,* which is still a widely accepted concept.

In urban design's literature, space is considered as the basic elements of good urban design (Hedman & Jaszewski, 1984) and finally, it was highlighted as “a uniformly extended material to be modeled in various ways”(Tschumi, 2004, pp. 13-14). So it concludes that for defining space in architecture, urban design or city planning, it is needed to *determine boundaries*.

After determining the boundaries of space in the city for shaping the public space, the definition of open space and urban space as the two generic types of public space in city are stated to distinguish their differences.

2.3 Open space versus urban space

Open spaces and urban spaces have various meanings in different fields of urban studies, economy, politics, urbanization, art etc. For instance, Webber (1963) pointed the urban space from the economic perspective and called urban space as a resource. He stated “Urban space, as it has been associated with the economies of localization and agglomeration, is thus a peculiar resource, characterized by increasing supply and by ever declining value" (p. 42). While in the urbanization, the field of this study, such spaces are considered as two different important public spaces of the city in which people spend their time daily. The concept of urban spaces and open spaces, their definitions, and differences are reviewed here.

Speiregen (1965) highlighted these two generic types of the space in a city, as a formal and natural space. Urban space as a formal space has the predominant characteristics such as the quality of enclosure and the activity that occurs in it. It serves a special purpose and is usually shaped by building facades and a city's floor which suits its purpose. These qualities establish the sense of urban space. While the open space is described as being nature brought into the city and has various differences with open space definition. Shrubs, rocks, trees, and ground surface rather than its length and width define the scale of open space. The characteristics of its appearance are the view of natural green, instead of the surrounding buildings. The purpose of open space is not limited only for people to enjoy the green area in the city, but as the reserved land for future use.

Similarly, Trancik (1986) defined the open spaces and urban spaces with alternative words of *'hard spaces'* and *'soft spaces'*. Surrounding the architectural walls generally creates hard space whose main function is gathering people for social and cultural activity. While, soft space are surrounded by the natural setting and people usually use this space for the enjoying of the natural environment. However, it can be part of the urban context of the city or it can be located outside the city.

The other description used by Krier (1979) for defining urban space is *'external space'*. He demonstrated that "all types of space between buildings in towns and other localities are urban spaces" (p. 15). However, Tavasoli and Boniadi (1993) did not consider every space in the city as urban space, unless its formation was based on aesthetic principles.

In addition, the role of urban space in enhancing quality of the whole region cannot be ignored.

> "...A high quality environment can only be achieved by ‘urban integration’, which considers urban open space as a crucial part of the urban landscape. It does not only form a local focal point, but it also connects the neighborhoods and acts as vital glue between buildings in strengthening the communities" (Lo et al., 2003, p. 2).

Based on the above review, the streetscape is considered as a part of the urban space. The following sections discuss urban space, its different forms, livable street and its detailed attributes.

2.4 Two types of urban space

In order to have a better picture of urban space, after defining the concept and characteristics of urban space, the different types of urban space are discussed. Urban space as an inseparable part of the spatial structure of the city comprised of two basic forms of square and street (Krier, 1979; Tavasoli & Boniadi, 1992).

Krier (1979) one of the earliest researchers who studied urban space and urban design, highlighted the similarities and differences of these two forms of urban space. He stated that the geometrical factors of both spatial forms are almost similar. The differences are on the dimensions of the walls which bound them and the patterns of function and circulation which characterize them. In addition, to distinguish urban space from abandoned space in the city, Tavasoli and Boniadi (1992) referred to the history of urban spaces and its spatial value and stated that "from the old meandering passage and public spaces of Medieval cities to today’s modern streets and squares can be considered as the Street or Square [urban space], if they have the spatial value" (p. 77). However, it was admitted that perceiving the spatial value of the urban space in our new world needs more emphasis and education.

Furthermore, the function of street and square defines these spaces. Amin (2008) discussed the function of these forms of urban spaces and their relation with public culture.

> "Every public space has its own rhythms of use and regulation, frequently changing on a daily or seasonal basis: The square that is empty at night but full of people at lunch time; the street that is largely confined to ambling and transit, but becomes the center of public protest…." (p. 9).

This study focuses on the streetscape, thereafter to make a better distinction between these two forms of urban space and also to get more insight on them, the Square and the Street will be separately defined in the following section.

2.4.1 The Square

Square or plaza is the first and foremost recognized urban space that comes in different sizes and shapes and serves the various purposes of public life (Hedman & Jaszewski, 1984). It is considered the heart of the city and a basic factor of spatial structure of the city. From the small public square to the monumental plaza of a metropolis, squares have played a significant role in civic life of the cities (Zucker, 1970). Urban designers have examined the square from the different points of view as follows.

The importance of square in urban space history as highlighted by Zucker (1970, p. 2) is "a history of the square actually means a history of space as the subject matter of artistic creation" and has to be considered separately from a history of architectural design. So, an artistically designed square is more than mere voids that forms an organized space.

On the other hand, Krier (1979) described the formation of first squares during the history as group of houses around an open space which arrange a high degree of control for the

inner space. This area was also well defended from external attack by minimizing the external surface. Furthermore, it may frequently include a symbolic value and therefore, as a model selected for building various holy spaces such as forum, agora, cloister and mosque courtyard.

Zucker (1970) further examined the formation of the square and pointed out to *'three space-confining elements'*:

> "….Three space-confining elements exist: the row of surrounding structures, the expansion of the floor, and the imaginary sphere of the sky. The forms of these three space-shaping elements - architectural frame, floor, and ceiling -are, of course, most decisively defined by the two-dimensional layout of the square." (pp. 6-7)

Most plazas and squares with spatial value which are located at the historical cities - such as Naghshe Jahan Square in Esfahan (Tavasoli & Boniadi, 1992), Piazza San Marco in Venice (Bacon, 1975) - represent this layout. Figure 2.1 shows Piazza del campo in Siena that indicates these 'three space-shaping elements' of layout of the square in practice.

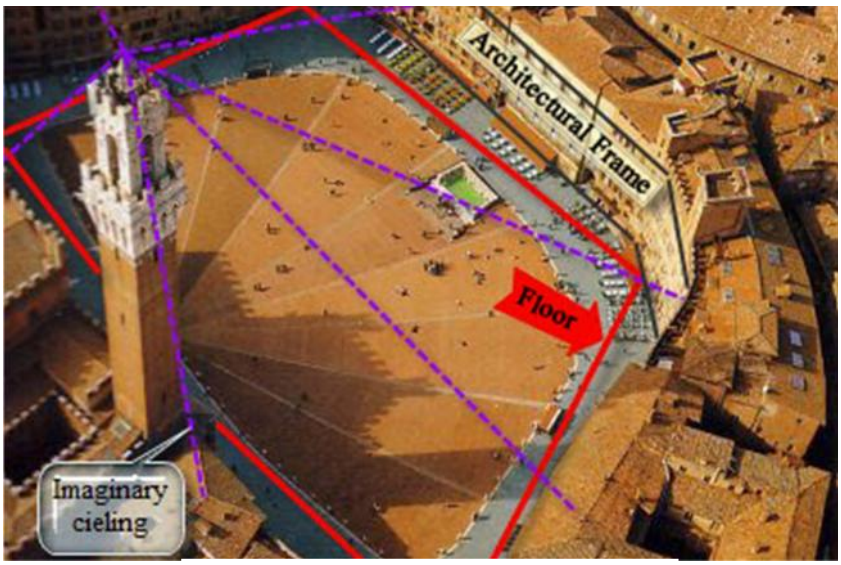


Figure 2.1 Piaza Del Campo, Siena
Source: Tavasoli & Boniadi (1992)

However, these elements are the same in the creation of all type of square or plaza, changes in the different characteristics of this layout can alter the spatial quality of the square. Hedman and Jaszewski (1984, p. 71) stated that “the quality of spatial containment is controlled by seven interrelated factors: Size, shape, continuity, height of frame, floor configuration, architectural characteristics of the surrounding buildings and sculpture".

As reviewed earlier, architects and urban designers generally examine the spatial aspects of an urban space through different physical attributes, although the other important feature of urban space, its physical and psychological function is not only dependent on the size, scale or other physical attributes of the space. Square plays an important role in the life of the community. It is a space for people gathering that provides the human relationship with mutual contact, facilitates a shelter against the haphazard traffic (Zucker, 1970).

2.4.2 The street

The second major urban space, the constituent element of spatial structure of the city is street. After houses built on all available space around the square, people needed more land, more spaces, and more access. Therefore, street was created to offer a framework for distributing the land and provide the access to the individual plots (Krier, 1979). A Street is defined with the two walls and their relation with the floor.

> "If those walls are low in relation to the width of the street, views outward are not contained enough to provide a sense of unifying space. The range of human vision thus affects the perception of street space and scale” (Hedman & Jaszewski, 1984, p. 57).

The relation between the scale of walls and width of the street creates a special and meaningful space. Differences in the proportions of the width and height of a street provide various functions for the street and bring different senses to the users.

Krier (1979) challenged the new perception of street in the town rather to its function in the historical cities. He stated that although street is only perceived as a passing area, it is more functional space than square. It was inherited in the new town while it was planned for different purposes. Nowadays, its dominant function is vehicular traffic, though it was designed in the scale of human, horse and carriage. It is suitable for human activity and circulation while is used for the flow of motorised traffic.Tavasoli and Boniadi (1992) demonstrated the pathology of today's street with the entry of the automobiles:

> "Street as a channel for the movement of automobiles does not match with the concepts that this place as the urban space could have. The visual values of the street which is just for automobile traffic are different from the street for both the drivers and pedestrians or the street which belongs just to the pedestrians…." (p. 47).

Actually, to conceive the spatial value of the street without its today's problems, the street should be considered as part of a spatial network which can be perceived in the complex layout of historical towns (Krier, 1979). Figure 2.2 shows an example of the organic compositions of square and street in Nurnberg which had been made the sense of enclosure for the users of that urban space. Buildings have been arranged around these urban spaces and created a sense of enclosure.

In addition to experiencing the spatial value, streets have an important role on the people's daily life. Whyte (2003) a sociologist who studied the use of park and plaza, highlighted the street corner as a "*the most vital space*" (p. 435). To see the effects of this space on the

social life of area, he stated that "watch one long enough and you will see how important it is to the life of large space. There will be people in 100 percent conversations or prolonged goodbyes" (ibid.).

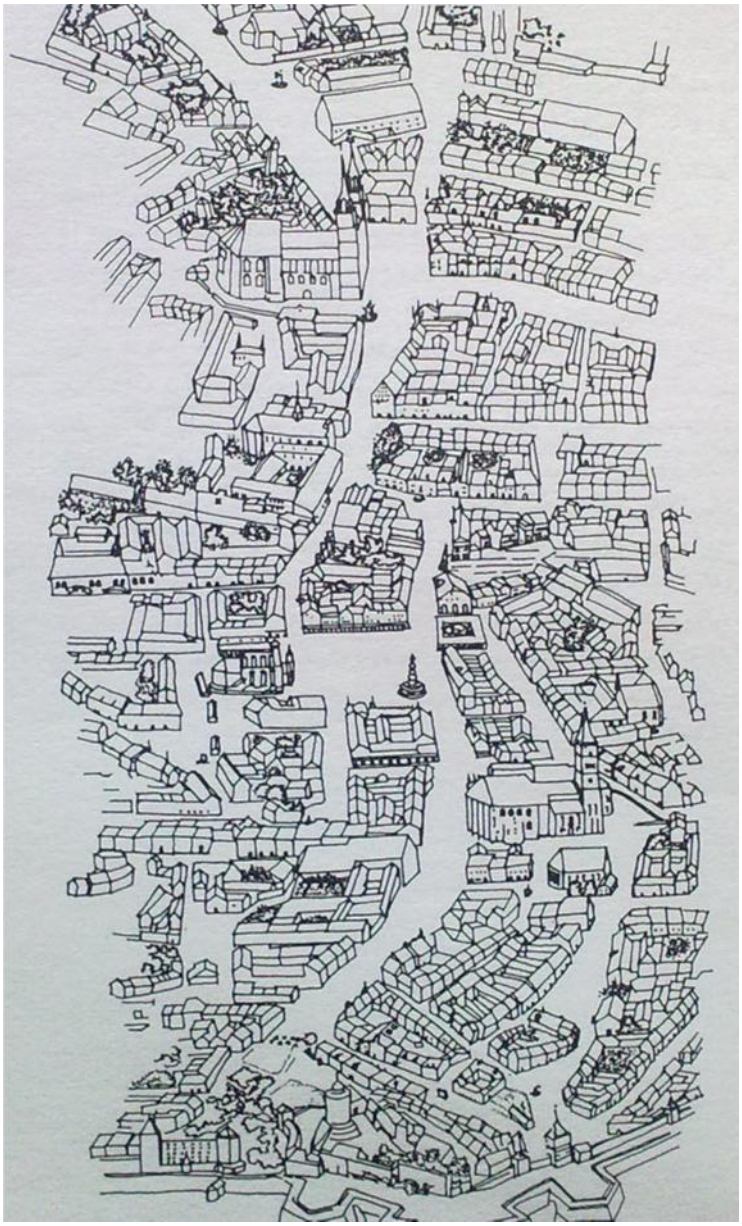


Figure 2.2 Nurnberg, an organic composition of street and square

Source: Tavasoli and Boniadi (1992)

Furthermore, Marcus and Francis (1998) expressed the other function of 'the street as plaza-pedestrian and transit mall'. One of the potential roles of the street is plaza, if it is closed to traffic. It becomes a space where people can get together, spare some time, do shopping, eating, sitting or looking around. These types of streets, pedestrian malls generally include some continuous blocks along shopping street that are entirely or primarily used by people on foot and mostly are located at the traditional or historical downtown area. Due to the pedestrian mall function, some modifications are usually done on the area, such as constructing or removing the existing roadway, changing the flooring and paving, street furniture and adding more planting. The facilities such as food serving, public art or entertaining services may not be comprised in all mall streets. Marcus and Francis (1998) defined three types of mall:

> "Traditional *pedestrian mall:* a street completely closed to traffic with permanent bollards, curbs, or other design detailing.
>
> *Mixed mall:* a pedestrian mall that allows limited use by automobiles, perhaps only during certain hours, and typically on a constricted roadbed.
>
> *Transit mall:* a pedestrian mall that incorporates public transit, allowing for buses, shuttles, or other transit, but not for private automobiles." (p. 23)

2.5 Livable streetscape

At the last decades of twentieth century, several researches were conducted on the different aspects of postmodern cities and criticized various problematic features of urban spaces such as dangerous, noisy, polluted, poor quality and not-welcoming environment (Davis,1990; Madanipour et al., 1998; Soja, 1989) . Considering this issues, to improve the quality and humanize modern cities' urban spaces, Jacobs and Appleyard (1987)

highlighted the notion of livability as one of the essential goal for a good urban environment. Livable space was defined as

> "..a place where everyone can live in relative comfort. Most of people want a kind of sanctuary for their living environment. A place where they can bring up children, have privacy, sleep, eat, relax and restore themselves. This means a well-managed environment relatively devoid of nuisance, overcrowding, noise, danger, air pollution, dirt, trash and other unwelcome intrusions" (p. 115).

Earlier, in 1969 "livable street" project, Appleyard and Lintell (1972) discovered the detrimental effects of traffic on deteriorating quality of life of residents. Traffic speeds and traffic noise was found as the important variables that significantly affects the livability of environment. In addition, the concept of *"livable streets"* was emphasized by Appleyard's famous book of the same name (Appleyard, 1981). He adopted the traffic calming approach in different cities around the world to humanize the urban environment against the continuous growth in traffic volume in cities.

After Appleyard's study, various researches examined street life and street use from different perspectives while they are based on livable streets agenda. Bosselmann et al. (1999) examined the livability of boulevards in California in comparison to conventional streets. It was discovered that boulevards were generally more livable than conventional streets with heavy traffic. In fact, the landscaped malls reduced the negative effects of high traffic volume. Overall, residents on heavy traffic boulevards were more satisfied with living conditions than residents of conventionally designed streets.

Dumbaugh and Gattis (2005) discussed about the relationship between the safety level of roadways and livable streetscape features. However, using some livable street elements like

trees along the roadside as fixed-object hazards are discouraged by conventional transportation safety practice, they found the evidences that suggested these features may enhance the safety of urban roadways.

In Basel, Switzerland, five streets were examined and compared regard to the impact of traffic volume on the quantity and quality of street life. This research discussed on how the greater potential for a richer community life has been offered by the quieter street and how it has been achieved (Sauter & Huettenmoser, 2008).

Furthermore, the studies by Park (2008) in California and Mesbahul Tariq (2007) in Morden city revealed the influence of traffic on users' choice for travel mode. It showed that traffic calming can have great effects on walkability of streets, and encourage people to walk as well.

In addition to traffic features, some studies examined the effects of other attributes on quality and livability of streets. For instance, Mackett et al. (2008) reported developing software for evaluation of accessibility of environment for disabled people. This study examined the small details of streetscape that provide the facilities for disabled people or for example, make entering the building or crossing the road difficult. A case study in the UK was used and showed how changes in these details can have significant effects on street use and gaining access to the needed services for such people. Moreover, it revealed the influences of these items on the livability of environment for disabled people.

Also Portella (2007) illustrated the visual damage and negative influence of commercial signage in the historic parts of city centers. It also showed to what extent this problem and the lack of general guidelines for controlling signs can affect the quality of the area and users' perception.

Forsyth et al. (2008) argued that physical characteristics of an area can also influence the walkability of the area. Wherever, the physical characteristics of an environment have a welcoming quality, the amount of physical activity and walking increase. Also, some researches revealed great influence of the physical elements on users' perception about distinct identity of the area and their sense of place (Ida Suriana Ismail et al., 2008; Shuhana Shamsuddin, 1997; Shuhana Shamsuddin & Norsidah Ujang, 2008).

In addition, Layne (2009) illustrated how landscape setting as well as environmental/natural factors can support the intergenerational interaction in the public space, so that youth and old people can communicate with each other in a well-setting open space.

However, these studies are all valuable research which tried to evaluate the livable streetscapes, each research only examined one or two factors that affect the quality and livability of street and assumed that all other physical variables are the same. So, this study attempts to identify all influential attributes that affects the design and livability of streets.

2.6 Attributes of streetscape

Different classes of people from different cultures and backgrounds come together in public spaces in the city and enjoy mutually. If this experience is repeated, public urban spaces work as the vessels for carrying the positive communal conceptions (Carr et al., 1992). What makes the urban spaces as the *'vessels of positive communal meaning'* or the abandoned ignored spaces? In order to find an answer for this question, researchers with different background in urban studies such as urban design, architecture, sociology, psychology and even economy have studied the characteristics of different urban spaces. The result of their researches is considered as a good source of exploring effective factors

for designing the user-friendly urban space. After identifying all the factors which have an impact on urban public space, designers can use them according to the people's needs.

Concerning this issue and the objectives of the study, after the perceiving the concept of urban space and defining its two major types, the influential attributes on designing the streetscape is studied. Since the streetscape is a type of urban space, and most researches on the urban space' factors have studied the attributes of all different types of urban spaces as a whole, in order to identify the attributes of streetscape, the attributes of urban space is generally studied and then it will be generalized to the streetscape.

Owing to the importance of urban space on the people's lives, an attempt has been made to identify all elements which are effective in designing urban spaces and accordingly, affect our social-cultural life. So, in the next parts the physical and non-physical attributes of urban space will be highlighted, and the physical attributes will be studied in more detail.

2.6.1 Non-physical attributes

While urban designers stress on the importance of physical attributes in the design of urban spaces, the role of non-physical factors, for instance, environmental, social, and functional factors should not be ignored. Zeisel (1981) highlighted the importance of some non-physical, social attributes on the built environment. He argued that what people see, what people feel, and what people do, guide their reaction to the physical environment setting.

Almost all designers and researchers pointed out to climatic factors such as temperature degree, intensity and direction of wind, the extent of humidity, solar heating and direction of sun light as the first items that affect the form and the function of space (Lo et al., 2003; Rubenstein, 1992; Speiregen, 1965). The activity pattern which is planned in the urban

open spaces influence the function of the area and it especially gathers specific types of users in the space.

> "according to observation studies of modern plaza use, sitting, standing, walking and their combination with eating, reading, watching and listening account for more than 90 percent of all use" (Marcus & Francis, 1998, p. 13).

The sense has various definitions as an urban space attribute in different literature. Lynch (1981) defined the sense of a place as the identity of that space which distinguishes that space from other spaces. Any specific object or subject such as special lighting, colors, and smells, views that are only found in that space can create this clarity and identity. In other words, Bentley et al. (1985) highlighted the richness of environment is where we can feel the sense motion, the sense of touch, the sense of hearing, and the sense of smell.

To what extent the aesthetic aspect should be engaged with designing of urban space is another debate on the design criteria? The beautification of urban spaces is generally described by planting various types of trees, vegetation and using artistic fountain or sculpture in different public spaces as the public art which attract people to come and visit the area (Hedman & Jaszewski, 1984). However, in this study these features - planting and landscaping, fountain and sculpture - are examined at the physical part, there are also other forms of public arts such as wall painting, predominant decoration and graffiti which are considered as the qualities people seek in the outdoor spaces (Carr et al., 1992). In addition, Tavasoli and Boniadi (1993) pointed out the other aspect of aesthetic basis such as 'complexity and order' which can be perceived in the traditional urban spaces.

> "It is the task of urban designers to extract the criteria of coordinating the components and the totality, from the historical cities that contribute to the unity of form in the space" (p. 19)

Cullen (1977) believed in an art beyond the architecture. Combination of elements of urban spaces such as nature, building, traffic, signs and others creates a product that its perfect design needs the *'Art of relation'* (p. 7). The essence of his spatial expression was based on the successive views that were created by attraction, movement and exploration of new and newer views in the urban spaces that can be stated as the cognition of optic aspects.

After examining the climatic, functional, sensational and aesthetic attributes some social features are demonstrated which affect the urban space's life. Safety in an area is one of the most significant social elements which determine the degree of an urban space usage (Lynch, 1981). If people feel safe, they can bring their children to play at the evening or they can get together for any informal function at the public spaces. However, the lack of security in the urban open space, may led to an abandoned area being used by drug addicts that is not a safe place to the family member (Shaftoe, 2008). The other social factors which affect the urban spaces are the efficiency and justice in the area. Lynch (1981) demonstrated these two attributes as the Meta criteria for designing the space. Efficiency is related to the balance between cost and benefits of creating and maintenance of all other factors in the area. Justice indicates the extent the benefits of a space are distributed properly among all users. Some researchers pointed out to this issue from gender perspective. For instance, Whyte (2003) during his research on the urban spaces observed that women are more discriminating than men as to where they will sit and are more sensitive to annoyances. He argued that if an urban space has a high proportion of women, it is a good and well-managed urban space.

Management is the attributes that can affect almost all other attributes of urban spaces. How to manage the public spaces and to what extent people should participate in managing and controlling the urban spaces, are some controversial issues of urban spaces (Carr et al., 1992). However, the more the users participate in the management of the area, the urban space is considered more successful. Table 2.1 summarized all these non-physical attributes that have great influences on the quality of urban space.

Table 2.1 Non-physical attributes of urban space

	Non-physical attributes	
1	Climatic Factors	• Temperature • Sun • Wind direction • Humidity • Storm
2	Activity patterns of urban space users	
3	Sense	• The sense of place • The sense of unity • The sense of motion • The sense of smell • The sense of hearing • The sense of touch
4	Aesthetic aspect	• Beautification and public art • Coordination of components and totality
5	Art of relation	
6	Safety	
7	Meta criteria	• Efficiency • Justice
8	Management	

2.6.2 Physical attributes

Most of the urban space researchers after the 19th century, in all social, environmental, architectural and city planning fields, have expressed the impact of the physical attributes of surrounding built environment on people's lives. Barker (1978) argued that however people are sensitive to the physical environment, they generally conform and follow the planned form and pattern in the space, either it supports their needs or not.

In addition, people's perception, feeling, and behavior that comprise their environmental values can be reflected on the physical environment and can also affect the environment (Rapoport, 1982; Sanoff, 1991). Katz (1993) expressed a stronger comment that the culture of a community is affected by the physical design of that community's built environment.

With regards to the significance of urban space's function on the people's daily life, there is always a question that although all urban spaces are designed, why various types of people support some urban spaces and the others are ignored? To answer this question, researchers usually examine the differences between the physical attributes of these two urban spaces and observe how they affect the people's behavior. For instance, Layne (2009) examined the features and function of Rittenhouse Square and Logan Circle as the two significant urban spaces of Philadelphia city which one of them was so people-friendly that supported the interaction of all ages, though the other did not support. He concluded that

> "What the review of these two spaces did reveal was that the physical environment influenced and obviously played a role in the type and quality of the interactions that people had with one another and either encouraged or discouraged those interactions" (p. 3).

With regards to the above mentioned discussion, the physical attributes which are influential on design and quality of urban space, will be described and their special function will be defined in the following part.

i. Paving

The pavement, flooring and paving are always considered as the significant elements of urban spaces that attract the attention of urban designers and landscape architects. Marcus and Francis (1998) illustrated the role of paving in defining the public space.

> "A change in surface that is readily apparent to the feet and eyes, such as transition from sidewalk paving to brick, can define a plaza as a separate place without discouraging entry" (p. 51).

Rubenstein (1992) highlighted the pattern, texture, scale, and color as some characteristics of designing the city floor or paving of the streetscapes like pedestrian malls. The overall design of a space can be influenced by the paving pattern via using such material as stone, brick and concrete that creates a sense of scale. Durability and maintenance of material should be considered as well. In addition, handling the way water runoff in the street through the proper slope of paving is the other important factor of well-designed pavement.

ii. Shelter and canopy

The need for shelter must be related to climate. In some countries, it may be sensible to consider constructing free-standing canopies linking the frontages or even as in Gotgatan in Gothenburg, providing a roof to cover the whole street (Cresswell, 1979). Shelters and canopies provide a protected area at the public spaces where people can enjoy their time there and continue their activities during the weather changes. Some public spaces are rendered unusable because the designers did not consider the climatic factors during the design process. Rubenstein (1992) demonstrated the role of shelters and canopies in some

streetscapes such as pedestrian malls. He stated that a comfortable seating space used to be provided by the shelters that protect sitters from weather protection and climatic factors such as raining, wind or even sunlight. In addition, these shelters as the architectural features of the space can create a sense of place by a well-designed form and a proper choice of structure and material.

iii. Seating

Whyte (2003) after examining all factors which have influence on attracting people to a plaza or other urban spaces, recognized seating as the major one. He concluded that the amount of settable space in a park or plaza was much more important than either the total space or its shape. In addition, Shaftoe (2008, p. 142) suggested the designers, to "provide a variety of sitting opportunities (not just fixed benches)", as one of the practical tips for achieving the best possible space.

> "The most basic kind of seating is the kind that is built into a place, such as steps and ledges…. The more settable the inherent features are made, the more freedom people have to sit up front, in the back, to the side, in the sun, or out of it. This means designing ledges and parapets and other flat surfaces so they can do double duty as seating, tables, and shelves" (Whyte, 2003, p. 433).

Style and orientation of seating, having primary and secondary seating, sitting alone and group are also some important factors in designing the seating in urban space (Marcus & Francis, 1998). Furthermore, Rubenstein (1992) argued that designers should notice the function of urban spaces for selecting the type of sitting and their placement. In the pedestrian malls, the sitting spaces are generally set back from the major circulation lines. Furthermore, the weather protection should be considered, since sitting in shaded area are preferred than sitting under the sunlight.

iv. Lighting

Lighting is one of the public space furniture elements that have a great effect on the quality of urban spaces. It allows people to extend the time of their night activity in the urban spaces. In addition, it can be considered as the security feature of urban spaces. These night lightings are usually designed by cooperating the architects and electrical engineers (Rubenstein, 1992). Special lighting on the planting, sculpture, fountain and other attributes of urban context, can also play the role beautification of urban space. Concerning this issue, in order to have a convivial urban space, Shaftoe (2008, p. 142) suggested to "install pedestrian-friendly lighting that mounted not too high and incorporating full colour spectrum luminaries".

v. Signs

Signage is another element of urban space furniture that informs the different functions of spaces and conveys the essential message about the safety, security of the urban spaces. It also enables the users to obtain the needed information at the shortest time, although the wrong signs can be dangerous as well. It is also considered as a part of the overall graphical elements of urban spaces that can beautify the space or become a visual pollution by itself. Rubenstein (1992) defined different types of signs for urban spaces such as central city areas or street malls:

> "There are four basic purposes for which signs are needed: To provide mall identity, to improve traffic flow, to identify commercial facilities, and to provide information on the direction or location of activities" (p. 67).

vi. Planting

Trees and vegetation are almost the most influential attributes of public spaces. Rubenstein (1992, p. 97) enumerates different functions of plants in the city. He categorized them into

three groups: "climatic control; environmental engineering; and architectural and aesthetic uses".

- Climatic uses: Temperature, solar radiation, humidity, air movement or wind, and precipitation are some climatic attributes which affect the pedestrians in the urban spaces. Trees and plants can have a great effect in different ways through the control of these factors and soothing the human environment.
- Environmental engineering: planting helps air purification, absorbing unwanted noise, deflecting the sound waves, reducing and filtering the glare, and controlling the erosion from water that runoff in the slopes or flat areas (Marcus & Francis, 1998; Speiregen, 1965).
- Architectural and aesthetic uses: The last one which is well known for architects and urban designers is about the 'architectural and aesthetic uses'. Planting as an architectural element plays a significant role on definition of the space, continuity, and screening. Also, it can work as an aesthetic feature like trees as sculpture, view control and mood (Rubenstein, 1992). Actually, this feature affects human life in the urban spaces, both physically and psychologically. One of the most important psychological roles of the plants is influencing people’s mood by providing privacy in the public spaces and a creating different feeling in the space such as sense of spring time as new leaves unfold and flowers bloom. This description can explain the reasons for people going to the parks or other green urban spaces, especially when they are not in a good mood.

Marcus and Francis (1998) also demonstrated the influence of planting on the urban spaces: “The variety and quality of textural, color, massing, aural, and olfactory effects created by a careful planting plan can add immeasurably to a plaza’s use” (p. 44). Before Marcus and

Francis's (1998) demonstration, Joardar and Neill (1987) studied ten downtown plazas in Vancouver and stated that visual variety and complexity that was created by various types of trees, planting and uncommon shrubs and colorful decoration attract people to the urban spaces.

vii. Fountain and Sculpture

Sculpture and fountain can be considered as two artistic elements of urban spaces which can enhance the aesthetic aspects of the space. Rubenstein (1992) pointed out the fountains as the focal elements of urban spaces. Besides, when the water flows on the fountain, it provides many unique qualities such as cooling effect of the sound of water. This condition facilitates the designers with numerous creative options. Marcus and Francis (1998) also highlighted the role of water sounds at noisy public spaces.

> "The visual and aural attraction of moving water is universal. A noisy fountain located close to seating may successfully screen out surrounding traffic noises and help immeasurably in creating a pleasant ambiance" (p. 50).

Sculpture as the other art work in the urban spaces, besides the fountain and the wall reliefs, can improve the sensational quality of environment. These elements can create a quality atmosphere that people wish to come and spend their time. Although, people are mostly interested in the urban spaces that is integrated with works of art, the design features of these elements are the important factors that influence the quality of the objects and satisfy the users. The scale, size, shape, form, color, material are stated as the important design attributes of sculptures, and night lighting, piping, mechanical systems, bottom and material are also added as the design features of fountain (Rubenstein, 1992).

viii. Proportions of space

Scale:

Scale is a word which is used for the definition of any measurement system. In the design of Gothic buildings and ancient Greek architecture, modules are based largely on human dimensions were used. Le Corbusier (2004) created a system of measurement which has united both scale and module. Le Corbusier's "Modulor", made Man the measure in a system of rhythmic harmony and elegant proportions. It could be applied to a city as well as a building.

According to Speiregen (1965) the term of scale is also used in urban design to interrelate the different parts of the city with each other and also with people to create the sense of place in the surrounding environment. He also demonstrated some important distances and scales which affect the people's urban life. For instance, he illustrated that the distances for communication ranged from 90 cm to 1200 meter. The 90 cm distance indicates the close relationship, the 2.5 meter shows the normal conversation, the facial expression cannot be distinguished in more than 12 meter and body gestures in not more than 135 meter, and finally 1200 meter is the maximum distance for seeing people. In addition, he uses this analysis in the scale of urban space. The 250 meter is counted as the ultimate distance for the intimate spaces of a city, and the 135 meter for the intimate urban spaces (Speiregen (1965). However, sometimes the designers break these rules to create a special effect.

The other important issue of scale in the urban environment is that the space and building should be in appropriate scale with each other, with the context and also with people. A tall tower located in an intimate neighborhood or a small shop house beside a skyscraper is both out of scale. Human measure and compatibility are both associated with the scale (Hedman & Jaszewski, 1984).

The different scale in the urban space perceives the sense of space. The physical enclosure which is articulated by urban form is the fundamental requirement of urban space. The degree of enclosure - which is called sense of space - is determined by human vision (frontal field of view in a space) (Tavasoli & Boniadi, 1993).

> "When a façade height equals the distance we stand from a building (a 1 to 1 relationship)...we feel well enclosed. When a façade height equals one-half of the distance we stand from a building (1 to 2),... This is the threshold of distraction, the lower limit for creating a feeling of enclosure. When a façade height equals one-third our distance from the building (1 to 3), we perceive the prominent objects beyond the space as much as we do the space itself. When a façade height equals one-fourth our distance away from the building (1 to 4), ... the space loses its containing quality and peripheral facades function more as edges. The sense of space is all but lost, and we are left instead with a sense of place" (Speiregen, 1965, p. 75).

So, it is apparent that the facades of a building play an important role in spatial enclosure of an urban space. Drastic changes between the facades, the numerous gaps between the walls, and disharmonious cornice line can weaken the spatial enclosure. However, generally the designers emphasize the increasing rate of the wall height to the width to define the sense of space, it also can lead to some negative points such as a reduction in the amount of sunlight or feeling the claustrophobic by some people due to the existence of too many tall buildings (Hedman & Jaszewski, 1984).

Finally, Shaftoe (2008) highlighted the role of ‘human scale’ as one of the ‘psychological and sensual elements’ of urban space:

> “People seem to enjoy a sense of enclosure without feeling claustrophobic. Huge structures (whether they be walls or building) and vast open spaces may be awe-inspiring, but they are unlikely to facilitate a feeling of conviviality” (p. 141).

ix. Time and different architectural styles of buildings

By passing time during the several decades and even some years, the architectural style of designing the building varies. This variation can either create the visual attraction in the cityscape or make the contrast between the adjacent buildings. In order to have the harmonious cityscape, streetscape and urban space without rupturing by exaggerated contrast among the architectural style of buildings, designers should seek the harmony and continuity without repetition. "Continuity over a period of time, or the sequential relationship that any event has to any other, past, present, or future, is important" (Rubenstein, 1992, p. 54).

x. Skyline

The height of the building around an urban space, skyline, is an efficient factor on defining the sense of space.

> “The buildings composing the frame generally should be of a uniform height that does not vary more than 25 percent. The more uniform the frame, the easier it becomes to suggest the presence of an invisible ceiling to define the height of the space” (Hedman & Jaszewski, 1984, p. 75).

Height control in urban space is primarily defined by height limit, though it is not the only mean. In most cities, after the serious damage on the coherence of skyline, the necessity for the height controls is usually discovered (Moughtin et al., 1999). However, the imposed height limits cannot repair the previous failure; it ensures that no more damage will be

made. The tall towers which do not have any coordination with their contexts are the sort of devastating design dilemmas for urban designers (Hedman & Jaszewski, 1984). The significance of the height control is specifically perceived when the development reaches to the historical part of the city. A good execution of the height control's that regulation can prevent the violation from the general pattern of development of the area and provide the coherent and harmonious skyline. However, the several researches have revealed that height control may affect the rapid growth and disturb it; it cannot limit the growth except in the lowest height level.

xi. Facilities for disabled people

Unfortunately, due to the small percentage of disabled people, their requirement in the public spaces is usually ignored. While the facilities for disabled people are considered as the successful features of people in open spaces and their presence should be taken into account in all aspects (Marcus & Francis, 1998). Stairs and steps without ramps at the walkways or entrances of building and inappropriate paving are the most important problems of disabled people, or people who carry prams and trolleys or even mother with the children, in using the urban spaces.

xii. Parking space

Parking space is not part of urban space design attributes in any literature and no research has been done yet. However, its influence on the people's usage of the urban spaces cannot be ignored. Existence of this element attracts people to use the urban space, and users are discouraged if it is not facilitated sufficiently, especially when the quality public transportation is not provided in the area as well. Rubenstein (1992) highlighted the role of parking and transit system as a key factor in quality modern urban spaces, and especially

the significance of affordable parking spaces for the convenience of the users in some streetscapes which work as a pedestrian mall.

> "Providing quality urban space, including plazas and pedestrian malls, encourages use of the city and stimulates a relaxed atmosphere for casual strolling, window shopping, and browsing. To achieve this, convenient and economical parking must be provided. Parking and transit systems are a key factor in the success of pedestrian malls and urban spaces…" (p. 17)

xiii. Accessibility

There are different types of accessibility to the urban spaces. The vehicular accessibility, access for the cyclists, accessibility via public transportation, and access on foot for pedestrians are the main types of accessibility of urban spaces (Webber, 1963). Providing each of them can change the activity pattern of the urban space, based on the function of the area.

In order to restore the spatial values of urban spaces and comfort of the users, the streets which have the role of pedestrian malls or even have the especial historical values, the automobile access are forbidden and the spaces are devoted to the pedestrian activity (Rubenstein, 1992). On the other hand, urban spaces which are located in the city center are usually facilitated by quality public transportation and limited vehicular access to discourage people from using the private transportation.

xiv. Traffic

However, nowadays traveling by the automobile is integrated into people's daily life, most urban researchers name vehicular traffic as the major problem of modern cities which deteriorates the quality of urban spaces (Krier, 1979; Tavasoli & Boniadi, 1992; Trancik, 1986). It usually influences the usage of outdoor spaces, both directly and indirectly.

Vehicular traffic brings the various pollutions to the urban spaces, though the most activities of modern life are dependent to its function.

> "Noise, congestion, smell and heat associated with automobile traffic and pavement detract from the uses of an outdoor space, especially for rest and retreat" (Marcus & Francis, 1998, p. 196).

In addition, Shaftoe (2008) believed that vehicular circulation at the 'convivial urban spaces' should be banned or tightly controlled. Also some studies have shown the effects of different types of traffic on livability of street in various countries. These studies mostly illustrated that traffic calming measures and speed limit make the streets more livable environments (Appleyard, 1981; Biddulph, 2012; Sauter & Huettenmoser, 2008). Then, some initiatives started on how to transform the arterial streets to, for instance, neighborhood centers or business frontage and hence improve the streets that connect the neighborhoods typically (Chartered Institute of Highways and Transportation, 2010; Tiwari & Curtis, 2012).

xv. Maintenance and cleaning

Although maintenance is not a designing element of urban space; it can be considered as one of the most influential factors in the life of quality urban open spaces. People are always interested in the well-maintained public space and also will care for it more, rather to the neglected space.

> "Lack of adequate maintenance also leads to 'tipping': An escalation of damage and deterioration (e.g. graffiti tagging that is not swiftly removed will encourage more; if rubbish is not cleared up promptly, users will not hesitate to dump more)" (Shaftoe, 2008, p. 140).

These poorly maintained areas - urban spaces without fresh flowers or planting and with the lack of litter containers - not only discourage people to use the spaces, it also provides a bad image and unpleasant view for the buildings nearby. In addition, the time of working and maintenance activity in the urban spaces is another important factor in inviting the people. For instance, watering the lawns at the lunchtime is not a welcoming message to the users of urban space. Furthermore, there are other elements such as litter container that usually considered as a detail, though they play an important role in the successful function of public spaces (Marcus & Francis, 1998).

Finally, to sum up the reviewed discussion, Table 2.2 shows all the studied physical attributes.

Table 2.2 The Identified physical attributes of urban

Physical Attributes of Urban Space
1. Paving
2. Seating
3. Shelter and canopy
4. Lighting
5. Signs
6. Planting
7. Sculpture and fountain
8. Proportions of space
9. Time and different architectural style of buildings
10. Skyline
11. Facilities for disabled people
12. Parking space
13. Accessibility
14. Traffic
15. Maintenance and cleaning

In addition, Table 2.3 illustrates the identified attributes derived from each literature. It indicates that through reviewing the 18 significant literatures, from 1975 to 2011, that studied urban space, the highlighted attributes which are influential on different aspect of urban spaces has been identified. By reviewing various literature studied in Table 2.3, it perceived that each researcher or even every organization has categorized these attributes differently according to its own purpose. Therefore, with regards to the objectives of this research, the identified attributes of urban space are categorized into two groups: Physical attributes and non-physical attributes.

2.7 Summary of the chapter

This chapter studied different aspects of streetscape. In order to perceive the concept of streetscape deeply, at the first part of literature review, the meaning of space, open space, and urban space were defined and also the differences between open space and urban space were illustrated. Secondly, two types of urban space, the square and the street, which comprise the spatial structure of the city, were elaborated. Then the concept of livable street and pertinent research were discussed.

Thereafter, in order to achieve the first objective of the study, the researcher focused on various attributes of urban space. So, through reviewing the 18 literatures from 1975 to 2011, the 23 attributes which are influential on the designing of streetscape were identified. Regarding the purpose of this study, they were categorized to two groups of physical and non-physical attributes. Then the 15 identified physical attributes - paving, seating, shelter and canopies, lighting, signs, planting, sculpture and fountain, portions of space, time and

Table 2.3 The identified attributes of urban space derived from literatures

The attributes of urban space		Literature																	
		Pushkarev & Zupan (1975)	Cullen (1997)	Lynch (1981)	Headman & Jaszwski (1984)	Ardalan & Bakhtiar (1985)	Bentley et al (1985)	Gehl (1987)	Marcuse & Francis (1990)	Tavasoli & Boniadi (1993)	Carr et al (1992)	Rubinstein (1992)	Cherulnik (1993)	Tomalin (1998)	Whyte (2001)	Lo et al (2003)	shaftoe (2008)	Forsyth et al (2008)	Gjerde (2011)
Non -physical attributes	1.Climatic factors: Temperature, storm, wind, sun, humidity	√		√				√	√			√	√		√	√			
	2. Activity patterns of urban space						√		√		√	√			√		√		
	3. Sense: The sense of place, The sense of unity in the space, The sense of motion, the sense of smell, the sense of hearing, The sense of sight and sense of touch			√		√	√			√							√		
	4. Aesthetic aspect: Beautification and public art, Coordination of components and totality,				√	√	√		√	√	√	√					√		
	5. Art of relation		√																
	6. Safety			√				√	√		√	√					√		
	7. Meta criteria: efficiency, justice			√											√				
	8. Management										√		√						
Physical attributes	1. Paving				√				√			√							
	2. Seating	√						√	√		√	√	√	√	√	√	√		
	3. Shelter and canopy											√					√	√	
	4. Lighting										√	√					√	√	
	5. Signs							√				√							
	6. Planting				√				√		√	√	√		√	√	√	√	
	7. Sculpture and fountain								√		√	√	√	√	√	√			
	8. Proportions of space				√		√	√	√								√	√	√
	9. Time and different architectural style of buildings				√							√							
	10. Skyline				√														
	11. Facilities for disabled people											√							
	12. Parking space											√							
	13. Accessibility	√		√	√		√		√			√	√			√	√		
	14. Traffic											√					√	√	√
	15. Maintenance and cleaning								√		√	√					√		

different style of building, skyline, facilitates for disabled people, parking space, accessibility, traffic, and maintenance and cleaning - were defined comprehensively.

The next chapter will highlight the selected methodology of this study. It will also discuss about the methods of data collection and analysis of data.

Chapter 3
Methodology

3.1 Introduction

This study attempts to discover the most common physical problems of Kuala Lumpur's streetscapes. In order to achieve this aim, the study discusses about the physical attributes which influence the physical conditions of streetscapes. These attributes were identified through reviewing the pertinent literature - stated in the previous chapter - about the physical characteristics of the urban spaces especially the streetscapes. It can be demonstrated that this study is both exploratory and descriptive research that tries to examine the current conditions of physical attributes of Kuala Lumpur's streetscapes by selecting two important streets of Kuala Lumpur as the case studies of this research.

The following sections describe the research design, process of research, data collection, data analysis and limitations of the study.

3.2 Research design

Research design involves planning the procedure of the research from making the hypotheses to details of data collection process, analysis of the findings and the interpretation. This definition reveals the importance of the decisions needs to be made to study a topic. Creswell (2009) discussed about different types of research design and stated that

> "...The selection of research design is based on the nature of the research problem or issue being addressed, the researchers' personal experiences and the audiences for the study" (p. 3).

So in the next section, different types of research design and methodology are demonstrated

3.2.1 Research approaches

The most known types of research design are qualitative, quantitative and mixed methods. How to distinguish these three approaches is usually discussed from different points of view. Newman and Benz (1998) demonstrated that the qualitative and quantitative methods should not be considered as polar opposites or dichotomies; they rather point out two ends of a continuum. Generally, a study contains both approaches, while it leans more quantitative rather than qualitative or vice versa. Since mixed method involves both qualitative and quantitative factors, it stands in the middle of that continuum.

Creswell (2009) highlighted some criteria for making the distinction between qualitative and quantitative approach, for instance, using words or open-ended questions (in the interview) for qualitative approach rather than using numbers or close-ended questions (in the questionnaire survey or quantitative hypothesis) for quantitative approach. Although the more perfect way of looking at these differences is considering the basic philosophical assumption of the study, or the type of applied strategy overall in the research - like qualitative ethnography or quantitative surveys -, and special method used in conducting the strategy - such as collecting the data quantitatively via instruments, measures or gathering qualitative data through observation of a phenomenon.

Though quantitative methods have dominated the strategies of inquiries during the research history, during last decades researchers have identified many strategies as qualitative methods such as Tesch (1990) named the 28 approaches, tree of Wolcott (2001) contained the 19 types and Creswell (2007) demonstrated the five approaches. Similarly, the classification of mixed method strategies varies in different literature. For instance,

Tashakkori and Teddlie (2003) identified almost 40 various types of mixed methods designs. Creswell and Clark (2007) summarized 12 different classification of mixed methods strategies which includes 15 years of writing about mixed method approaches in educational, health, evaluation and social science displines. Finally, they highlighted four major types of mixed method designs "Triangulation Design, the Embedded Design, the Explanatory Design, and the Exploratory Design" (Creswell & Clark, 2007, p.59).

Besides the qualitative, quantitative, and mixed method, there are also other words - Descriptive, Explanatory, and Exploratory - which define the different types of research designs. However, Nowadays these titles are used largely for all type of academic research, Babbie (1989), firstly, identified description, exploration, and explanation as the three different purposes of the social science research. A study is called exploratory research when researchers "... have little or no scientific knowledge about a group, process, activity or situation they want to examine but nevertheless have reason to believe it contains elements worth discovery" (Stebbins, 2001, p. 6). It is classified as Descriptive research when the purpose of the study is elaborating an accurate description or picture of a situation or demonstrating the characteristics of a phenomenon. It mostly describes the variables as they exist or describes the existing relationship among the variables rather to focus on cause and effect relationship (Johnson & Christensen, 2010). In contrast to the descriptive research, "explanatory research seeks to identify causes and effects of social phenomena and to predict how one phenomenon will change or vary in response to variation in some other phenomenon" (Schutt, 2006 p. 15).

In the next part, the selection and design of research methodology of this study are illustrated in details.

3.2.2 Selection of mixed method approach

Design of the strategy of inquiry in each research depends on the purpose of that study. The purpose of this study is to identify the physical attributes which may have contributed to the better livability and quality of streetscapes. In addition, the research sought the most common physical problems of Kuala Lumpur streetscapes through examining the current conditions of the identified physical attributes on the two important street of Kuala Lumpur. The case study streets are Bukit Bintang Street and Tun Perak Street at the Masjid Jamek area. After discovering the physical problems of the two case study streets, the significance effect of these problems on the quality of areas are evaluated from users' perspective. Thereafter, some research design strategies are suggested to improve the quality of Kuala Lumpur's streetscapes.

Based on this purpose and two different types of collected data, mixed method is the required methodology for this study. Selecting a mixed method design depends on three key factors named as the timing decision, the weighting decision and the mixing decision (Creswell & Clark, 2007).

The time decision is related to the time set that data are collected, analyzed and interpreted. If the qualitative data and quantitative data are collected and implemented at the single phase of the research and almost at the same time, it is the concurrent timing. If the quantitative and qualitative types of data use (collect and analyze) during the two separate phases of the research so that one type implements before the other, it is Sequential timing. Then, researcher should choose which type of data - qualitative or quantitative - to collect and analyze firstly and secondly. The weighting decision is related to the priority or significance that researcher gives to the qualitative or quantitative approach to achieving the research objectives. These two methods can take an equal importance in answering the

research questions or may play unequal role in addressing the research problem. The third key factor is how to mix these two data sets. Three types of mixing are demonstrated as the "merging data sets, embedding data at the design level, connecting from analysis to data collection" (Creswell & Clark, 2007, p. 83).

Each combination of timing, weighting and mixing, design one of the mixed method types. In this research, sequential timing, qualitative weighting and connecting selected to choose one of the mixed method designs. Therefore, exploratory sequential mixed method adapted to achieve the research objectives. Figure 3.1 shows the process of this research design.

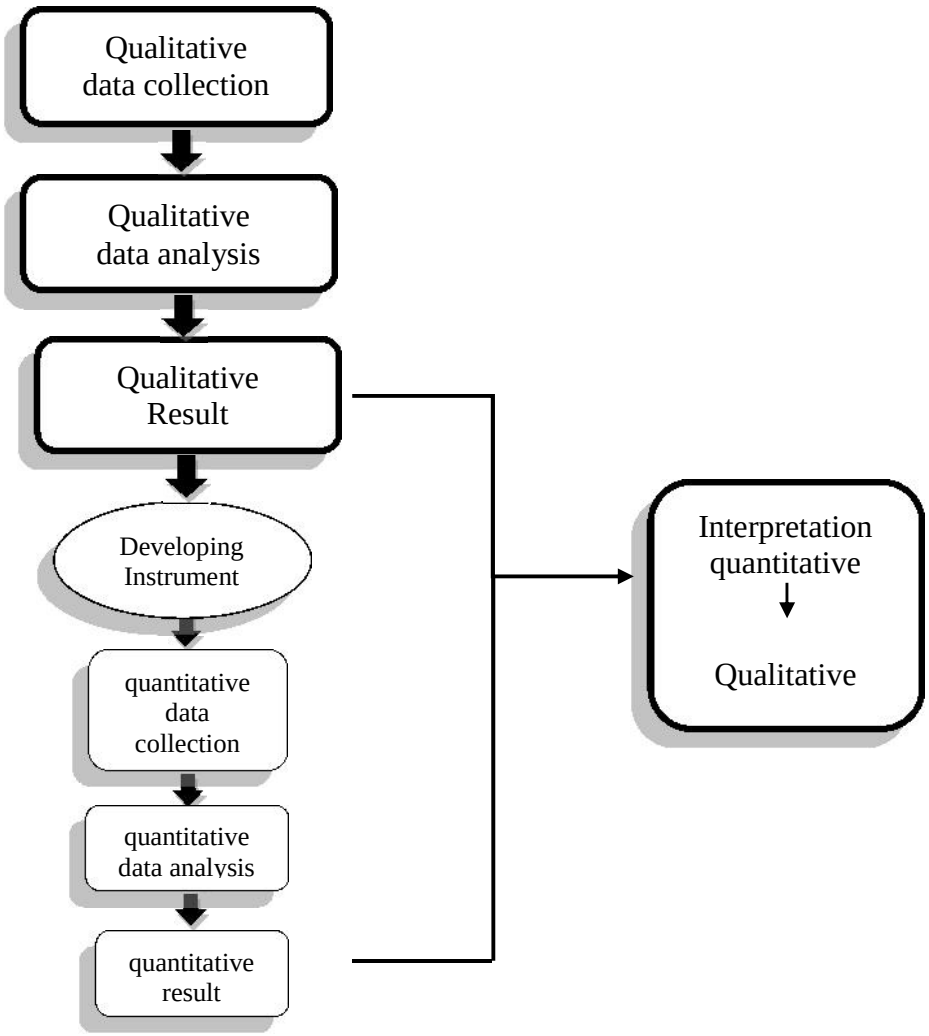


Figure 3.1 Process of research design: Exploratory Sequential Mixed Method Design: Instrument Development Model

Case study method was selected as the qualitative approach of this research and then the questionnaire survey was adopted for the second phase of quantitative approach. Finally at the discussion and conclusion part, based on the quantitative result, the qualitative result will be interpreted. In fact, at the qualitative part, the physical problems of the studied areas were identified and through the questionnaire surveys, the people's perception about those problems was clarified. So, the importance of these problems from users' perspective and their effects on livability and quality of the areas are considered as the basis for interpretation of this study.

The following parts justify the selection of this methodology and also demonstrate the elements of case study design.

3.2.3 Justification of the research method

The Exploratory sequential mixed method was adopted as the methodology of this research which contains two separate phase of qualitative and quantitative approach. Choosing the case study approach among other four qualitative methods -ethnography, grounded theory, phenomenology, and narrative research (Creswell, 2009) - and conducting questionnaire survey for the quantitative phase had several reasons as follows:

i. **Nature characteristics of the exploratory research**:Yin (2003) stated that case study is a preferred strategy "when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context" (p. 1). Creswell (2009) also added that case study is "a strategy of inquiry in which the researcher explores in depth a program, event, activity, process or..." (p.13). Since discovering the physical problems of streetscape are the kind of exploratory field research that researcher does not control the

situation; case study adopted as the qualitative approach for the first phase of data collection.

ii. **Type of the research questions**:Yin (2003) recommended the case study strategy for when the 'what, why, and how' questions are being presented. He also stated about the distinction between two types of ‘what’ questions. Some types of ‘what’ questions are different forms of ‘How many’ or ‘How much’ questions. He suggests the survey or archival strategies for these types of question; while other type of ‘what’ questions can be appropriate for conducting an exploratory research. Since the research questions of this study are begun with 'How and What', and the what questions are more similar to the second type of ‘what’ questions, an exploratory research seems more proper inquiry.

iii. **Previous similar research:** Through the study of the major literatures on design attributes for urban open space and streetscapes -Pushkarev and Zupan (1975), Gehl (1987), Marcus and Francis (1998), Carr et al. (1992), Rubenstein (1992), Cherulnik (1993), Tomalin (1998) and Lo et al. (2003) - it was determined that urban space and design researchers choose one or several case studies to examine the physical attributes of the contemporary context of urban spaces.

iv. **Significance of users' perception:** During the recent years, the importance of people's attitude on using urban spaces increased while most researches are still based on experts' view (Tavasoli & Boniadi, 1993). So, in order to fill this gap,

researcher designs and conducts the questionnaire survey in the second phase of the research to illustrate the people's needs.

The case study strategy was chosen for the first qualitative phase and questionnaire survey for the second quantitative phase. These two consecutive phases, designing the case studies and questionnaire survey are elaborated in the following parts.

3.2.4 Case study design

Designing the case study approach is comprised of several sections as follows.

3.2.4.1 Components of the research

The first part of case study design is determination of components of the research. Five elements has been stated as the basic components of a research design for case studies. These components are named as:

i. "A study's questions;
ii. Its propositions, if any;
iii. Its unit(s) of analysis;
iv. The logic linking the data to the propositions; and
v. The criteria for interpreting the findings" (Yin, 2003, p. 21)

Since this study is an exploratory type of research and does not contain the propositions, the researcher defines the components of this research design at the Table 3.1.

Table 3.1 The components of the research design

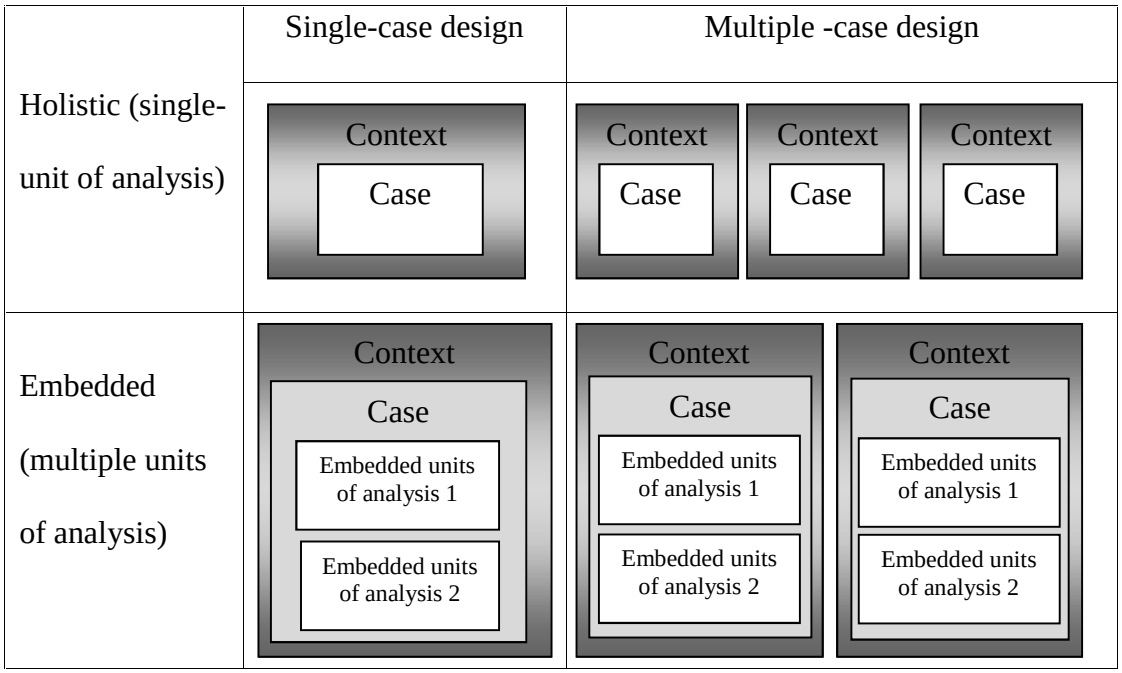
Components of the research design	Description
• Study's questions	1. How is the current condition of the identified physical attributes of the case study sites? 2. What are the most common physical problems of the case study areas? 3. What is the users' perception about identified physical problem? 4. What is the users' perception about the role of different organization on solving the physical problem?
• The units of analysis	1. Physical attributes of the case study areas 2. Identified physical problems of case study areas
• Criteria for interpreting the findings	Users' perception about the identified physical problems is the main criteria for judging and interpreting the data. The importance of physical problems is determined by the percentage that people rate as high to each problem.

3.2.4.2 Type of case study design

After defining the components of the case study, the type of case study design is determined. Figure 3.2 illustrates the four basic types of case study design. Yin (2003, p. 39) named these four types as "single-case (holistic) designs (Type1), single-case (embedded) design (Type2), multiple-case (holistic) designs (Type3), multiple-case (embedded) designs (Type 4)". In order to select the type of case study design among these four items, Yin (2003) explains about the basic characteristics of each type and their advantages and disadvantages. He also states that multiple – case design has some priorities to single-case design and its findings is usually considered more compelling and robust (Herriot & Firestone, 1983). According to this matter and also regarding the objectives of the study, multiple-case design with embedded units of analysis (Type4) is selected for this

research. After determining the type of case study, which is multiple-case design in this study, the case study subjects should be selected to commence the research.

Figure 3.2 The basic types of design of case studies



3.2.4.3 Selection of case studies

The case study subjects are two streets of Kuala Lumpur city. The chosen streetscapes are **Bukit Bintang Street** and **Tun Perak Street** in the Masjid Jamek area, the two significant urban paths with high accessibility and vitality in Kuala Lumpur which are located in the old part of the city. While Bukit Bintang Street has been upgraded many times, the Masjid Jamek area has not been conserved too much. These two particular spaces were selected based on the four main reasons:

i. The importance of these streetscapes in Kuala Lumpur city.

ii. These streets are the two most visited urban spaces by foreigners as well as local people.

iii. Being the multifunctional street

iv. Convenience of these spaces and easy to access

3.2.4.4 Process of case study design

The process of research design can be formed after defining the components of the research and selection of the case study types. Figure 3.3 illustrates the process of this study design.

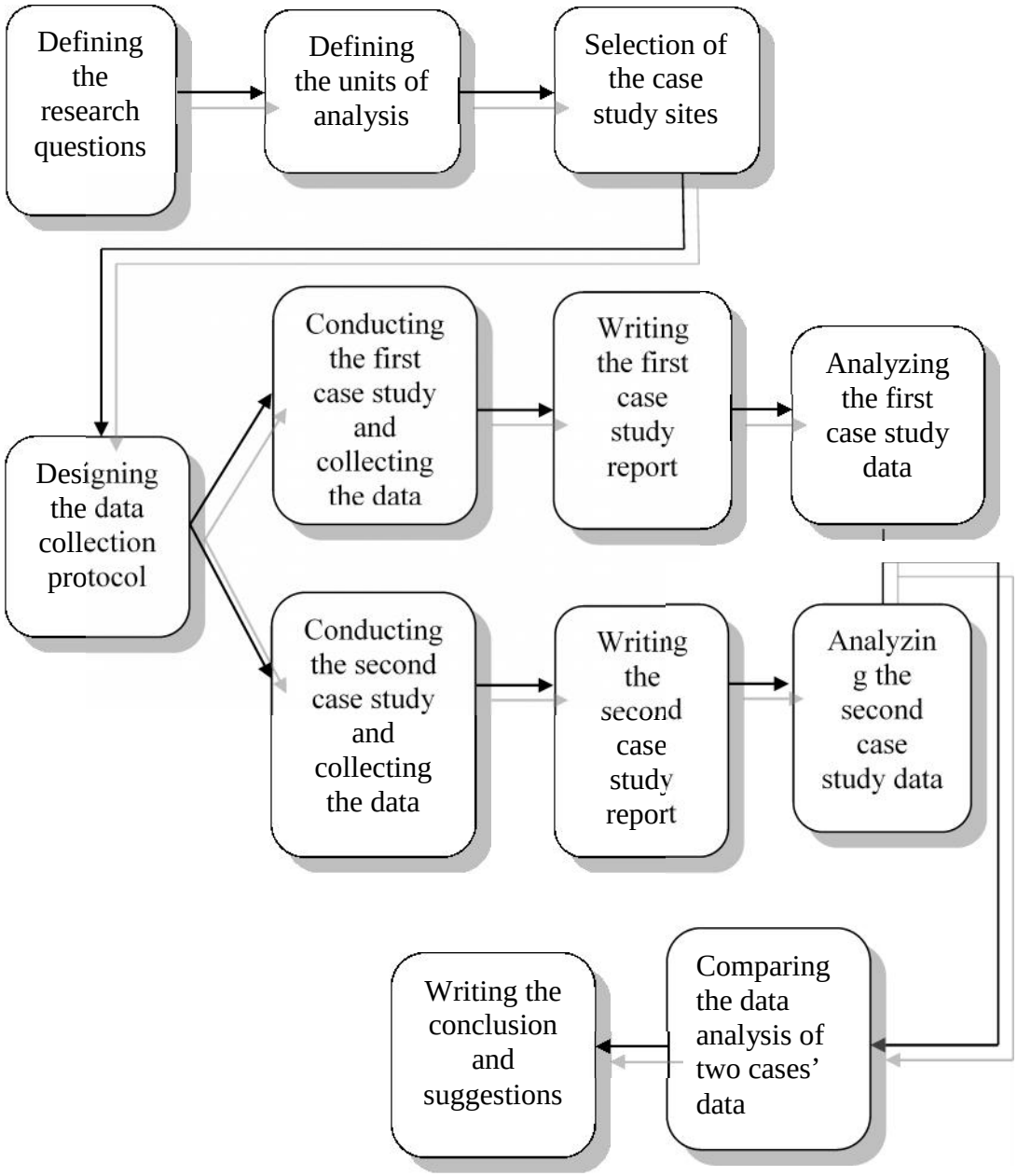


Figure 3.3 The process of case study design

3.2.5 Questionnaire survey design

Generally, users of urban spaces are all people and not only the urban designers. So the designed urban open spaces that have not considered the users' perception on the design process usually do not fulfill the users' expectations.

In this research, to address the users' need and perceive their point of view, after getting the result of qualitative data collection, researcher should develop an instrument to carry out the quantitative phase of data collection. Since, this research seeks to perceive the users' attitude about the result of qualitative examination of study areas; the questionnaire was selected as the instrument to proceed. The procedure of designing the questionnaire survey is stated at the following parts.

3.2.5.1 Sampling design

Sampling selection is the procedure of choosing sample from total population of interest in order to acquire the special characteristics of this sample and generalize these characteristics to the total population. Therefore, this sampling makes the research much easier with faster data collection, and lower cost. In addition, with the smaller data set, the quality, accuracy and homogeneity of the data are ensured. In fact, two items should be determined in sample design; the ways of selecting respondents and the number of respondents (sample size). So in this part, the selection of respondents of questionnaire survey and their number are demonstrated.

- **Selection of respondents**

How to select the respondents has direct relation with the target population. In this study, the target population is the users of the two multifunctional studied areas – Tun Perak Street and Bukit Bintang Street- which are mostly passersby who know the area very well.

So to select the respondents, firstly people were asked about knowing the areas. If they answered that “know this areas so well”, then they were asked to answer the questionnaires. Therefore, the respondents selected among people who know the area very well randomly, without differences between local and foreigners. Because both of them are the users of these areas and the only key factor is knowing the area.

- **Sample size**

In selection of the sample of study, choosing sample size is the first issue. For determination of sample size, the two factors should be considered. De Vaus (2002) stated the first factor: "the extent to which there is variation in the population in regard to the key characteristics of the study" (p. 80). Also (Dooley, 2001) demonstrated the second factor for choosing the sample of a survey. He pointed out the least number for data analysis is 100 - 150 respondents.

Considering the study areas, the target population of this study is the users of these multifunctional - shopping areas which are mainly passersby and the variation of these passers are generally too much and their socio demographic characteristics of passers are not predicted. In addition, there is no information about the number of passers of these streets and as result the total population size is not clear. So, the first factor is not applicable for this study and only the second item is considered. Therefore, 150 respondents are chosen to make the analysis possible and meet this requirement.

3.2.5.2 Construction of the questionnaire

Design of the questionnaire is based on the purpose of survey. This questionnaire survey tends to explore the users' perspective on the identified problems and its effect on

deterioration of quality of the area. In order to achieve this aim, four sections were designed to ensure that the relevant questions are asked and all needed information is received.

Section I covers the demographic information of the respondents with the aim of identifying the profile of the respondents. At the second section, people are asked about the livability and quality of study streetscape. In section III, the current conditions of physical attributes of the studied areas are examined from users' attitude. The respondents are asked about the identified physical problems of case study streets. The last section is about the role of different organizations and local people on solving the problems and improving the area.

In order to measure users' attitude on the mentioned subjects, the Likert scale is used. This format includes five response alternatives from strongly agree to strongly disagree to show the respondents' point of view (De Vaus, 2002). Meanwhile, people who do not have any ideas about the mentioned problem usually mark the neither agree nor disagree. So this scale provides flexibility for all respondents to answer accurately.

3.3 Process of the research

How this study was accomplished to achieve the objectives of the research is revealed in this part via two figures. The first figure, Figure 3.4 illustrates the five major steps of the study from starting point of the research which was reviewing the previous literature and discovering the research problems to achieving the objectives, finalizing the research draft and suggesting more subjects for the future research. Figure 3.5 describes these five major steps comprehensively.

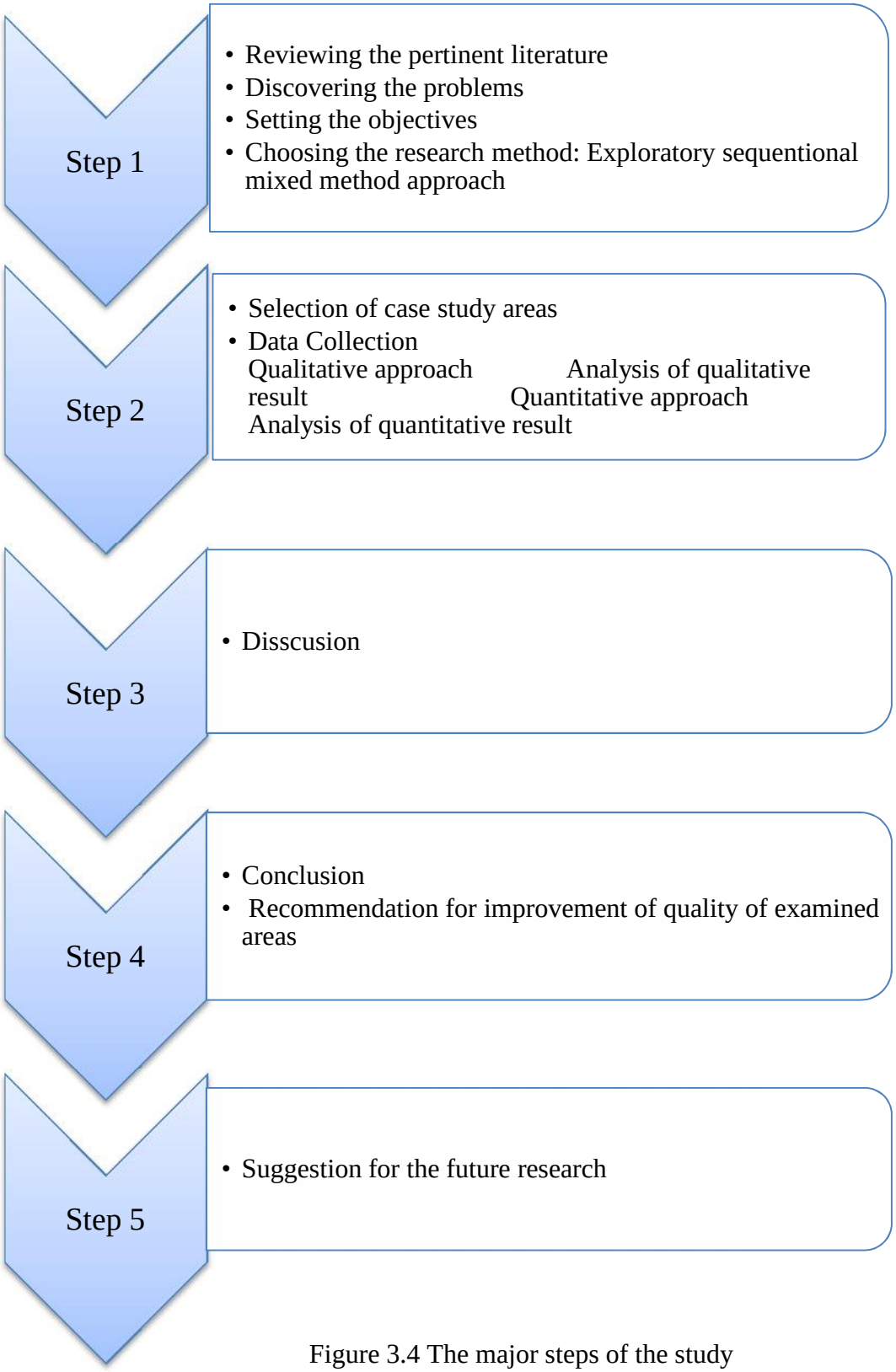


Figure 3.4 The major steps of the study

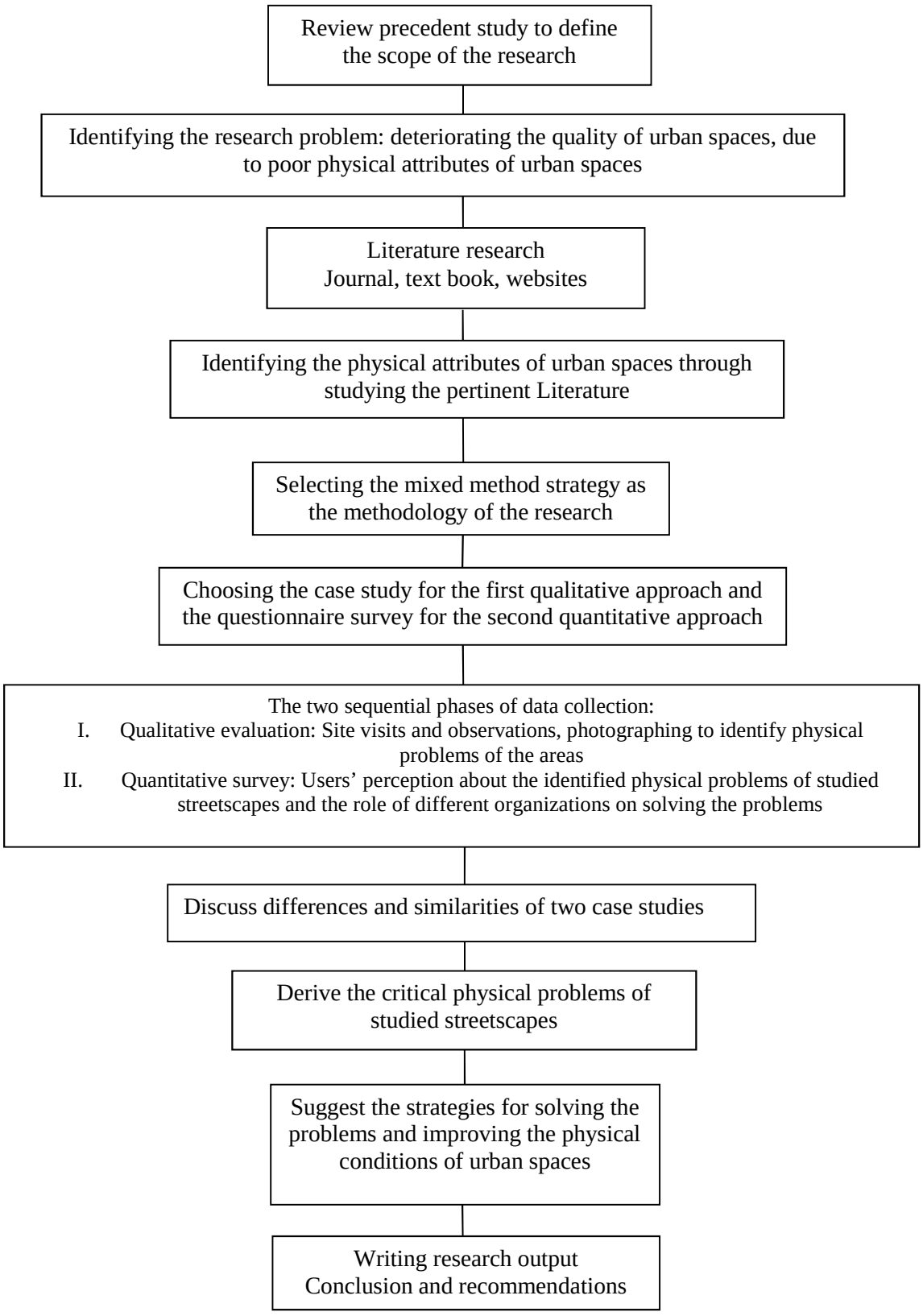


Figure 3.5 The research process

3.4 Data collection

The four types of evidence were selected as the main sources for the data collection of this study. The first one is the direct observation; the second one includes photographing and image data; the third type is some documentary data that illustrates some information about Kuala Lumpur Structure Plan and the last one is the data which was collected from the questionnaire survey.

The process of the data collection of this research includes three consecutive phases and mixed methods of qualitative examination of case study areas and quantitative surveys. The different data collection phases and the objectives intended to achieve is shown in Table 3.2. The following sections explain each approach comprehensively as well as their justification.

Table 3.2 Matrix of objectives and data collection methods

The research objectives	Study the precedent literatures	Qualitative examination	Quantitative survey
Objective I	√		
Objective II		√	√
Objective III	√		√

3.4.1 Study the precedent literature

Studying the pertinent precedent literature to achieve the first objective of the research - identifying the physical attributes of streetscape which affect the design of space, commences the first part of this research. Since the streetscape is part of the urban space, the major literatures which examine the physical attributes of urban space were studied.

The eighteen literatures from 1975 to 2011 were studied and fifteen physical attributes for streetscape were identified. Table 2.3 shows the identified physical attributes as well as indicating the researchers who examine the attributes. This review demonstrated that among all examined literature, Rubenstein (1992) has studied most of these attributes comprehensively.

Reviewing the literature revealed that each writer, researcher or even organization defines its own classification of attributes and mostly categorizes them differently. Hence, in this study, the identified physical attributes are not categorized and they are demonstrated as follows[1]:

i. Paving
ii. Shelter and canopy
iii. Seating
iv. Lighting
v. Signs
vi. Planting
vii. Sculpture and Fountain
viii. Proportions of space: size, scale and enclosure of space
ix. Time and different architectural styles of buildings
x. Skyline
xi. Facilities for disabled people
xii. Parking space
xiii. Accessibility
xiv. Traffic

[1] Refer to 2.6.2 Physical attributes, page33

xv. Maintenance and cleaning

The identified attributes will provide a basis for the next phase of data collection - qualitative examination.

3.4.2 Qualitative examination

After identifying the physical attributes of streetscape, the qualitative examination of case study areas began. To achieve the second objective, exploring the physical problems of streetscapes of the study areas, the current conditions of the identified physical attributes are examined. The scale for qualitative examination of physical attributes of streetscape includes three items; quality, harmony and adequacy. For the visual appraisal, taking photographs of the mentioned physical attributes led to a deep observation and an accurate study of these areas. This helped to get more focus on the conditions of the physical attributes of the areas. Some analyses of the photographs were then done to illustrate the explanations.

- ❖ Direct observation

At the site visit to the selected case studies of streetscapes, the streetscapes details and physical characteristics were required to be observed and data gathered. To assure that all problems are identified, the selected areas were visited at the different times of day, night, week and special events of the year, over six months from November 2010 to April 2011. Appendix A shows different times of observation of the spaces.

- ❖ Photographing

During the deep observation of the spaces, photos of different parts of the streetscape were taken to show their conditions of the selected attributes of the areas. These photos can be seen as proofs for the given explanation on the examination of case study areas.

After observation and examination of the existing conditions of identified attributes of the selected areas and the analysis of taken photographs, the physical problems of the case study spaces are discovered from the urbanization point of view. These identified problems were considered as a database to carry out the next phase of data collection - quantitative survey.

3.4.3 Quantitative evaluation

The last phase of data collection was quantitative approach. After getting the result of first phase of data collection, the analysis of the data, and identifying the physical problems of the study areas, the questionnaires were designed. It was intended to perceive the significance of the identified problems from users' perspective and evaluate their effects on the quality of study streets. Therefore, the livability and quality of streetscape was the dependent variable of this survey and the identified physical problems were considered independent variable. However, people were not asked about identified problem related to sky line of the studied area, due to people are not familiar with concept of sky line and this problem was not mentioned in questionnaires.

Since the identified problems of the two studied streets were fairly the same - except from four problems which were different between the two areas - the questionnaires of the two areas were fairly similar. In addition, as the last part of questionnaire was about role of

different organizations on solving the problems, data collected from this section helped on recommendation of strategies for improving the quality of study area.

This study proceeded a pilot study, after preparation of the first draft of questionnaires. The 20 questionnaires were distributed among users of the studied areas (passersby) who know the areas so well, during two weeks in December 2010. The feedbacks from respondents revealed that some questions that were related to identifying the spatial characteristics of the studied areas, were confusing for users and they mostly could not answer those questions. So, those questions deleted from the final draft of questionnaires.

The finalized questionnaires were prepared and distributed among people who were visiting or live – work in the areas or knew the areas randomly, by face–to-face approach and sending through email during two months, January and February 2011. In overall, the 150 questionnaires were distributed for each studied streets. The 75 questionnaires were given to people who were passing through the spaces or people who worked at those areas. The 50 questionnaires were distributed among people who stated they knew the areas very well. These 125 questionnaires - that were administered through face-to-face approach – distributed in the evening during six weeks, because people usually had enough time (five to ten minutes) in the evening for filling in the questionnaires. In addition, the 25 of the questionnaires were sent to some people who know the areas very well through email and the answers were received by email as well during two weeks.

3.5 Database of the case studies

Yin (2003) considered the case study database as the second essential principles of the collecting data in a quality case study research. In order to fulfill this research need, the fourth chapter, *Findings of examination of case studies*, devotes to this issue. In this

chapter, the case study streetscapes are examined and the collected data and the final result as the main evidence of the study are revealed as the database of each case study areas.

Case study database of this research is divided into two parts. The first part includes the evidence of the qualitative evaluation of the case study areas. It shows the data collected from the direct observation and photography – two major types of source of evidence of this research - and is represented in a narrative approach. After analyzing the raw data of qualitative evaluation at this step and taking the result, adequate data is derived for the next stage of examination.

The second part of the case study database is about the data collected from the second step of the evaluating the conditions of case study spaces- questionnaire survey. This section consists of evidence gathered from the distribution of questionnaire among the respondents and provides a basis for interpreting the data collected in the first part. Most data collected in this step are shown in the tabular materials.

3.6 Data analysis

How the result of a research is analyzed depends on the objectives of the study and what we want to know. Therefore, among the three types of strategies - relying on the theoretical propositions; setting up a framework based on rival explanation; and developing the case description - which Yin (2003) introduced as the main general analytic strategy for analyzing the evidence of case studies, developing the case descriptions was selected for this research. Although the main objectives of this research are not descriptive, this approach can help in identifying the appropriate connection between the data for analyzing and interpreting. In addition, due to quantitative survey focused on respondents' perception about the identified problems, only the descriptive method has been used.

After the selection of general analytic strategy, cross-case synthesis was chosen as the main technique of analyzing the case studies that suits best for this research. This technique especially is applied for analyzing the multiple cases and "treats each individual case study as a separate study" and aggregates "findings across a series of individual studies" (Yin, 2003, p. 134). So the collected data are analyzed across the two cases in this study to identify the similarities and differences among the cases for comparing and generalizing the empirical result of these two case studies.

Finally, for analysis of qualitative data of each case, two phases of analysis carried out. The first phase included compiling, disassembling and reassembling. The second phase comprised of interpreting and concluding (Yin, 2011). For the first phase, the qualitative data collected through observation, field note and photography for each examined attributes and then the data were recorded. They were compiled into a table and provided a data base for examination of each attributes. Then, by coding and interpreting these data, the quality, adequacy and harmony of each attributes were illustrated and eventually the physical problems were identified.

In addition, Yin (2003) suggests using the four tests – construct validity, internal validity, external validity and reliability - for judging the quality of case study research as one of the empirical social science research. Since the internal validity test is used only for explanatory research and this study is a kind of exploratory and descriptive research, this test cannot be used in this study.

Figure 3.6 illustrates the tests and case study tactics which are used for establishing the quality of this research. For construct validity, two tactics are applied, firstly multiple sources of evidence were chosen, and then the sequence of collection process and its

justification was stated to establish the chain of evidence as the second tactic. To increase the external validity, two case study sites were selected as a tactic of replication logic in multiple-case studies. To enhance the reliability of the research, case study protocol was written to document the whole procedure of conducting case study in detail. It helps that a later researcher can follow the same procedure and gets the same result and conclusion.

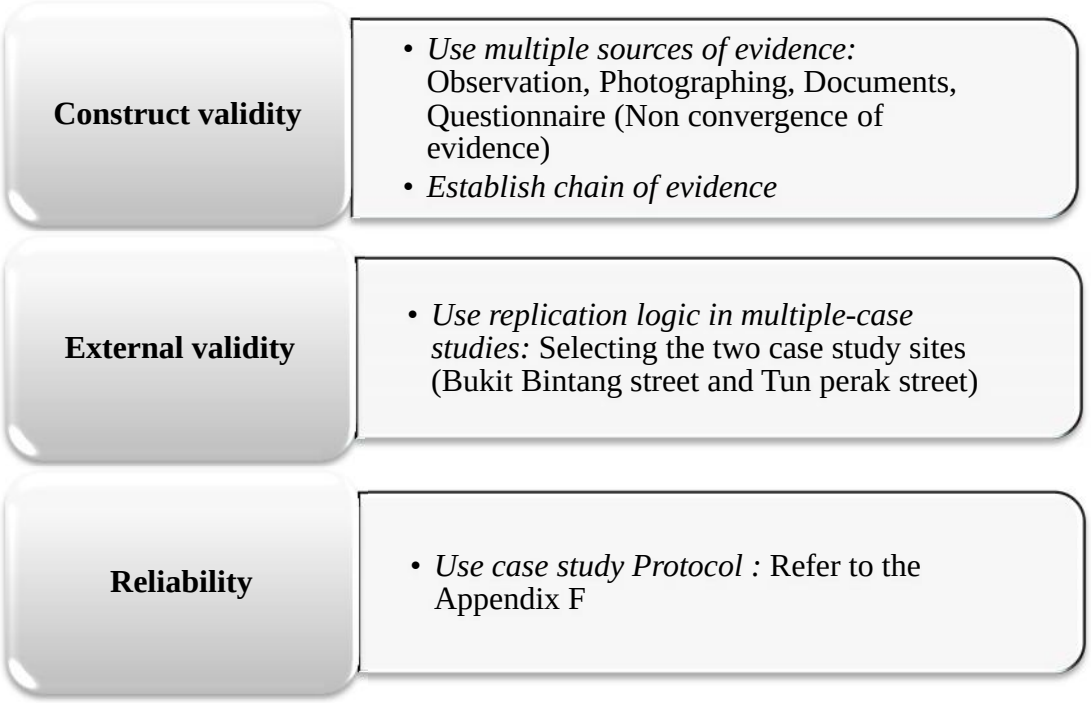


Figure 3.6 The case study tactics used for establishing the quality of the research

Since this study has different phases of data collection; the analysis of each step was conducted separately. So, after the analysis of qualitative data, the questionnaire data were analyzed. In analyzing questionnaires' data, the study sought to discover whether the users agree or disagree with the existence of identified problems, and their level of agreement made no difference to their perception. Accordingly, the five categories of users' responses at the questionnaires were broken down to three categories. From 'strongly disagree, disagree, neither agree nor disagree, strongly agree, agree' to 'disagree, neither agree nor disagree, agree'. Therefore, in order to have a better understanding about responses, the

users' attitudes were described under these three categories. Since, people who do not have any particular idea about the stated problem usually mark 'neither agree nor disagree' category, the responses of this category were removed from the analysis and the responses of 'agree' category were compared with 'disagree' category.

After organizing the categories, the Statistical Package for Social Science (SPSS) is used for analysis of questionnaires' data. Firstly, the reliability test was carried on. Since, there are two ways to measure the reliability of questionnaire survey - the pilot study and the reliability test from the SPSS software – after doing the pilot study, the reliability test from the SPSS software was also proceeded. So, the reliability of items used in measuring the quality and livability examined through examination of the Alpha value to clarify whether the measures used for evaluation of the quality of streetscapes is reliable. Then, KMO and Bartlett's Test was selected which is primarily used for measuring the validity of survey. Getting the acceptable result from these two tests let the researcher to carry on further analysis.

The identification of the influence of quality of physical attributes on the livability and quality of streetscape was analyzed by using the descriptive statistics and correlation among the variables - quality of streetscape and identified physical problems such as improper walkway paving, inadequate parking space, small road - to obtain the frequency distribution, percentages mean score of quality and livability.

Correlation identified how the different variables are related. Correlation means the relationship between the two variables. Correlation analysis reveals the change or variation in a variable by the change or variation in another variable statistically. The correlation coefficient indicates the significance, the direction and the strength of the relationship

between the different variables. The degree of correlation is measured by the correlation analysis and is signified by *r* or *p*. The correlation coefficient has a value between +1 to -1 which shows the strength and direction of correlation. A perfect positive relationship between the variables is represented by the +1, and a perfect negative relationship is represented by the -1 (De Vaus, 2002).

Two types of correlation are Pearson's correlation and Spearman's rank coefficient correlation. To correlate the continuous data - at interval level - Pearson correlation is used and for measuring the correlation of categorical data - at ordinal level - Spearman's rank coefficient correlation is used (Coakes & Steed, 2007). Since the categorical data exist in this study, the Spearman coefficient correlation was used to analyze the questionnaire survey's data. This quantitative data analysis was used to interpret the total result and reveals the impact of physical problems on deterioration of the quality and livability of the area.

3.7 Limitations of the study

This research includes several limitations which should be considered while examining the study. These are namely:

i. This study is limited to the scope of two streetscapes of Kuala Lumpur city center.
ii. This research focused on only current conditions of the identified physical attributes of the studied streets.
iii. However, the case study areas include several physical strength points; this study concentrates on only physical problems of the areas.

iv. This study did not examine the underlying factors which caused the identified physical problems. It only demonstrated the physical problems which deteriorated the quality of the case study streets.

3.8 Summary of the chapter

To sum up, this chapter provided the general information about the selected methodology of the study - the exploratory sequential mixed method - and the process of research design. Since this method compromised of two approaches, the case study adopted as the qualitative approach for the first phase of data collection and questionnaire survey for the second quantitative phase. Besides, the two important streets of Kuala Lumpur, Bukit Binatng Street and Tun Perak Street were selected as the case study streetscapes. Finally, the method of data analysis, reliability and validity of the result were highlighted.

In the next chapter, the context of case study areas, Kuala Lumpur City Center is examined. Since these two study areas are located at the Heritage Zones of the city, the guideline related to these zones and their physical attributes are reviewed briefly.

Chapter 4

Context of Case Studies

4.1 Introduction

Case study streetscapes of this research which are located in the capital city of Malaysia. Kuala Lumpur city has the great contribution to the different aspects - from economical to cultural - of development of the country. Due to the significant role of this city in the whole country, the government usually put more efforts to plan for the fast development of the city toward 2020 vision. Therefore, in order to examine the current conditions of the case study areas, firstly, it is necessary to study more on the context of the city.

In the first step, the general information of Kuala Lumpur is presented through the statistics and general conditions of the city. Then, the history and the development of the city are reviewed briefly. Since the case study streets are situated in the Heritage Zones of Kuala Lumpur city centre, examining the related guidelines of designing the different attributes of Heritage Zones illustrates the KLCH's planning on development of these areas.

This section provides a deep insight about the context of the case study streets, and also about the previous work which has been done on these two areas, before starting the field observation. In addition, it provides a data base for the examination of the two case study streetscapes.

4.2 General information about Kuala Lumpur

The case studies of this research – Bukit Bintang Street and Tun Perak Street – are located in Kuala Lumpur city, the capital of Malaysia.

Based on the Principal Statistics, the total area of W.P Kuala Lumpur is 243 Km square (Department of Statistics, 2009). The population of this city is 1,627,172 with the average annual population growth rate of 2.2% which comprises 5.9% of the total population of the country (Department of Statistics, 2010). However, the population of Kuala Lumpur is expected to grow to 2.2 million by the year 2020. Kuala Lumpur represents a multicultural city which comprised of 41% Malay, 39% Chinese, 10% Indian and 7% foreign population (Kuala Lumpur City Hall, 2008a).

Due to the priority of tourist industry in the urban planning of country and its important role in Kuala Lumpur's life, some information about this issue is demonstrated in this part. The 24.6 million people has been recorded as the tourist arrival number of 2010, that shows an increase of 1 million number rather to 2009 and 56.5 billion RM has been received as the revenue of this industry in the year 2010 that also indicates 3.2 billion RM increase over the last year (Tourism Malaysia, n.d). These figures also indicate directly the role of tourist attractions and indirectly the responsibility of urban planners, urban designers and architects, in the economy of the whole country.

Figure 4.1 shows the location of Kuala Lumpur in the west part of Malaysia and in Selangor province. It is divided to the six strategic zones by the Kuala Lumpur Structure Plan 2020 (Noor Amila Wan Abdullah Zawawi & Alias Abdullah, 2008). As it is shown on Figure 4.1 , the six zones are named City Centre, Wangsa Maju Maluri, Sentul Menjalara, Damansara Penchala, Bukit Jalil Seputeh, Bandar Tun Razak Sungai Besi.

Bukit Bintang street and Tun Perak street in Masjid Jamek area - which chosen as the two case study areas for this research - are located in the old part of Kuala Lumpur city center. Since Bukit Bintang Street and Tun Perak Street are situated in the old fabric of the city,

they are recognized as part of heritage zone of City Center. These two streets are shown at Figure 4.2 in the red and purple colors.

Figure 4.1 Plan of Kuala Lumpur and its location at the west coast of Peninsular Malaysia and Selangor state.

Source: Kuala Lumpur City Hall (2008a, p.2.2)

4.3 Development of Kuala Lumpur

The origin of Kuala Lumpur city dates back to 1857 when the 87 Chinese workers were sent to this area for opening up the tin mines, by Raja Abdullah - one of the royal family members of Selangor. Finally, Chinese Kapitans ruled the town by controlling the labor and capital (Evers & Korff, 2000). In 1880, the city turns to a colonial administration center when the British agents officially dominated the Kuala Lumpur's administration. However, Chinese Kapitans were controlling the business activities and the town grows rapidly toward a commercial city. The urban development of Kuala Lumpur initiated spontaneously without any town planning (Goh, 1991). Kuala Lumpur experienced the planning by arriving the first urban planner to the city in 1921 (Kamalruddin, 2006).

Gradually, the city was developed around the east of Sungai Kelang (Kelang River). Petaling Street was occupied by Chinese trader, while Malay did business separately. Even, today the pattern of early settlement is still visible. The shophouses as the main Chinese settlement flourished, though the Malay people settled in the northeast of the city - Kampung Baru. By passing the time, regarding the significance of Kuala Lumpur contribution to the Political and administrative affairs, since 1880 the city has changed rapidly. In addition, the documents and evidence reveals that the most early buildings established during the first decades were shophouses (Gullick, 2000).

The Kuala Lumpur's land use pattern from 1984 to 1998 shows a dramatic increase in residential land by increasing the total population of the city. While, in 1995 the commercial land use dominated the residential in the city center. Over the same time, this trend coincides with the improvement of the transportation system and the increase in employment. so, most of the lands converted to the commercial use, due to the rising

demand for the commercial spaces (Noor Amila Wan Abdullah Zawawi & Alias Abdullah, 2008).

By developing the city, the various company offices, the large commercial centers and shopping complexes have been built in the city center for the shopping and entertaining activities. Hence, the two or three storey traditional shophouses were replaced by the large modern building and as a result the townscape altered gradually (Shuhana Shamsuddin & Norsidah Ujang, 2008).

In the last decades, the Malaysia's government set a vision for Kuala Lumpur as the vision 2020 for the comprehensive developing of the city. The Vision for Kuala Lumpur - a world class city, encapsulates the ambition to make Kuala Lumpur a city that will be assumed as assume a major global and sub-global role for the benefits of all its communities, workers, visitors and investors. In order to achieve this aim, it places the priority on three main elements of Environmental Quality, Social Equity, and Economic Prosperity and provides five core guiding principles, as follows;

i. Planning for wealth creation:
ii. Planning for safety and comfort :
iii. Planning for connectivity and accessibility:
iv. Planning for greener standards
v. Planning 'with and for' the people

These 5 Cores Guiding Principles try to cover all aspects of Kuala Lumpur city's life to manage the city's growth and promotes the planning and sustainable development of the city to reach a world class city in 2020 (Kuala Lumpur City Hall, 2008a).

After establishing the main cores and general guideline to reach the vision 2020, Kuala Lumpur City Hall (2008b) provided Kuala Lumpur Development Control Plan (KLCDP) for Land use development of the city and intended to assess all development application in Kuala Lumpur. One of the key components of the structure of Kuala Lumpur Development Control Plan is Special Planning Control, which relates to four zones - Environmental Zone, Heritage Zone, Height Control Zone, and Transit Planning Zone - that requires the special care and attention in planning and development .

Due to the fact that the two case study areas are located at the heritage zone of Kuala Lumpur City Center, this zone and its related guidelines are illustrated at the following section.

4.4 Heritage Zone of Kuala Lumpur City Center

Nowadays, one of the main concerns of each nation is to preserve the historical and cultural heritage of their nation as a symbol of their civilization. So, in most countries the professionals in different fields of conservation and preservation try to remind us of the significance of this issue and prevent more destruction of their inheritance. In Malaysia, despite an increase in public and governmental concern, due to the lack of effective legal protection, the cultural and historical heritage is disappearing with a warning rate (Wan Hashimah Wan Ismail & Shuhana Shamsuddin, 2005). However, the various organizations with special programs - as is stated in the next sections - are involved in this issue; yet, it seems that they are not effective enough.

Since the City center of Kuala Lumpur includes different types of historical buildings and sites, Kuala Lumpur City Hall (2008b) has identified the main Heritage Zones and devised

a holistic plan to conserve these valuable areas. The recognized heritage zone of Kuala Lumpur comprises 5 major categories, namely;

A) Primary Heritage zone;

B) Secondary Heritage zone;

C) Tertiary Heritage zone,

D) Buffer zone

E) Heritage site

Figure 4.2 shows the location of different categories of heritage zones at the plan of city center of Kuala Lumpur. As it is shown on the map, Tun Perak Street is situated at the Secondary Heritage zone and Bukit Bintang Street is located beside Tertiary Heritage zone.

Kuala Lumpur City Hall (2008b, p. 5.5) defined Secondary Heritage Zone as "[an area] that is less contiguous and contains mixture of newer and older buildings with significant historic merit". Tertiary Heritage Zone was also defined as "more recently developed shop house areas that has buildings of little or no historic significance".

The following sections demonstrate the related guidelines for preserving the valuable aspects of physical attributes of the mentioned Heritage Zones urban spaces.

4.4.1 Guidelines Relating to Heritage Zone

Conservation of the historical core of the major cities which hold the architectural and urban values is an increasing concern all over the world (Shuhana Shamsuddin, 1997).

Today, Kuala Lumpur's old areas are facing two challenges, pressure for the redevelopment to reach a global image and on the other hand, conservation for preserving the local identity (Noor Amila Wan Abdullah Zawawi & Alias Abdullah, 2008). These challenges usually

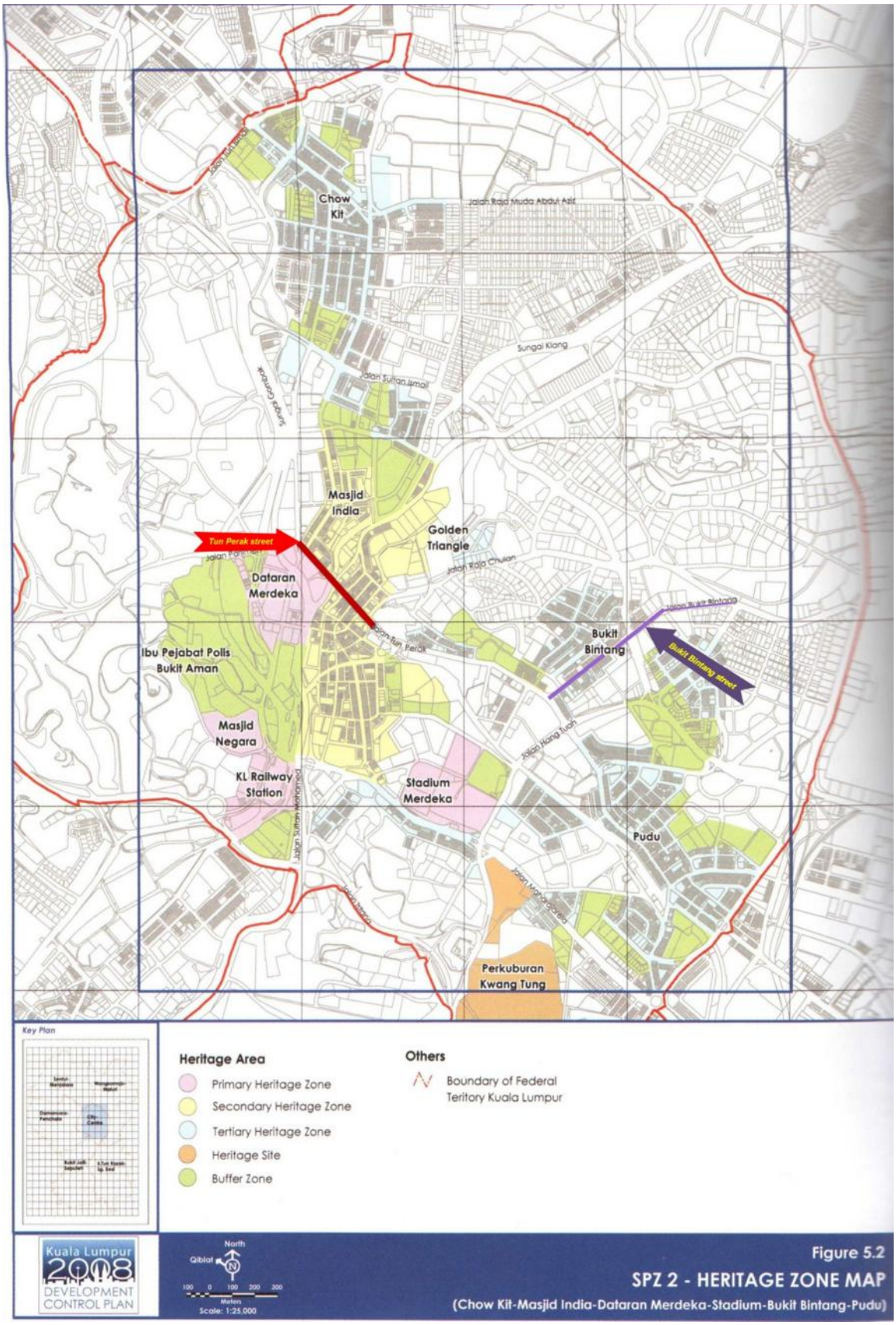


Figure 4.2 Plan of Kuala Lumpur city center and Heritage zone
Source: Kuala Lumpur City Hall (2008b, p. 5.4)

increase when the location is an old part of the city center since this area has great cultural and historical value as well as great physical and social problems.

In order to examine the identity of Malaysia's city centers, Urban Design Unit of Universiti Teknologi Malaysia conducted a literature review and research on the urban design of several cities in Malaysia. As a result, it suggested that in comparison between the old fabric of town centers and their newer parts, the old parts recognized with the stronger identity (Shuhana shamsuddin et al, 1998). Therefore, it concluded that making effort for conservation of historical heritage especially in the old parts of city centers can help to preserve the identity of the areas.

Finally, in order to make a balance between these two attitudes and preserve the urban continuity, Kuala Lumpur City Hall (2008b) has provided some specific guidelines for the designated heritage buildings and sites in the heritage zone. Since the case study areas of this research are almost all located in the Heritage Zone, some of the guidelines which are related to the quality streetscape and this study are mentioned in this part as follows:

4.4.1.1 Height Controls

Nowadays, most Asian city centers are under extreme pressure to change and transform into a modern city that is overwhelmed with high-rise buildings which leads to losing their traditional and historical environment. So, the high-rise buildings are generally considered a potential threat for the local identity of historical urban centers (Koura, 2002). As a result, the height control plan is one of the most critical policies which primarily sets for the preservation of historical core of the major cities, by urban designers and planners.

In Kuala Lumpur, in order to harmonize the city skyline and emphasis on the city center, Kuala Lumpur City Hall (2008b) provided the General Allowable Height Plan (GAHP) as a general reference for the development of Kuala Lumpur which determines the maximum allowable height of the buildings that are located in the city. Beside the GAHP, KLCH has defined the Height Control Zone for some special areas within the Kuala Lumpur city. Height Control is defined as a determination

> "In the Building Control Plans and is expressed as the maximum permissible number of storey above pavement level. In some areas where the overall height of buildings needs to be controlled for specific reasons such as to maintain views of important, there are special height controls which are expressed in terms of AMSL[2]. These controls determine the absolute overall height of any development" (Kuala Lumpur City Hall, 2008b, p. 5.20).

The Height Control Zones of the city are named as Heritage zones, Landmark View Corridor, Hill Backdrop, Istana Negara Damansara (Royal Palace) and Sungai Besi Airport. Since the case study areas are located at the Heritage Zone of the city, the researcher referred to the related guideline of Heritage zone.

Actually, Height Control is one of the Envelope Controls of the Heritage Zone which applies to the shophouse heritage areas. In preserving the physical values of urban heritage area, one of the main objectives for applying the height controls in the heritage zones is ensuring that every new building which is built in historical areas is in an appropriate scale and has harmony with its surrounding environment (Kuala Lumpur City Hall, 2008b). Actually, this issue is not only for developing the Kuala Lumpur city center, it is one of the

[2] AMSL: Above Mean Sea Level

main difficulties which most cities are faced with when trying to preserve their local identity in the historical environments (Koura, 2002).

Error! Reference source not found. 4.3 reveals the Heritage Area Height Control Zone. In this figure, Tun Perak Street in Masjid Jamek area is indicated by the red quadrilateral and Bukit Bintang area is shown by green quadrilateral.

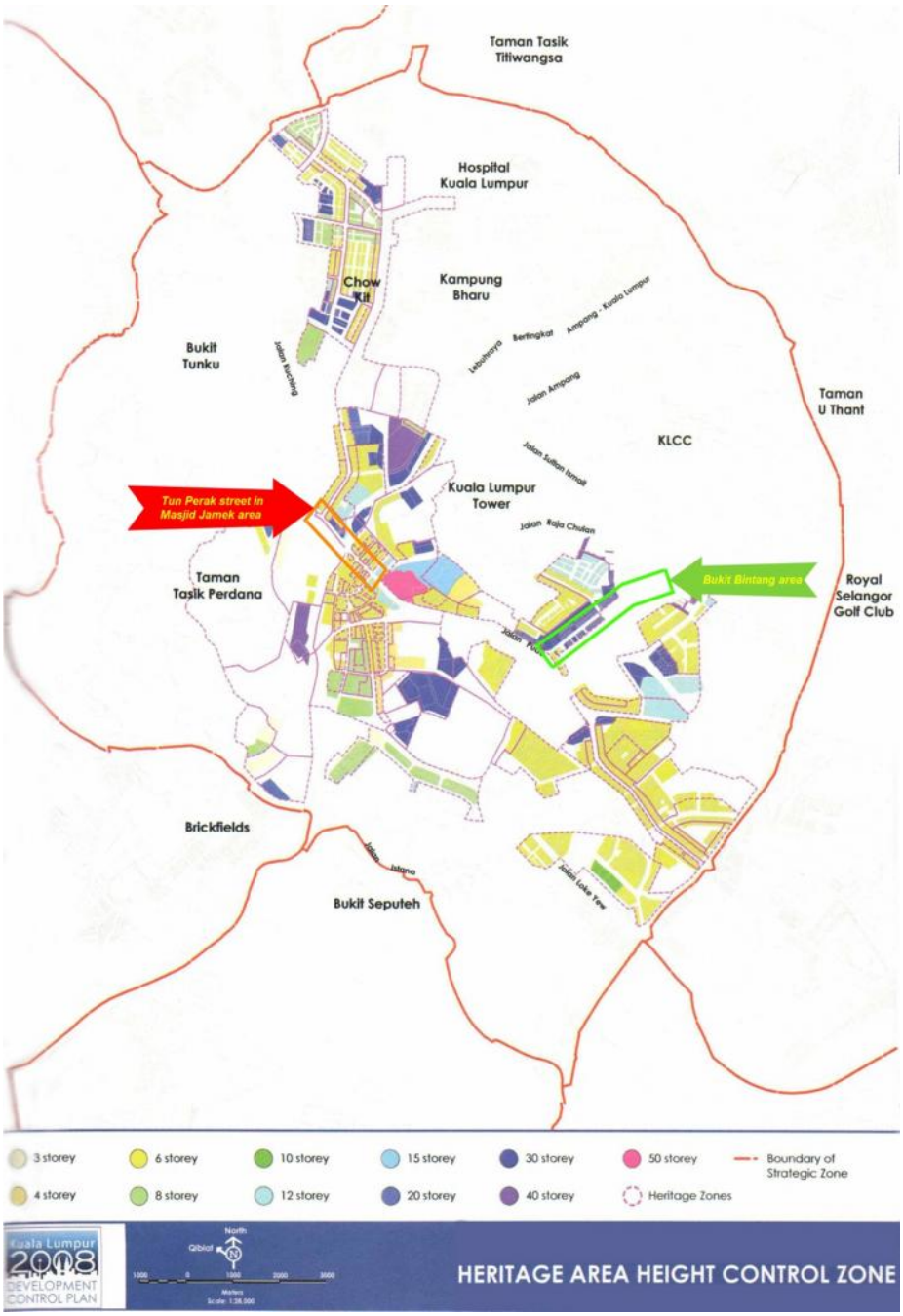


Figure 4.3 Plan of Heritage Area Height Control Zone
Source:Kuala Lumpur City Hall (2008b, p. 6.13)

4.4.1.2 Verandah ways and Colonnades

Verandah way is recognized as one of the most significant features of traditional streetscape of Kuala Lumpur, especially at the shophouse areas in the historical parts of the city. It segregates the public walkway from the automobile traffic. Besides, as a pedestrian route, it is usually considered as extra space for shopping activity (Shuhana Shamsuddin & Norsidah Ujang, 2008).

Sulaiman Sulaiman Ahmad Bashri and Shuhana Shamsuddin (2008) described this attribute as one of the multidisciplinary features of the old part of Malaysian cities. This arcaded walkway (is called the five foot walkway by the local people) provides a sheltered and safe space to walk. Hereby, it protects pedestrian from hot and humid weather in this tropical land. In addition, it creates a space for shopkeepers to display their stuff in a public area, which is considered as one of the attractions of these spaces. Meanwhile, the transparency increases on the indoor function of the buildings, as one person can perceive what is the inside activity of the building from observing the outside.

Regarding the significance of this traditional street's element, it has been highlighted that:

> "In Secondary Heritage Zone the emphasis is on maintaining the character of the historic shophouse areas, whereas in Tertiary Heritage zone the emphasis is more on maintaining comfort, consistency and continuity in covered walkways and encouraging street activity" (Kuala Lumpur City Hall, 2008b, p. 5.28).

Therefore, for general maintaining of verandah ways and improving the quality of sidewalks for pedestrian movement, specifically in historical areas, steps are not permitted anymore and it is aimed to eliminate or reduce the differences in the levels between verandah way levels and inside of shophouse units. The steps beside verandah ways also

should be replaced by ramps. Figure 4.4 shows the changes between the current conditions of five foot walkway and its guideline.

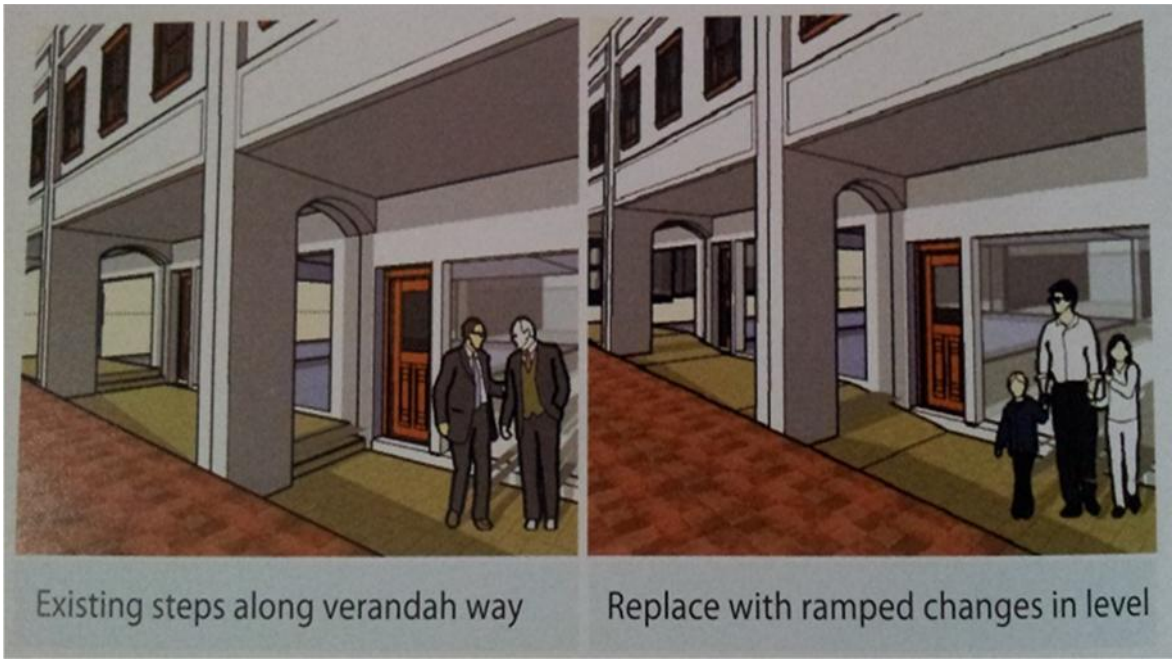


Figure 4.4 Changes in level along verandah ways

Source: Kuala Lumpur City Hall (2008b, p. 5.28)

Shophouses and their surroundings - which include arcaded walkways - as the urban heritage are considered significant due to their contribution in urban form and their aesthetic features (Wan Hashimah Wan Ismail & Shuhana Shamsuddin, 2005). Therefore, to conserve these elements for saving the continuity and rhythm of the area, Kuala Lumpur City Hall (2008b) has regulated some guidelines as follows:

It has been stated about the material of verandah way pavement in three different Heritage Zone categories. For the Primary Heritage zone, all materials should be determined by Kuala Lumpur City Hall and approved by the Design Panel. In Secondary zone, cement screed, non-slip ceramic, granite or terracotta tiles can be used. Also, in some certain areas

of Secondary Heritage Zone materials and finishes should be determined by Kuala Lumpur City Hall. Finally, the only rule for verandah way pavements of Tertiary Heritage zone is using non-slip materials.

In addition, for more beautification of the area building services such as air conditioners, satellite dishes and etc are not allowed on the main street elevations in Secondary or Tertiary Heritage Zones. They can be placed on other parts of the buildings such as setback zone of the side or rear elevations. Following these rules helps to improve the general conditions of five foot walkways for the comfort of pedestrian as well as preserving the urban heritage values.

4.4.1.3 Signage and Advertisement

Controlling the installation of signage and advertisement especially commercial signs in public spaces has always been one of the great concerns of urban designers and planners. This issue is considered more significant when the urban space is situated in the historical area. Due to, uncontrolled exposure of commercial signage on facades of buildings is usually recognized as the enormous harm to the historic spaces. It drastically degrades the visual quality of historical urban spaces (Portella, 2007).

This problem is usually considered one of the main causes of *Visual Pollution*. This expression - visual pollution - pointed to the components of a streetscape which are visually unattractive such as commercial signs, graffiti, billboards, poles, litters and is commonly used in South, Central and North America (Cullen, 2000; Dunn, 2006; Scenic America, 2000).

With regard to the historical importance of Heritage Zones of city center, KLCH demonstrated the way of controlling the signs in these areas, as follows.

" ...The signage is controlled in a manner which strikes a balance between avoiding compromising the historic ambience of heritage areas and the need to be flexible enough to maintain a certain validity especially in shophouse areas" (Kuala Lumpur City Hall, 2008b, p. 5.35).

Visual overloaded is one of the main negative influences of uncontrolled commercial signs in the historical city centers. This problem is usually caused by the extreme number of signs which have various physical features like different sizes, proportions, font style, colors, locations of installing on the facades and etc. The result of these kinds of commercial signs which are located side by side in an area is commonly chaotic (Nasar, 1988).

Therefore, in order to avoid visual pollution and confusion, in addition to defining the general attitude for controlling the signs, Kuala Lumpur City Hall (2008b) has determined some rules and regulation for installing the signage, as well. They are stated briefly, as follows:

Installing signs and advertising in the Primary Heritage Zone is strictly controlled and all proposed signage are reviewed by the Design Review Panel. However, the rules in Secondary Heritage zone is not as strict as the Primary one, it has its own regulation. It encourages more usage of vertical signs which don't cover the facades and mounted only on the partly walls. Appendix J reveals how to install the signage at the Secondary Heritage Zone.

In case of Tertiary Heritage zones, the control is even less stringent and it only needs that the signage fits within the spandrel panels, does not hide any part of fenestration, is not installed above the parapet line and also not to perform more than 300 mm from the face of the building.

However, KLCH has set the comprehensive regulation for installing the signs in the Heritage Zones; these rules do not guaranty the perfect compliance of the regulation. So, the next chapter will examine whether the existing commercial signs follow the KLCH's guidelines.

4.4.1.4 Car parking and Motorcycle parking

One of the major problems of people in historic areas in City Center of Kuala Lumpur is looking for parking space for cars or motorcycles. It is important to determine if the limited provision of parking space is deliberate in Heritage zones or is it only a problem that will be solved if more parking spaces are provided through future development.

In order to find the answer for this question, it was referred to the KLCDP.

> "In keeping with the KLSP 2020 objective to encourage the usage of public transportation and reduce reliance on private transportation, parking standards for developments within the City Center are reduced" (Kuala Lumpur City Hall, 2008b, p. 5.36).

In addition, some reasons for this limitation were mentioned such as encouraging street pedestrian activity in shophouse heritage areas and decreasing the traffic congestion. So street car parking is going to be phased out or limited to short term parking. Furthermore, buildings in the Heritage Zones are not needed to meet the standard car and motorcycle parking requirements.

However, the main reason mentioned for inadequate parking space is avoiding the private cars and encouraging people to use public transportation systems in the city center; limiting the parking space without considering the quality of public transport can be considered an unfair policy.

Minister of Transport, Dato' Seri Kong Cho Ha, in an interview with the Malaysian Business newspaper demonstrated the weaknesses and strengths of the urban public transportation system of Kuala Lumpur. While, he stated some improvements in LRT services, he pointed that:

> "Currently, UPT [Urban Public Transport] in Klang Valley is the major pain point for commuters with over-capacity and congestion, unreliable services, little or no connectivity and discomfort being the normal scenario" (Anonymous, 2011).

This statement reveals the current conditions of rail transport which counts as the main UPT, especially in Tun Perak Street. However, KLCH has set the policy of limited parking space for the historic areas; the result of this trend is examined and evaluated from user's point of view in the next chapter.

4.5 Summary of the chapter

This chapter is devoted to the examination of development of Kuala Lumpur's urban space, due to the context of case study streetscapes - Bukit Bintang Street and Tun Perak Street - is Kuala Lumpur city. In order to get information about the development of case study areas, the researcher referred to the history of Kuala Lumpur formation, general statistics about the city and KLCH's guidelines for the design and conservation of Heritage Zones of the City Center.

Firstly, the general information about Kuala Lumpur city such as the total population of the city -1,627,172-, and the total area of W.P Kuala Lumpur - 243 Km square - were demonstrated. Then, the planning for Kuala Lumpur city as a world class city and the vision of year 2020 for Kuala Lumpur city were stated.

Secondly, since the case study streets are located in the old part of Kuala Lumpur city - the Secondary and Tertiary Heritage Zones - the different Heritage Zones of the city were illustrated. Thereafter, the related guidelines for the design and conservation of Heritage Zones' attributes such as height control, restoration of the verandah ways and colonnades, installing the signage and advertisement, and providing the car and motorcycle parking, were examined.

Chapter 5

Findings and Analysis

5.1 Introduction

This chapter comprises two main parts. Each part reveals the findings of examination of one studied area. Firstly, Bukit Bintang street are demonstrated and secondly, Tun Perak Street.

At the first qualitative phase, the current conditions of physical attributes of case study streets are examined to explore the physical problems of the streetscapes and identified physical problems of each case study area as the result. The findings of this part provide a database to conduct the second phase of the data collection.

By performing the second part of examination, the study attempts to perceive the users' ideas about the physical problems - identified through the first step of examination- in this part of the research. In order to achieve this, quantitative approach was selected and questionnaires were designed. The evidence illustrates the importance of identifying physical problems from the users' point of view.

The importance of findings for this part is not limited to considering users' perception. It can also validate the findings of the first examination step of the research. Actually, it shows whether researchers discovered the right problem that users suffer from.

In this procedure, the accuracy and validity of collected data besides the applied methods for gathering and recording the evidence are very important. Therefore, in order to increase the reliability of recording the findings of the study, stating the different sources of

evidence which are used, the applied techniques, and the process of collecting data are essential.

Finally, this chapter provides the database of the research. As mentioned in the methodology chapter, each quality case study research needs the database as a principle of data collection. Databases of each case study area includes two sections - firstly the raw data from the direct observation and image analysis of the case study spaces which illustrates the current conditions of physical attributes of each area; secondly the statistical data received from the quantitative survey which illustrates users' points of view.

5.2 Case study of Bukit Bintang Street

In this part, back ground and two phases of data collection of Bukit Bintang Street are demonstrated comprehensively.

5.2.1 The background of Bukit Bintang Street

In order to illustrate the background information of Bukit Bintang Street, firstly the location of this street is shown on the map and its situation in the city is examined comprehensively.

Figure 5.1 shows the location of the street which is situated in the middle of the old fabric of Kuala Lumpur city. However, it has been renovated during the last decade; visitors can still see the old context of this area. Since the direction of this street is east – west and as it is shown on the picture, this street is bounded by the Raja Chulan street from the east and Pudu Street from the west. Due to the presence of lots of modern shopping centers and different local shops, this area plays an important role in the economy and other aspects of Kuala Lumpur city.

Bukit Bintang Street was developed into Kuala Lumpur's 'Golden Triangle' in the early 1980s. As a result, the place was turned into a shopping haven with a profusion of exclusive and branded retail shops, dining eateries and restaurants, hotels and an active nightlife (Atirah, 2010). This area comprises the wide range of retail stores and recreational facilities with a growing number of hotels and official buildings which generate the international and modern image of Kuala Lumpur. Pavilion shopping center - which is shown in the Figure 5.2 - is known as the main landmark of this street by most of visitors of the area. The street vibrancy is enhanced by Bintang Walk, approximately a kilometer of pedestrian walkway where hotels stand alongside modern shopping malls. The monorail transport line links the area with other places and provides support as an access point for local shoppers, tourists and visitors.

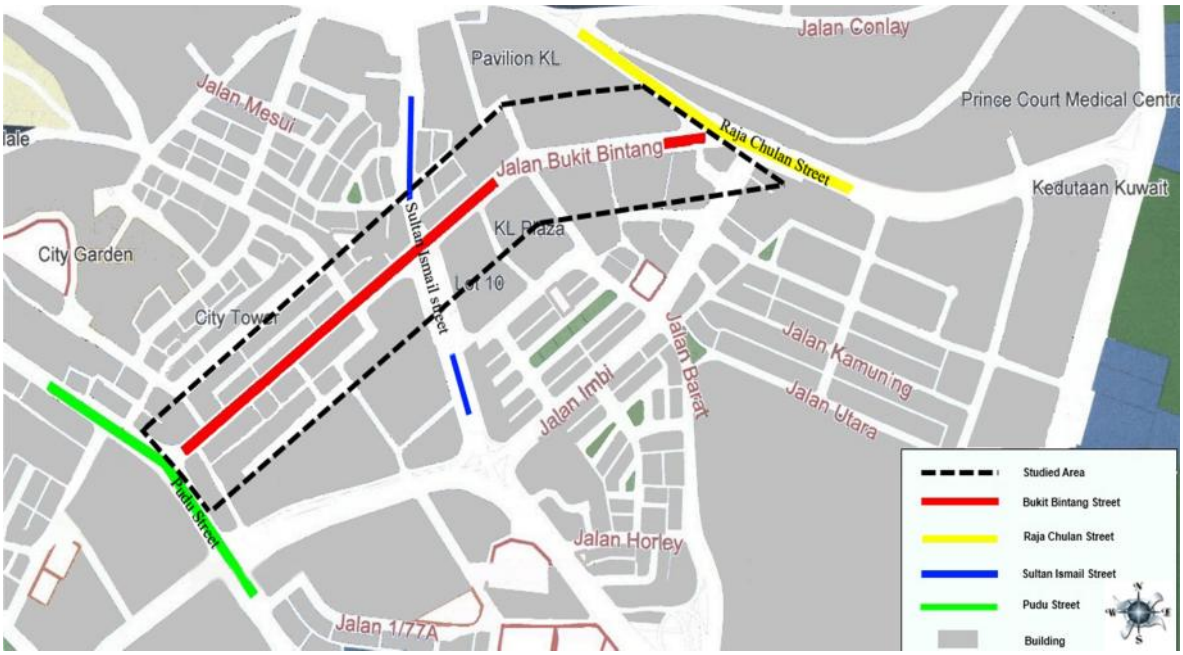


Figure 5.1 Plan of Bukit Bintang Street, Kuala Lumpur.
Source: Kuala Lumpur City Hall, Urban Planning Department

Figure 5.2 Pavilion Shopping Center, Bukit Bintang Street.

5.2.2 Qualitative examination of Bukit Bintang Street

In this phase of data collection, fifteen identified physical attributes were used as variables to evaluate the quality of Bukit Bintang Street. Visual appraisals were conducted at different times of the day and during various events to examine all different conditions and the users' behavior. For instance, the area was observed several times: in the evening – during the rush hours – and at other times when the areas were not crowded. Weekend nights, some special holidays and when it rained were other important times for visiting the case study urban spaces. Appendix A shows different times of observation and visiting the studied area. Also, after examination of this area, the result of this phase of data collecting is highlighted at the end of this part.

5.2.2.1 The physical attributes of Bukit Bintang Street

In this section, the current conditions of the identified physical attributes of Bukit Bintang Street are evaluated through direct observation and analyzing the photographs.

Furthermore, in order to have a better understanding about location of the showed picture, after examination of the attributes, the location of pictures on the plan is shown separately.

- **Paving**

Through observing and examining the Bukit Bintang street pavements, different problems discovered which were highlighted in Table 5.1.

Table 5.1 The findings of qualitative examination of Bukit Bintang street's paving

Field note	— Broken paving, damaged floor — Water collecting at parts of the footpath (at raining time) — People with children or physical disabilities have problems } Improper paving and flooring
Visual evidence	  Damaged pavements  Water collected at the sidewalk after the rains

In fact, everyone who passes through this street can see the broken paving or damaged floor of the pavements and water collecting at some parts of the footpaths when it rains. This issue causes serious problems for people with children or physical disabilities. Most children may stumble on such poor paving and flooring.

- **Shelter and canopy**

In addition to modern buildings and shopping centers, Bukit Bintang Street is well known for the Bintang Walk - approximately one kilometer of pedestrian walkway (Atirah & Ujang, 2010). This situation needs more facilities such as shelter and canopies to protect the pedestrian from sunshine or raining.

Table 5.2 The findings of qualitative examination of Bukit Bintang street's shelters

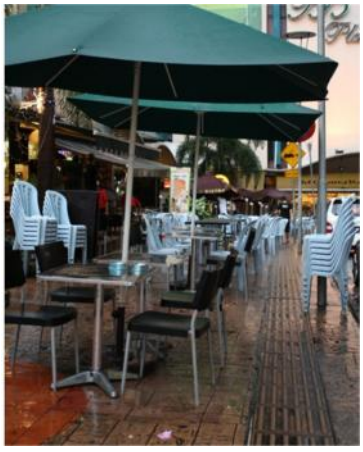
Field note	— Raining time — Sun — Stop walking and wait at building frontage or monorail station — Various pedestrian activities on the pavement such as walking, shopping, watching street show, relaxing	Inadequate shelter
Visual Evidence	  Public seeking shelter on rainy days	

However, rain is usual part of Malaysian life and mean number of rain days in Kuala Lumpur[3] is 158 days in a year (WMO World Weather Forecast, 2012), and the large number of pedestrian pass this street and various activities take place on the sidewalk, the sidewalks are not covered and shelters are not provided adequately in this street and people usually wait at building frontage or monorail station until raining stop.

- **Seating**

The other famous feature of Bukit Bintang Street is its night life and the street cafes. Table 5.3 reveals the findings of examination of street furniture and seating within this area.

Table 5.3The findings of qualitative examination of Bukit Bintang Street's seating

Field note	— Various street cafes alongside the pavement — Mostly restaurants and cafes have two types of seating sets: indoor seating and outdoor seating — sidewalk cafe's furniture occupied almost the whole of the sidewalk — Lots of pedestrian seating, eating and drinking	Adequate street furniture and seating
Visual evidence	  Sidewalk cafes	

[3] Mean number of days with at least 1 mm of rain

The street cafes occupied most parts of the sidewalks. So the seating and furniture are easily available on the pavement. Since most furniture at the footpaths belongs to cafés, if someone does not want to eat or drink anything, he or she may not use the private benches or chairs. Though it seems that this issue does not concern the passers. Meanwhile, providing some public furniture can highly facilitate the walkability of the area as well.

- **Signage**

Shopping areas are always campaigned with commercial signs. Table 5.4 illustrates the findings of examination of commercial signs within Bukit Bintang Street.

Table 5.4 The findings of examination of Bukit Bintang Street's commercial signs

<table>
<tr><td>Field note</td><td>— Various signs - different size, different types, different forma and color (No harmony)
— Various signs on a building facade
— No regulation for designing or installing the signs
— Visual pollution
} Irregular signs</td></tr>
<tr><td>Visual Evidence</td><td> 

Irregular signages</td></tr>
</table>

As can be seen in the pictures, signs are irregularly placed on the buildings. They are neither well-designed nor integrated with the architecture and structure of the host

buildings. In addition, there is no limitation on the numbers of signs per building façade. They are not restricted on the size or height and some of them dominate or obscure other signs. These types of signs and banners do not appear to follow any rules or order and make more visual pollution than convey information.

- **Planting**

Planting is one the most influential elements on the quality of streetscape. Table 5.5 shows the findings of examining the planting within this area. In Bukit Bintang Street, trees and different planting are visible at different parts of the area., however, it does not follow a regular pattern. At some parts, especially at the primary division of the street, enough planting and rows of trees can be seen along the road but after the Sultan Ismail street junction, one is faced with the lack of planting and few trees at different parts. However, it seems that this street has adequate planting, since intensive green landscaping can buffer the traffic impact, it is very important to improve the planting layout of this area.

Table 5.5 The findings of examination of Bukit Bintang street's planting

Field note	— Rows of trees at two side of street — No regular pattern (more trees and planting before the junction - less trees after the junction)	Adequate planting

Table 5.5 (continued)

Visual Evidence	 Regular rows of trees before the junction  Fewer trees after the junction

- **Sculpture and Fountain**

At the front of Pavilion Shopping Centre, a fountain can be seen that makes this space a focal point where lots of people stand beside it and take pictures or just enjoy the sound of the splashing water. Table 5.6 illustrates the result of examination of this fountain. This element with its decorative lighting at night has enhanced the visual attraction and quality of the area.

Table 5.6 The findings of examining Bukit Bintang street's fountain

Field note	—Located in front of pavilion shopping center —A kind of sculpture and art work —focal point —People take picture with fountain —Sound of water is soothing	Good fountain
Visual Evidence	 The fountain in Bukit Bintang Street	

❖ **Location of figures**

The following plan, Figure 5.3 shows the location of pictures that reveals the conditions of the examined attributes (paving, seating, shelter and canopy, signage, planting, sculpture and fountain) of Bukit Bintang Street.

Figure 5.3 Location of pictures related to the examined attributes (paving, shelter, seating, planting, signage, fountain and sculpture) of Bukit Bintang Street.

- **The proportions of space: size, scale of the road and sidewalks**

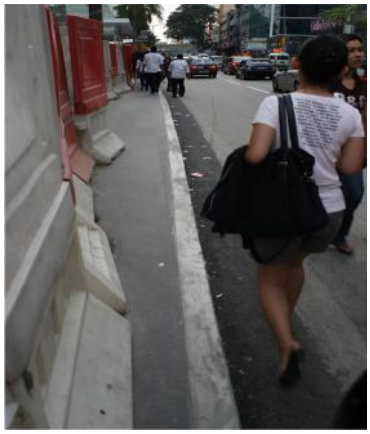
There is an important question in examination of the size and scale of the pavements and the road. Are the scale of pavements and road suitable and responsive to the traffic volume in the area? To answer this question, researcher observed the area at different times to see the pedestrian movements and vehicular traffic volume in the area. Due to the lack of statistical information on the numbers of people and vehicles pass through this area, there is no other way of examination. Table 5.7 reveals the findings of this qualitative examination. Through observations of this area, it was found that the proportion of pedestrian numbers and vehicular traffic volume to the pavements and road scale is not right. Every day, too many private cars, public taxis or buses pass this street, while this road has only three lines which usually one line is occupied by taxis. As a result, people usually confront heavy traffic congestion in this street and it concludes that it is a small road in this area.

Since this street is well known for its walking path and also has various shops, cafes and restaurant, it attracts lots of people to the area who do walking and shopping in this street. However, in most parts of the street, the width of pavement is large, all pedestrians cannot pass through pavements and sometimes they pass through the road. This issue has several reasons, firstly some parts of the pavements are occupied by street cafes or street shows or peddlers and beggars (refer to the pictures of Table 5.7). Secondly, there is no regular pattern of pavement in this street, and there is narrow pavement in some parts of the street. Therefore, it concludes this street has inadequate pavements for pedestrian movements in the area.

Table 5.7 The findings of examining size and scale of Bukit Bintang's road and pavements

Field note	— small road, only three lines while one is occupied with taxis, too much private cars, heavey traffic congestion — Lots of pedestrian (due to Bintang walk and shops) — Inadequate pavements (due to some parts of pavements are narrow or occupied by sidewalk's cafes, street shows, peddlers, beggars) - some pedestrians pass through the road rather passing through sidewalk	Small road, inadequate pavement and pedestrian crossing
Visual evidence	 The small road width with three lines  Narrow pavement at some parts of the street Wider pavement	

Table 5.7 (continued)

Visual evidence	 Peddlers selling their stuff on the pavements  Beggars  Pedestrians walking along the road rather than using the sidewalks

- **Time and different architectural styles of buildings**

Time always changes the face of our environment. During the last decades, city centers that located in the historical areas have usually experienced more transformation during developing the construction industry, which may cause the disturbance in the integrity of the area. Since the Bukit Bintang street is also located in Kuala Lumpur City Center and Heritage Zone which has been developed and renovated gradually, these changes can be seen here as well. Table 5.8 shows the findings of examination of this factor within Bukit Bintang Street.

Table 5.8 The findings of examining Bukit Bintang Street's architectural style of buildings

<table>
<tr>
<td>Field note</td>
<td>
— New buildings- hotels, shopping (before the junction)
— Older buildings - two to eight story buildings (after the junction)
— Disturbing the visual integrity of the street

Contrast between architectural style of new buildings and old ones
</td>
</tr>
<tr>
<td>Visual evidence</td>
<td>

Grand Millennium Hotel

Modern architectural styles of buildings before the junction with Jalan Sultan Ismail

Older buildings after the junction with Jalan Sultan Ismail
</td>
</tr>
</table>

As it is visible on the pictures of Table 5.8, the architecture of the new buildings contrasts stylistically with the traditional architecture of the older buildings. Since Sultan Ismail Street cuts across and divides this avenue into two parts, two different styles of architecture appear on the streetscape. On the Pavilion Shopping Centre side, there are lots of tall and new buildings like the Grand Millennium Hotel, while two to five storey buildings can be seen on the other side of the junction. This issue disturbs the visual integrity and harmony of the street.

- **Skyline**

The result of examination of Bukit Bintang Street skyline is shown at Table 5.9. A proliferation of buildings of random height, bulk and spacing has created an unattractive cityscape and a disharmonious skyline in this area. Since the buildings on the two sides of the junction of Sultan Ismail Street with Bukit Bintang Street do not relate to each other, an attractive visual environment and harmonious skyline cannot be seen.

Table 5.9 The findings of examining Bukit Bintang Street skyline

Field note	— Various buildings with different heights and bulks — Taller buildings (mostly before the junction) — Lower buildings (mostly after the junction)	Disharmonious skyline
Visual Evidence	 Skyline after the junction with Sultan Ismail Street	 Skyline before the junction with Sultan Ismail Street

❖ **Location of figures**

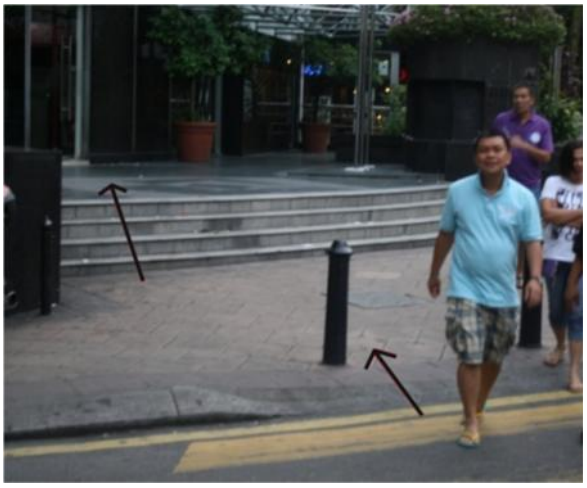
Figure 5.4 shows th location of pictures that reveals the conditions of the examined attributes (The proportion of space, time and different architectural style of buildings, skyline) of Bukit Bintang Street.

Figure 5.4 Location of pictures related to the examined attributes (the proportion of space, time and different architectural style of buildings, and skyline) of Bukit Bintang Street

- **Facilities for disabled people**

The findings of examination of the facilities for disabled people within Bukit Bintang street are revealed in Table 5.10. Although, it is unfair to say that there is no facility for disabled people in this area, it is impossible to say that all facilities have been provided for them either. As is visible in the pictures in Table 5.10 some ramps do exist in some parts of the street where needed at the painted pedestrian crossings, but they are not near all the staircases or other spaces where they are required.

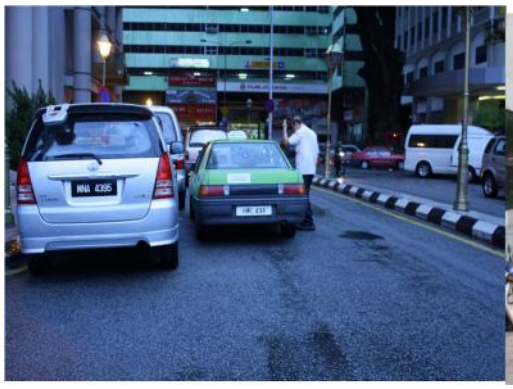
Table 5.10 The findings of examination of the facilities for disabled people within Bukit Bintang street

<table>
<tr><td>Field note</td><td>— Steps on the pavement without ramp (Barrier for people with wheelchair or pram)
— Step between the pavement and the road transformed to the ramp
} Inadequate facilities for disabled people</td></tr>
<tr><td>Visual evidence</td><td> 
Steps at the sidewalk without a ramp
 
Steps at the sidewalk with and without a ramp</td></tr>
</table>

- **Parking space**

People mostly travel to and from this street by their private cars. However, there are some public transportation systems like mono rail or bus; they cannot cover all people's needs. So, people prefer to use their own vehicles and as result, they need parking space. Table 5.11 illustrates the result of examination of parking space within Bukit Bintang Street.

Table 5.11The findings of examination of parking space within Bukit Bintang street

Field note	— Double parking — Looking for the parking at the other streets — People complaints about parking space and its price — Expensive parking under some of the buildings (hotels or shopping centers) / few affordable parking at the end of street	Inadequate parking space
Visual evidence	 Double parking  Motorcycle parking in the adjacent streets	

Two types of parking space are found in this street. Firstly, parking spaces which are available under some of the new buildings like the hotels and shopping centers that are located before the Sultan Ismail junction and their price are at least Rm 3 per hour. Secondly, at the end of this street, there are only two parking lots in the open space that

their prices of parking space for a whole day are Rm 5 at the week days and Rm 7 at the weekends.

Through talking to people in this area, it was perceived that people usually consider Rm 5 to 7 for a whole day as an affordable parking space, while paying 3 RM per hour is more considered expensive price. So, people usually do not tend to park at the covered parking spaces that are located under the new buildings and they usually complain about the inadequacy of parking space. However, with considering the price issue, it is hard to find a parking space in the Pavilion Shopping Center parking at the weekend. As a result double parking and blockages are seen in the street, or sometimes people try to find the parking space on the adjacent streets.

- **Accessibility via public transportation**

Since this area is located in the Golden Triangle of Kuala Lumpur city and is a multifunctional street that attracts various different people from tourist to local with different purposes, the access to the public transportation within this area is really important. Table 5.12 reveals the result of examination of access to the public transportation within Bukit Bintang Street. However, there are monorail, buses and taxis around this area. Clearly, they have not been able to cover all the transportation needs of the people. Taxi drivers rather think that most of the people passing this street are rich tourists who do not mind some extra cost with their holiday here. They prefer not to use the taximeter and make more money by taking the fixed price. So, people sometimes hesitate to get the taxi in this area and the taxi drivers have to wait longer to find the passenger. Buses do not have a regular timetable and just commute to nearby places. Finally, the monorail can be considered as the best public transportation mode for this area, as it is always full and crowded, especially in the mornings and evenings when it is mainly needed.

Table 5.12 The findings of examination of accessibility via public transportation

<table>
<tr>
<td>Field note</td>
<td>—— Monorail (just has one line and few capacity, over crowded at peak hour)
— Bus (not have regular time table, only commute to nearby destinations)
— Taxi (do not use taximeter, looking for more profit)
— Not covering all transportation needs!!
} Inadequate access to public transportation</td>
</tr>
<tr>
<td>Visual evidence</td>
<td> 
Monorail station in Bukit Bintang Street
 
Line of taxis that are waiting for passengers in Bukit Bintang Street</td>
</tr>
</table>

- **Traffic**

Nowadays traffic is an essential part of urban life. The result of examination of vehicular traffic within this area is shown on Table 5.13. One result of mismatching the road scale with the vehicular traffic volume which passes through this area daily is the incessant traffic congestion. However, focusing on different types of shopping centres, international

hotels, clubs and restaurants does attract lots of foreigners as well as local people. Since most of the people travel around with their own private automobiles, traffic congestion is an inevitable event, especially in the mornings, evenings, weekends and raining time. In addition, this congestion usually causes more problems such as air pollution, sound pollution and decreases the livability of the area.

Table 5.13 The findings of examination of vehicular traffic within Bukit Bintang Street

Field note	— Too many private cars pass this street — Heavey traffic congestion at the peak hours (morning and evening) raining time and weekends' night — Slow movement of vehicles at the other times of day	Traffic congestion
Visual evidence	 Heavy traffic congestion during the evening weekdays	

- **Maintenance and cleaning**

Maintenance and cleaning are the key factors which determine the quality of an urban space. Table 5.14 illustrates the findings of examination of maintenance and cleaning factor in this area.

Table 5.14 The findings of examination of maintenance and cleaning in Bukit Bintang area

<table>
<tr>
<td>Field note</td>
<td>
— Some buildings are well renovated but Some facads needs repairing and painting
— Dirty floors at some parts
— Accumulation of rubbish in some areas / unpleasant smells
— Poor public urban services
Not well-maintained
</td>
</tr>
<tr>
<td>Visual evidence</td>
<td>


Dirty and ruined walls and facades at the end of the street


Dirty floors


Rubbish at different parts of the street
</td>
</tr>
</table>

During the observation of this area, it was revealed that different parts of the street have different conditions. Area near the new shopping centers and hotels are well maintained and clean while at the other parts especially near the end of the street dirty floors, collected garbage and unpleasant smell appear. This condition shows the poor public urban services in this area. In addition, some old ruined facades, walls, and buildings need renovation in this street.

- **Plaza for social events and street-shows**

An especial area is usually designed at the square or plaza for the gathering people or performing the street shows. Since this street has the significant night life and people usually gather here, this element is examined within this area. Table 5.15 shows the result of examination of this item.

Since lots of people come to this area to celebrate some social events like New Year night or come to watch street shows, a special plaza or particular space - where people can get together and do not cause congestion on the street or footpath is quite essential.

Table 5.15 The findings of examination of plaza for social events or street shows

Field note	— Street shows are performed at night on the pavement's corner — Special events like new year are celebrated here — Music bands, dance groups and etc perform — People take photos and congested at the pavement	Need for special plaza

Table 5.15 (continued)

Visual evidence	 People gather at the corner of the junction pavement to watch street shows  A Mexican band is performing its own music

❖ **Location of figures**

Figure 5.5 shows the location of pictures that reveals the conditions of examined factors (facilities for disabled people, accessibility via public transportation, parking space, traffic, plaza for social events) of Bukit Bintang Street.

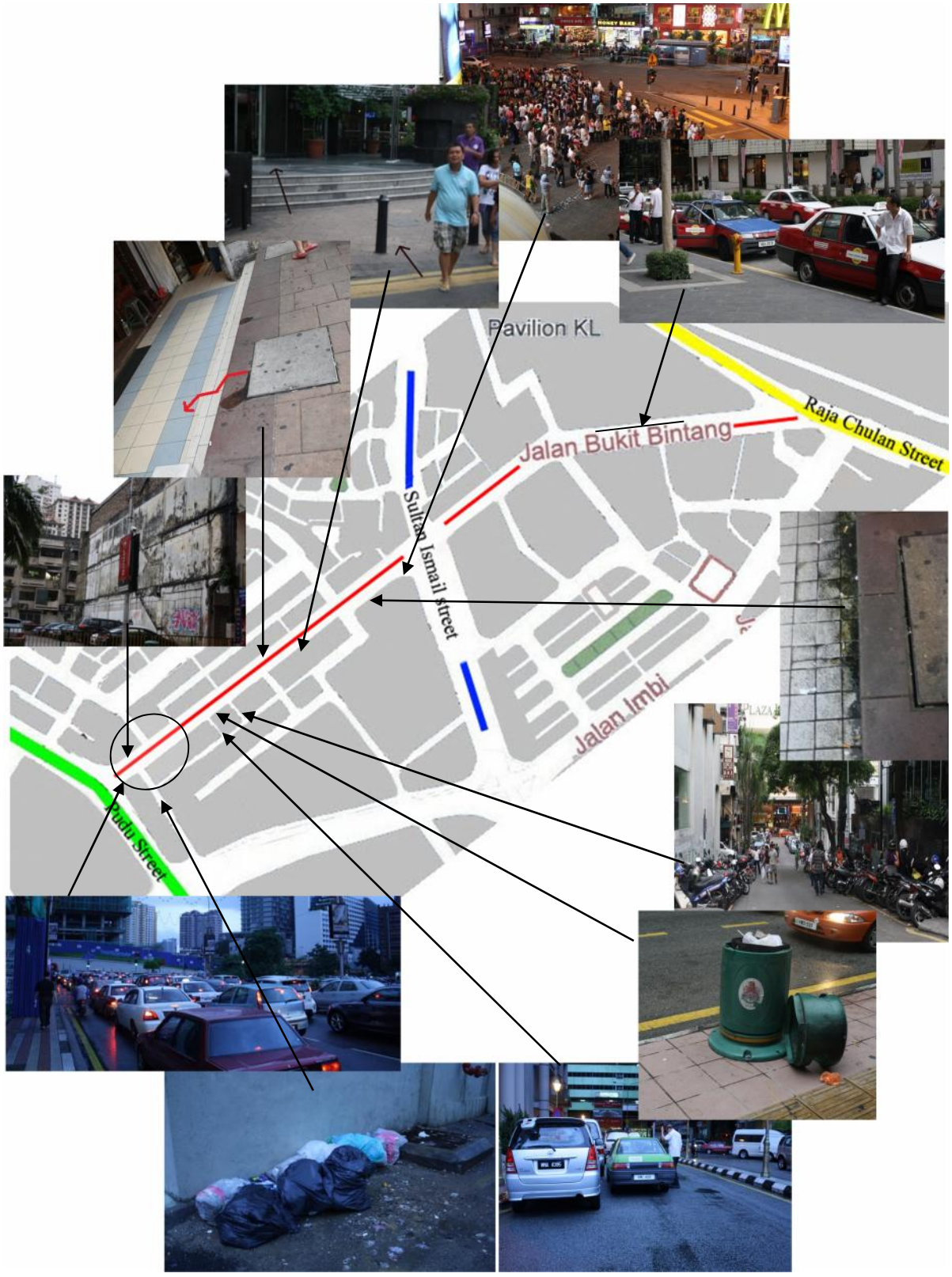


Figure 5.5 Location of pictures related to the examined attributes (facilities for disabled people, accessibility via public transportation, parking space, traffic, plaza for social events) of Bukit Bintang Street.

5.2.2.2 Results of the first phase of data collection of Bukit Bintang Street

Since the first objective of this research is to discover the main physical problems of the Kuala Lumpur's streetscapes, the first parts of data collection designed to examine the case study spaces through the visual appraisal and images analysis. Table 5.16 shows the result of qualitative examination of physical attributes of Bukit Bintang Street. However, in addition to the fifteen physical attributes that identified in the literature review, space for special plaza was also examined in the Bukit Bintang Street.

Table5.16 Evaluation of physical attributes of Bukit Bintang Street

	Physical attributes of streetscape	**Result of qualitative evaluations**
1	Paving	Inappropriate
2	Seating	Enough
3	Shelter and canopy	Inadequate
4	Lighting	Good quality
5	Signs	Irregular
6	Planting	Good quality
7	Sculpture and fountain	Good quality
8	Proportions of space	Small road, small width of pavement
9	Time and different architectural style of buildings	Contrast between the new buildings and old ones
10	Skyline	Disharmonious
11	Facilities for disabled people	Inadequate
12	Parking space	Inadequate
13	Accessibility	Inadequate access to public transportation
14	Traffic	Heavy traffic congestion
15	Maintenance and cleaning	Not well- maintained
16	Plaza for social events or street show	Inadequate

These findings reveal that most of the examined attributes were not of quality condition. However, some attributes such as sculpture and fountain, planting and seating are in better conditions. Therefore, the following problems are highlighted as the analysis of the first phase of data collection.

i. Improper walkway paving and flooring
ii. Inadequate shelter and canopies
iii. Irregular signs
iv. Inadequate pavement and pedestrian crossing
v. Small road
vi. The lack of renovation of the old building
vii. The architecture of new buildings contrasts stylistically with the traditional architecture of old buildings
viii. Disharmonious skyline
ix. The lack of facilities for disabled people
x. Inadequate parking space
xi. Traffic congestion
xii. The lack of public services and maintenance
xiii. Lack of plaza for social events or street show.

These findings are used as a basis to design the questionnaire for conducting the second quantitative phase of data collection. At the next step, these findings - except the disharmonious sky line - are evaluated by users' attitude. For this evaluation, users' attitude is not asked about disharmonious sky. Since the disharmonious skyline is not a familiar concept for people and it is created mainly because of the contrast between the heights of

the old and newer buildings, this problem is not mentioned in the questionnaire and only the contrast between the architectural style of old buildings and newer ones was asked. Hence the result of this item is generalized for the disharmonious skyline as well.

5.2.3 Quantitative evaluation of Bukit Bintang Street

After the qualitative examination of Bukit Bintang Street and identification of the physical problems from the urbanization point of view, a questionnaire survey was conducted to ascertain the users' perspective on the identified physical problems and role of different organization on solving these problems. Since these physical problems were measured against the quality and livability of the streetscape, the identified problems were considered as independent variables and the quality and livability of the streetscape was dependent variable. Table 5.17 shows the dependent and independent variables of Bukit Bintang Street survey. In the questionnaires, people's perceptions on these issues were asked by using the Likert Scale for clear picture, the results are shown at tabular format (Table 5.19 and Table 5.20).

Table 5.17 The dependent and independents variables of Bukit Bintang street survey

Dependent variable	Independent variable
Livability and Quality of streetscape	i. Improper paving and flooring ii. Inadequate shelter and canopies iii. Irregular signs iv. Small road v. Inadequate pavement and pedestrian crossing vi. Lack of renovation of the old building vii. Architectural style of new buildings contrast stylistically with old ones viii. Inadequate facilities for disabled people ix. Inadequate parking space x. Traffic congestion xi. Inadequate public services and maintenance xii. Lack of plaza for social events or street shows

The samples of studies consist of 150 people who live, work or know the area. The following Table 5.18 presents the demographic information - information about age, gender, race, and level of education - of respondents of Bukit Bintang Street. In addition, Table 5.18 shows the purpose of the respondents of being in the studied area and the duration of knowing the areas. Because of the presence of many tourists and foreigners in these two areas, respondents were divided into two groups of local or foreigners. The respondents aged above 18 were categorized into one of three groups: young, middle age and elderly people. The education level of respondents was notes as one of three categories of under Diploma, Diploma- Bachelor and Master-PhD. Since the main function of these areas are official and commercial, people showed their purpose of being in the area at two different groups of living - working and shopping - visiting- others.

Table 5.18 Demographic information of the respondents of Bukit

	Number of respondent	**Percentage**
Gender		
Male	69	46
Female	81	54
Age		
18-35	117	78
35-50	30	20
50 or above	3	2
Race		
Local	93	62
Foreigner	57	38
Level of education		
Under diploma	27	18
Diploma- bachelor	78	52
Master-PhD	45	30
Purpose of being in the area		
Living-working	54	36
Shopping- visiting- others	96	64

5.2.3.1 Quality and livability of Bukit Bintang Street and importance of the identified physical problems

This study seeks to examine the quality and livability of Bukit Bintang Street through the respondents' level of agreement on the existence of identified problems. Considering this aim, this part reveals respondent perceptions about the quality and livability of the identified physical problems of Bukit Bintang Street. As mentioned in the third chapter - data analysis section - five categories of users' responses were broken down in the three groups. Appendix G shows the result of the survey of Bukit Bintang Street, before collapsing the five categorizes of users' responses to three categories. In this section, in order to have a better understanding about people's perception, the result of the survey is revealed after collapsing the five responses categories to three categorizing. Table 5.19 indicates people's perception of the quality and livability of the area and Table 5.20 shows users' agreement with existence of these problems at three levels of agree, neither agree nor disagree, and disagree. Since when people do not have a clear idea about a matter, they usually mark neither agree nor disagree, researcher considers only agree and disagree rate at the analysis. In fact, the result of this survey reveals the significance of these problems from users' perspective.

Table 5.19 Users' perception of quality and livability of Bukit Bintang Street

	Agree		Neither agree nor disagree		Disagree		Mean	Std. Deviation
	frequency	percent	frequency	percent	frequency	percent		
Quality and livability	66	44%	48	32%	36	24%	1.80	.803

Table 5.20 Users' perception of identified physical problems within Bukit Bintang Street

	The identified physical problems of Bukit Bintang Street	Agree		Neither agree nor disagree		Disagree		Mean	Std. Deviation
		Freq*	Per**	Freq*	Per**	Freq*	Per**		
1	Improper paving and flooring	57	38%	48	32%	45	30%	1.92	0.823
2	Inadequate shelter and canopies	81	54%	39	26%	30	20%	1.66	0.730
3	Irregular signs	72	52%	57	38%	21	10%	1.66	0.713
4	Inadequate pavement and pedestrian crossing	66	44%	39	26%	45	30%	1.86	0.852
5	Small road	102	68%	36	24%	112	8%	1.40	0.635
6	Lack of renovation of the old building	42	28%	63	42%	45	30%	2.02	0.764
7	Architectural style of new buildings contrast stylistically with old ones	36	24%	60	40%	54	36%	2.12	0.768
8	Lack of facilities for disabled people	66	44%	45	30%	39	26%	1.82	0.820
9	Inadequate parking space	93	62%	36	24%	21	14%	1.52	0.730
10	Traffic congestion	129	86%	18	12%	3	2%	1.16	0.419
11	Lack of public services and maintenance	48	32%	57	38%	45	30%	1.98	0.832
12	Lack of plaza for social events or street shows	57	38%	57	38%	36	24%	1.86	0.777

* Frequency - ** Percent

The result illustrates that people consider the traffic congestion as the main problem of this street. Approximately 86% of people believe that Bukit Bintang Street has this problem and only 2% of people disagree. The second major problem of this area was identified as the small scale of road which 68% of the respondents agree with it. Then, inadequate parking space can be counted as the third most important problem, which 62% of users think that this problem exists in this street, and only 14% disagree. The ranking is followed by 54% agree rate for Lack of Shelter and Canopies.

Thereafter, the 52% of respondents agree with the presence of irregular signs. Besides, the 44% agree with the inadequate facilities for disabled people and inadequate pavement and pedestrian crossing in this street. However, 26% of respondents disagree with the inadequate facilities for disabled people and 30% disagree with the inadequate pavement and pedestrian crossing as the problems of the area. As a result, the percentage of disagreement with these two problems shows that people consider inadequate facilities for disabled people more seriously than inadequate pavement and pedestrian crossing.

The improper paving and flooring and lack of plaza for social events are the other problems which 38% of users agree with, although they did not get the same rate for the disagreement. It seems that lack of plaza for social events was more important for people rather than improper paving and flooring. About 24% of respondents do not believe that this area needs a plaza for social events, while 30% think that the paving and flooring of this street does not require repairing. The next identified problem was inadequate public services and maintenance which 32% of people agree with and 30% of users do not recognize as a problem. However, at the first step of examination a lot of evidence observed for this problem, the result of this survey shows this problem does not bother the users too much.

The last two problems that have the least significance for the users are lack of renovation of old building and architectural style of new buildings contrast stylistically with old ones which 28% and 24% of users agree with them respectively.

These problems can be organized based on their importance from users' perspective gained from the questionnaire survey as follows:

i. Traffic congestion
ii. Small road
iii. Inadequate parking space
iv. Inadequate shelter and canopies
v. Irregular signs
vi. Inadequate facilities for disabled people
vii. Inadequate pavement and pedestrian crossing
viii. Lack of plaza for social events and street shows
ix. Improper paving and flooring
x. Inadequate public services and maintenance
xi. Inadequate renovation of old ruined buildings
xii. Architectural style of new buildings contrast stylistically with old ones
xiii. Disharmonious skyline

Since disharmonious sky line was not asked from the users at the questionnaire, and it was considered a general result of Architectural style of new buildings contrast stylistically with old ones, at this order Disharmonious Sky line comes exactly after architectural style of new buildings contrast stylistically with old ones.

The next parts includes the different analysis were used to examine the relationship between the variables.

5.2.3.1.1 Reliability Test

The 12 identified physical problems of Bukit Bintang Street that was asked in questionnaire survey included improper walkway paving, inadequate shelter and canopies, irregular signs, small road, inadequate pavement for pedestrian crossing, lack of renovation of old ruined buildings, contrast between architectural style of new buildings and old ones, inadequate facilities for disabled people, inadequate parking space, traffic congestion, lack of public services and maintenance and lack of plaza for social event. These variables are used together as a complex measure for "deterioration of physical quality of the streetscape".

To ensure that this measure is considered reliable, the reliability test was applied to see whether the measure make a satisfactory scale that is a true measure of the physical quality of Bukit Bintang Street. This test measures the internal consistency of the survey. In this test, Cronbach's Alpha values of 0.7 and above are considered acceptable value for a scale (Froude, 1993). Table 5.14 indicates the result of reliability test of Bukit Bintang Street survey. The result of the reliability test showed that the value of Cronch Alpha for Bukit Bintang Street survey is 0.813, which is greater than the minimum alpha value (0.7) and acceptable for the scale.

Table 5.14 Reliability test of Bukit Bintang Street survey

Reliability Statistics	
Cronbach's Alpha	N of Items
0.813	12

5.2.3.1.2 Validity Test

The KMO and Bartlett's Test was selected to measure the validity of this survey. In this test, Kaiser-Meyer-Olkin Measure of Sampling Adequacy of 0.6 and above are considered acceptable value for a scale (Coakes & Steed, 2007). Table 5.15 shows the result of KMO and Bartlett's test of Bukit Bintang Street survey.

Table 5.15 KMO and Bartlett's test of Bukit Bintang Street survey

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.645
Bartlett's Test of Sphericity	Approx. Chi-Square	147.039
	df	45
	Sig.	.000*

Bartlett's Test of Sphericity is significant at the 0.05 or below

The result of the validity test showed that the Bartelett's test of sphericity is significant at this area. Also, the value of Kaiser-Meyer-Olkin Measure of Sampling Adequacy for Bukit Bintang Street survey is 0.645 which is greater than 0.6 and is acceptable for the scale.

5.2.3.1.3 Correlation analysis: Physical problems and quality of Bukit Bintang Street

Spearman correlation analysis was proceeded to examine the relation between the identified physical problems of Bukit Bintang Street and livability of the area. Table 5.16 reveals the findings of this analysis.

Table 5.16 Findings of correlation coefficient analysis: Physical problems and livability of Bukit Bintang Street

No	Physical problems	Correlation Coefficient
1	Improper paving and flooring	- 0.185*, *p(0.023)* <0.05
2	Inadequate shelter and canopies	- 0.034, *p(0.682)*>0.05
3	Irregular signs	- 0.48, *p(0.559)*>0.05
4	Small road	- 0.079, *p(0.336)*>0.05
5	Inadequate pavement and pedestrian crossing	- 0.126, *p(0.126)*>0.05
6	Lack of renovation of the old buildings	- 0.167*, *p(0.042)* <0.05
7	Architectural style of new buildings contrast stylistically with old ones	- 0.129, *p(0.116)*>0.05
8	Inadequate facilities for disabled people	- 0.185*, *p(0.023)* <0.05
9	Inadequate parking space	- 0.282**, *p(0.000)* <0.01
10	Traffic congestion	- 0.240**, *p(0.002)* <0.01
11	Inadequate public services and maintenance	- 0.191*, *p(0.019)* <0.05
12	Lack of plaza for social events or street shows	- 0.194*, *p(0.018)* <0.05

Correlation is significant at the 0.05 and is strongly significant at 0.01

The result of this analysis revealed that there is a negative correlation between quality of Bukit Bintang Street and the 7 physical problems named as improper paving and flooring, lack of renovation of old buildings, inadequate facilities for disabled people, inadequate

parking space, traffic congestion, inadequate public services and maintenance and lack of plaza for special events and street shows. It means that the quality and livability of this area is deteriorated by increasing the mentioned physical problems. In addition, this negative correlation is strongly significant between quality of the area and inadequate parking space, and traffic congestion which means these problems affect the quality of area more than others. However, this analysis did not indicate any correlation between the quality of Bukit Bintang Street and inadequate shelter and canopies, irregular signs, small road, inadequate pavement and pedestrian crossing, and contrast between architectural style of new buildings and old ones.

5.2.3.2 Role of organization in solving the problems of Bukit Bintang Street

Last part of quantitative survey is related to solving identified physical problems of the two case study spaces. Therefore, five different governmental and private organizations which may have influenced on working out the problems were stated. The named organizations are as follows:

- Kuala Lumpur City Hall;
- Local people
- Malaysian Institute of Architects (PAM);
- Federal ministries of Malaysia
- Police

Users also stated their attitude about the impact of the mentioned organization in solving the identified problems as the last section of the questionnaires. Table 5.24 shows the users' perception about the role of organizations at solving the Bukit Bintang Street's problems.

Table 5.17 The extent that organizations can improve the identified problems of Bukit Bintang Street

	The organization	Agree		Neither agree nor disagree		Disagree		Mean	Std deviation
		Freq	Per	Freq	Per	Freq	Per		
1	Kuala Lumpur city Hall	111	74%	27	18%	12	8%	4.02	0.937
2	Local People	57	38%	63	42%	30	20%	3.24	0.981
3	Federal ministries of Malaysia	66	44%	69	46%	15	10%	3.56	1.013
4	Malaysian Institute of Architects (PAM)	69	46%	66	44%	15	10%	3.52	0.953
5	Police	72	48%	57	38%	21	14%	3.54	1.034

The result of this part illustrates that people think Kuala Lumpur City Hall (KLCH) is the most influential organization which can solve the problems. Approximately 74% of respondents agreed that KLCH can contribute to solving the identified problems of the case study areas, while only 8% disagreed with. The second organization which users think has great impact on the quality of area is Police. The 48% of users believed it's an important role, though 14% do not agree with.

However, the rating between the first and second organizations varied a lot, it cannot be seen too much differences between rankings of Police with the next organization except for Local people. About 46% of users agreed with great influence of Malaysian Institute of Architects (PAM), and 44% agreed with the role of Federal ministries of Malaysia on

solving the identified problems. Finally, the lowest rate belongs to local people whom 38% of people agreed with its influence and 20% disagreed.

The following order shows the importance of named organization on solving the problems of Bukit Bintang from users' point of view.

i. Kuala Lumpur City Hall
ii. Police
iii. Malaysian Institute of Architects (PAM)
iv. Federal ministries of Malaysia
v. Local people

5.3 Examination of Tun Perak Street

This part illustrates the background and the qualitative and quantitative data collection of Tun Perak Street.

5.3.1 The background of Tun Perak Street

This section consists of the background information of Tun Perak Street in Masjid Jamek area. Firstly the location and situation of this street is examined, thereafter the studied area and its boundaries are determined.

Figure 5.6 shows the plan of Tun Perak Street. This street is limited to Pudu Street from the southeast side - shown at the plan with the green Line - and also Tuanku Abdul Rahman Street - indicated in the plan with the yellow Line - Bounds it from the northwest side.

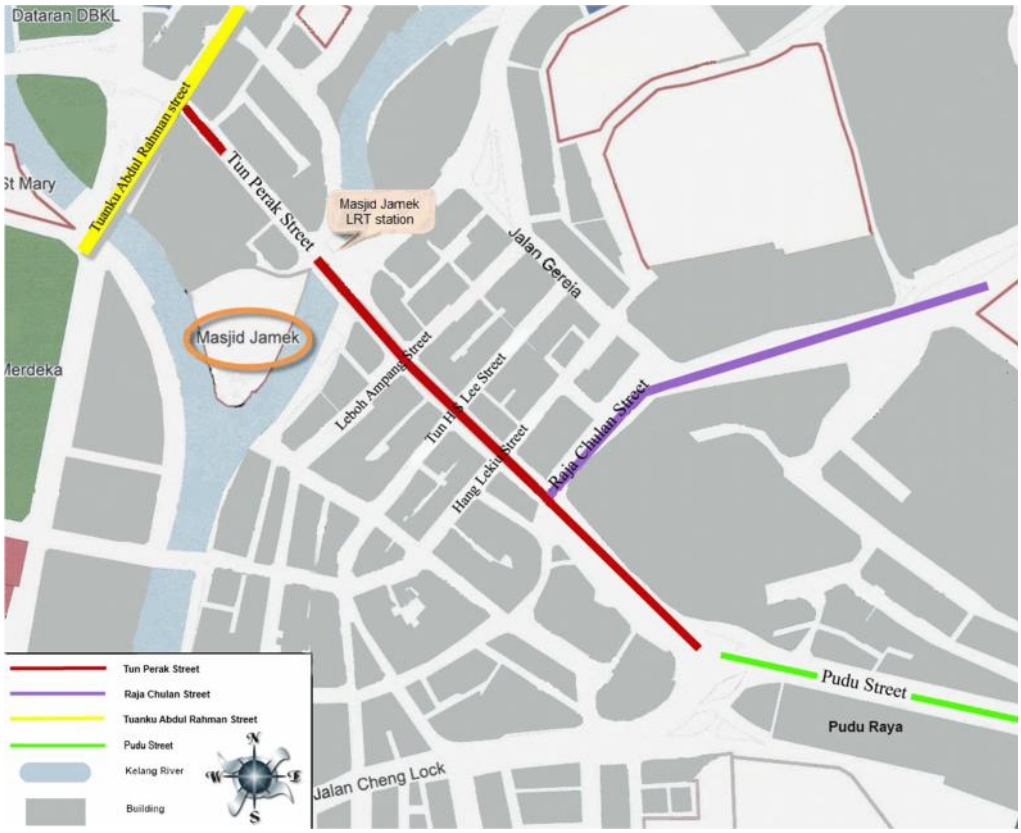


Figure 5.6 Plan of Tun Perak Street
Source: Kuala Lumpur City Hall, Urban Planning Department

As is also visible on the image Masjid Jamek and LRT station of Masjid Jamek area is located off this street. They are highlighted at the Figure 5.6 by the orange circle around Masjid Jamek and a sign for Masjid Jamek LRT station. Due to the presence of Masjid Jamek, this area (which is showed by the black dotted line at Figure 5.7) is commonly known as the Masjid Jamek area. Part of Tun Perak Street which is located at Masjid Jamek area (from Tuanku Abdul Rahman Street to Raja Chulan Street) is examined in this study and since the rest of the street is not considered at the Masjid Jamek area, it will not be evaluated.

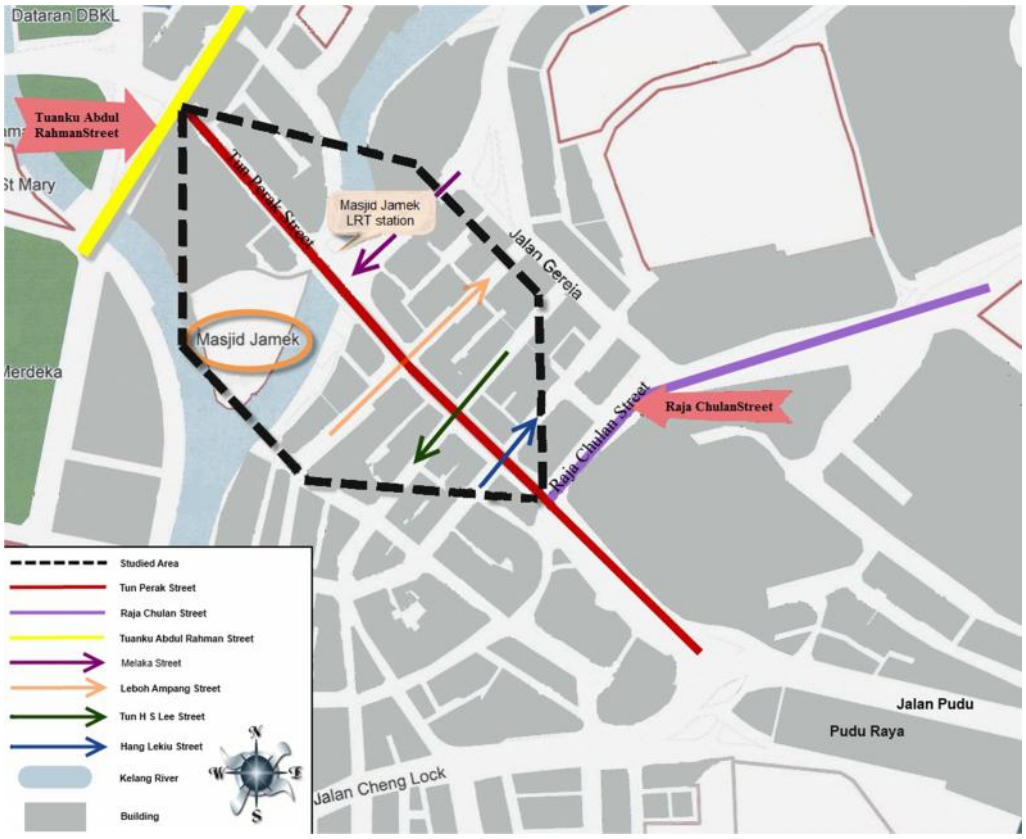


Figure 5.7 Study area of Tun Perak Street which is located at the Masjid Jamek area and the marks for Masjid Jamek and LRT station

Source: Kuala Lumpur City Hall, Urban Planning Department

This area is located within old part of Kuala Lumpur city centre, has history and is recognized as a historical zone by Dewan Bandaraya Kuala Lumpur (DBKL) or Kuala Lumpur City Hall. It is identified as a district and is significant enough because it includes the starting point of Kuala Lumpur city (Kum & Ujang, 2009). Masjid Jamek, the Bazaar and LRT station are located in this district, and the Klang River passes through it. Existence of all these significant urban elements makes this area one of the most important crowded spaces of the city for the citizens of Kuala Lumpur as well as tourists. In addition, holding the Friday praying in the Masjid Jamek with participation of all Muslims around the city distinguishes the role of this street and the whole area more than anything else from other

streets. Passing the two important train lines of city from the Masjid Jamek LRT station is another factor that causes more congestion in this area.

5.3.2 Qualitative examination of Tun Perak Street

The physical quality of Tun Perak Street is examined qualitatively in this part. The process of this examination and findings of this phase of data collection are demonstrated in the following sections.

5.3.2.1 The physical attributes of the Tun Perak Street

In this part, the current condition of the identified physical attributes of part of Tun Perak Street which is considered at the Masjid Jamek area (from Tuanku Abdul Rahman Street to Raja Chulan Street) is evaluated through direct observation and analysis of the photographs.

- **Paving**

The paving quality of the sidewalks in this area is not better than that of Bukit Bintang Street. Table illustrates the findings of examination Tun Perak Street's paving. The paving has been damaged in different parts of the footpaths and due to inappropriate ramp design and locations, water collected at some parts of the street.

Table 5.25 The findings of examination Tun Perak Street's paving

Field note	— Damaged pavement at different parts of the street — Water collected at some part — People with children, or disabled people have problems	Improper paving

Table 5.25 (continued)

Visual evidence	 Damaged paving at different parts of the sidewalks  Water flowing along the road

õ **Shelter and canopy**

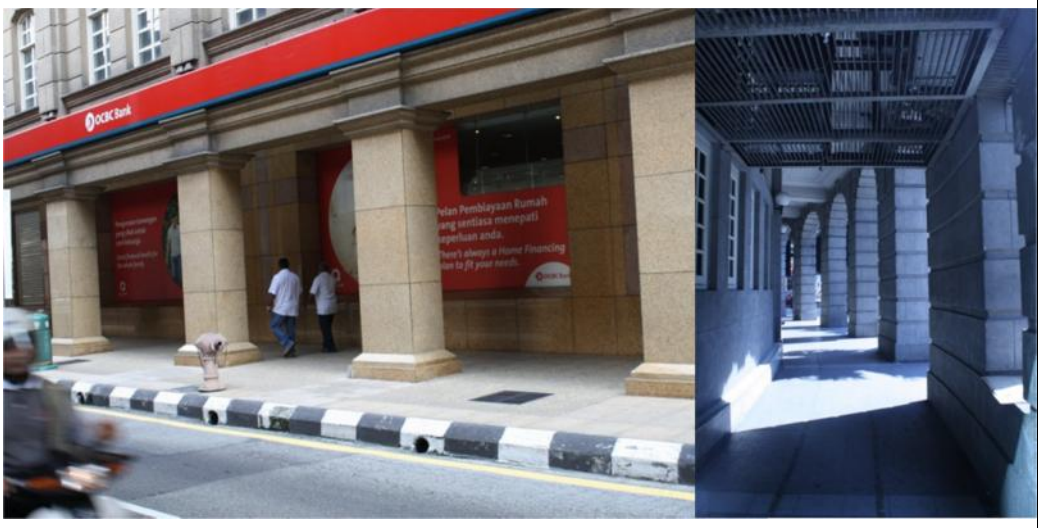
However, some the footpaths and pavements are covered in this area; when it rains a problem arises for people who want to cross the road or pass through this area. Table 5.26 reveals the findings of examination of shelters in Tun Perak Street. Due to the lack of covered walkways between the LRT station and surrounding environment, most of the time people must wait at the LRT station or entrance of the building until the rain stops.

Table 5.26 The findings of examination of shelters in Tun Perak Street

<table>
<tr><td>Field note</td><td>— verandah ways at some parts of the pavement
— People wait at LRT station or building frontage (raining time)
— A shelter is needed to connect the pedestrian crossing from LRT station to the surrounding building and pavements

Inadequate shelter</td></tr>
<tr><td>Visual evidence</td><td> 

People waiting at the LRT station or building frontage when it is raining

 
Covered walkways in Tun Perak Street</td></tr>
</table>

õ **Seating**

This area is a multifunctional space which has various parts, such as the Bazaar, LRT station and Masjid Jamek where people gather and spend lots of time. Table 5.27 reveals the findings of examination of seating within this area. In fact, there is no seating or appropriate street furniture for people who want to sit or rest for a while - especially in front of LRT station for raining time. So the features or adequacy of this element cannot be examined. In addition, it seems that lack of this element has effect on people's perception of this area. Most people describe this area as a passageway, not a space where people can spend their time leisurely.

Table 5.27 The findings of examination of seating within Tun Perak Street

Field note	— Not any seating or street furniture at the pavements — Existance of bazar and shops without any furniture — People rushing / consider this area as a passageway	Inadequate seating
Visual evidence	  Bazaar and pavements without any seating or furniture	

õ **Signage**

Although the number of commercial signs in this area is much less than those along Bukit Bintang Street, their conditions are the same. Table 5.28 illustrates the result of examination of signs within Tun Perak Street.

Table 5.28 The findings of examination of signs within Tun Perak Street

<table>
<tr><td>Field note</td><td>——No regulation for design of signs
— Signs are not integrated with the building
— Instaling signs doesnot follow the KLCH's guideline
} Irregular signs</td></tr>
<tr><td>Visual evidence</td><td> 
Irregular signs in Tun Perak Street
 
Signs cover the windows</td></tr>
</table>

However, this area is located in Secondary Heritage Zone and Kuala Lumpur City Hall has planned an especial guideline for installing the signs in this area, none of those regulations are seen in design and installation of signs. There is no regular pattern seen for the signs. In addition they are neither well-designed nor integrated with the architecture and structure of the host buildings.

- **planting**

Planting is one of the factors which affects the quality and livability of the streetscape. Table 5.29 shows the result of examination of planting condition in this area. Anyone who passes Tun Perak Street will not see much planting except for a few trees at some parts of the pavements and in the Masjid Jamek compound. But there is no regular pattern for planting and landscaping within this street.

Table 5.29 The findings of examination of planting in Tun Perak Street

Field note	— A few trees at some parts of the pavements and Masjid Jamek Compound — No regular pattern for planting & greenery	Inadequate planting
Visual evidence	 Generally no planting can be seen along the road and sidewalks	

Table 5.29 (continued)

	 Few trees in some parts of the pavements

- **Sculpture and fountain**

Sculptures and fountains are other elements of landscaping that are lacking in this area. The space near the entrance of the LRT station or the frontage of Masjid Jamek, are the spaces where proper landscaping can be implemented and the use of fountains or sculptures can enhance the quality of the environment.

❖ **Location of figure**

Figure 5.8 shows the location of pictures of examined attributes (paving, seating, shelter and canopy, sigange, planting, sculpture and fountain) of Tun Perak Street.

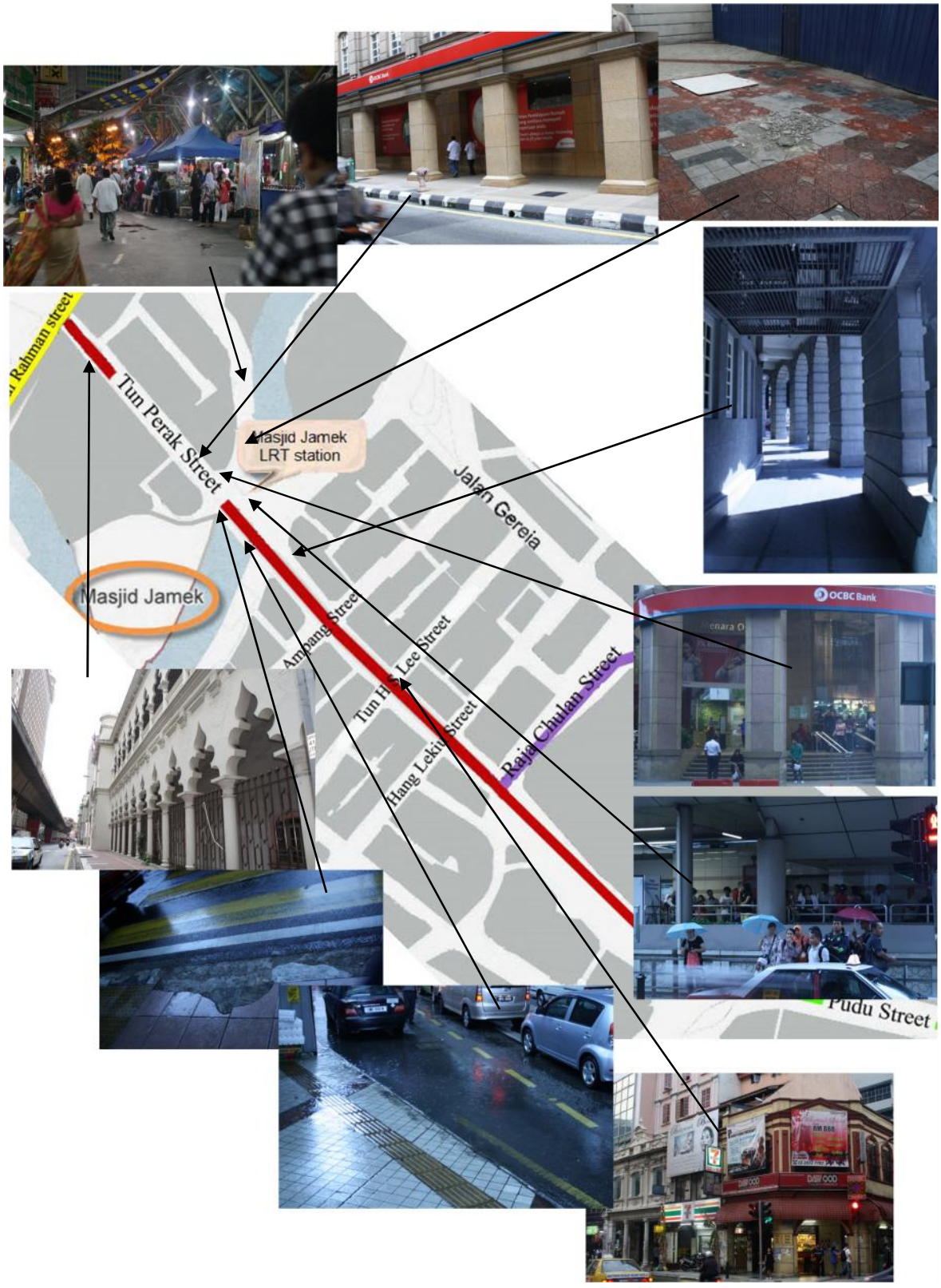


Figure 5.8 Location of pictures related to the examined attributes (paving, seating, shelter and canopy, sigange, planting, sculpture and fountain) of Tun Perak Street

õ **The proportions of space: Size, scale of the road and sidewalks**

Table 5.30 reveals the findings of examination of proportion between size of the road and vehicular traffic volume and also proportion between size of the pavements and pedestrian volume within Tun Perak Street.

Table 5.30 The findings of examining size of road and pavements

<table>
<tr><td>Field note</td><td>— Not overcroweded pavements
— Size of road is not proportionate with traffic volume
— Two lanes in each direction of this road
} Proportionate pavements - Small road</td></tr>
<tr><td>Visual evidence</td><td> 
Two lanes in each direction of the road
 
Cars and pedestrian in Tun Perak Street</td></tr>
</table>

Observation of pedestrian movement in this area showed that the size and scale of sidewalks are almost proportionate with the population of the passersby so that overcrowded pavements cannot be seen here. Though, size of the road seems too small for the vehicular traffic volume. Since this area is located at the city centre, it is an important urban node which various motorized vehicles from trucks to motorcycles pass daily. However, Tun Perak Street has only two lanes two lanes which cannot handle the traffic volume of this area and causes heavy traffic congestion.

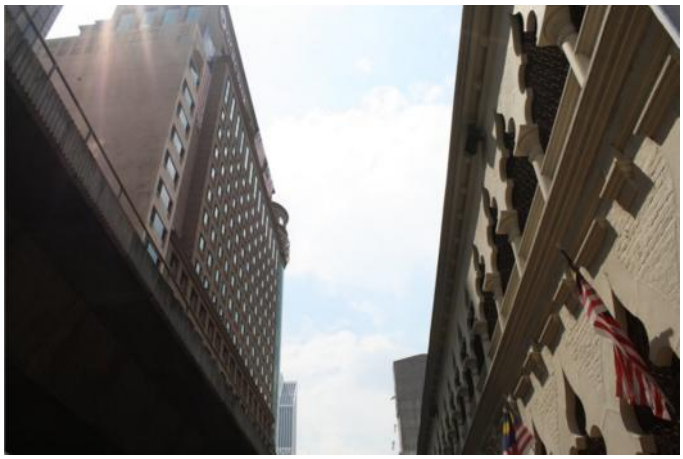
- **Time and different architectural styles of buildings**

Time passes and everything changes especially construction in the historical part of cities. Table 5.31 illustrates the result of examination of harmony and integrity between the architectural styles of buildings in this area. The contrast between the architectural styles of new buildings and the traditional architecture of the old buildings can be considered one of the important factors which undermine the integrity of this area. Since this district is situated in the old fabric of the city, some historical buildings and many existing old buildings are ruined. In fact, this problem should be considered more serious because it is the origin of other problems in the area.

Table 5.31 The findings of examination of time and different architectural styles of buildings in Tun Perak Street

Field note	— Different style of buildings beside each other — No harmony or integrity — Just few buildings conserved	Contrast between architectural style of new buildings and old ones

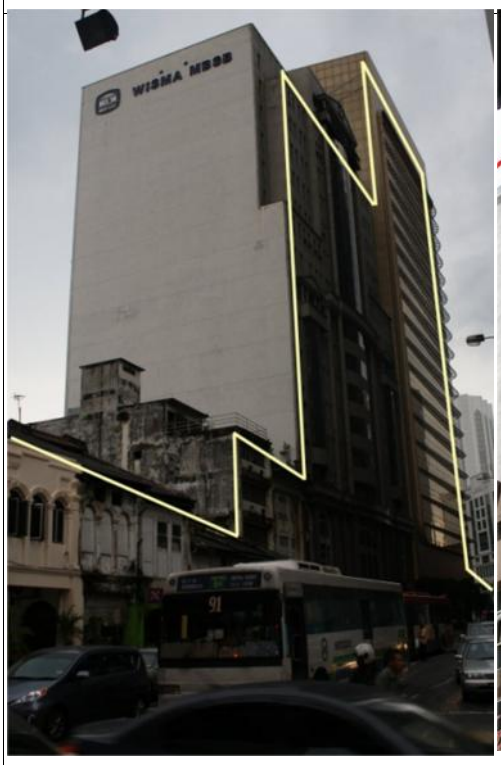
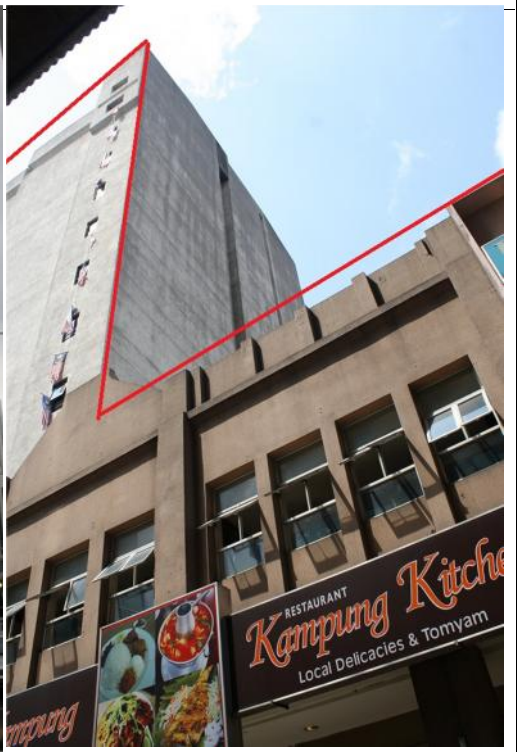
Table 5.31 (continued)

Visual evidence	  Historical building vs new buildings in Tun Perak Street  Old ruined building beside newer buildings

õ **Skyline**

Table 5.32 shows the result of examination of skyline of Tun Perak Street. Since the new and old buildings with different architectural styles, heights and without any defined pattern are located beside each other in this area, they do not relate well to each other leading to unattractive visual environment and a disharmonious sky line. This problem has been created due to the lack of direct supervision on the construction, lack of renovation and conservation in the area.

Table 5.32 The findings of examination of skyline od Tun Perak Street

Field note	— Buildings with different heights located beside each other — No harmony or integrity	Disharmonious skyline
Visual evidence	  Disharmonious skyline at the Masjid Jamek area	

❖ **Location of figure**

Figure 5.9 shows the location of pictures of examined attributes (The proportion of space, time and different architectural style of buildings, skyline) at Tun Perak Street.

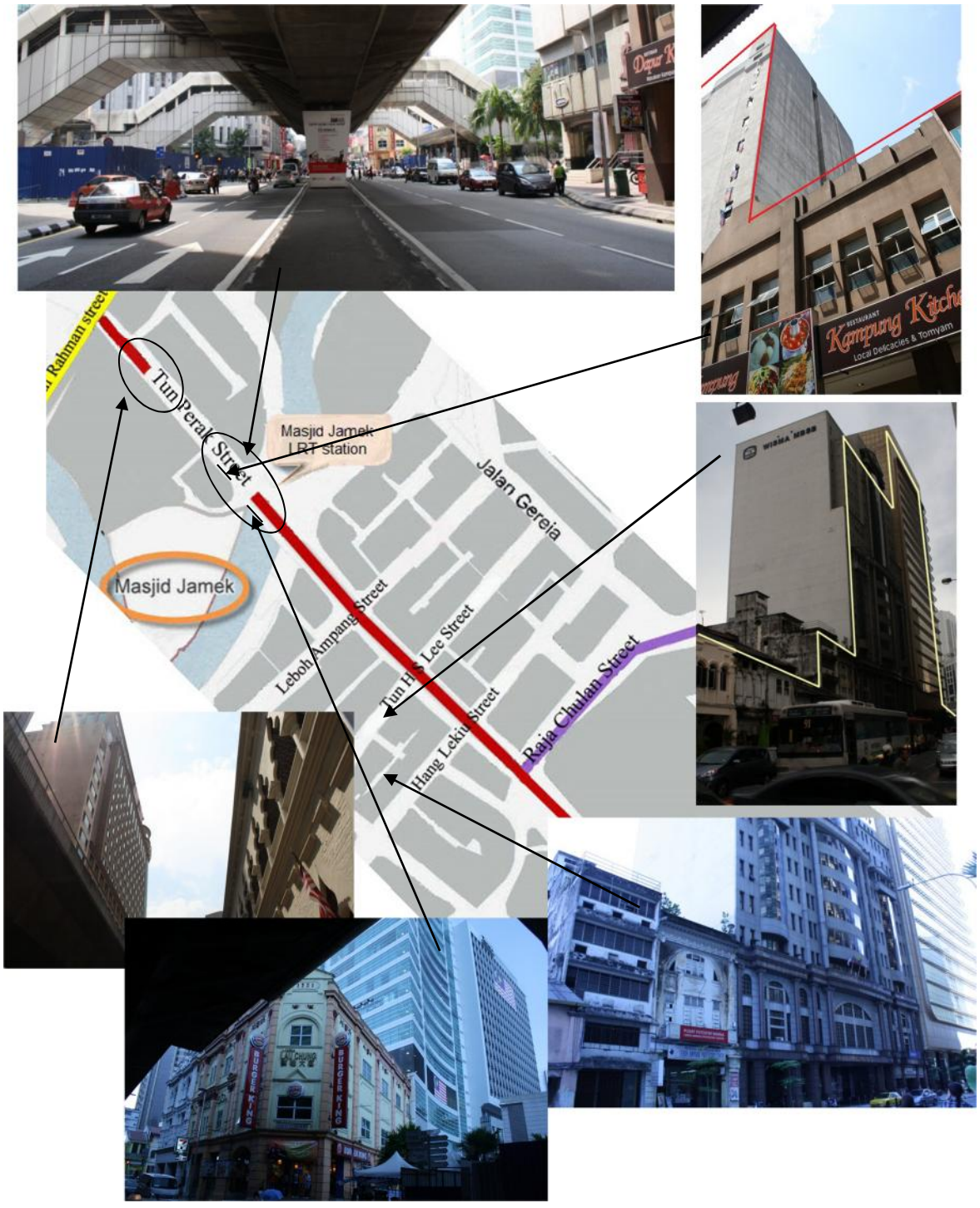


Figure 5.9 Location of pictures related to the examined attributes (the proportion of space, time and different architectural style of buildings, skyline) of Tun Perak Street

- **Facilities for disabled people**

Facilities for disabled people at this space are of the same condition as those in the Bukit Bintang area. Table 5.33 shows the findings of examination of facilities for disabled people. Ramps are not seen beside all steps or stairs so people with disabilities, people who carry prams or trolleys, or people with children cannot move easily in this area.

Table 5.33 The findings of examination of facilities for disabled people

<table>
<tr><td>Field note</td><td>— Steps at the pavement without ramp (barrier for disabled people or children)
— Step at sidewalk convert to ramp to pass the painted cross walk on the road
} Inadequate facilities for disabled people</td></tr>
<tr><td>Visual evidence</td><td> 
Steps at the footpath without a ramp
Step at the sidewalks converted into a ramp in Tun Perak Street</td></tr>
</table>

õ **Parking space**

Parking space is an essential element in every area where the private cars pass. Table 5.34 illustrates the findings of conditions of parking space in Tun Perak Street. The condition of

parking space in this area is not really better off than on Bukit Bintang Street. Due to lack of any kind of public parking space in this area, it even can be considered more seriously. People usually cannot find any parking space here and park their cars in the near areas. However, pictures in the Table 5.34 show that some people who cannot find proper parking spaces park their motor cycles and cars along the footpath.

Table 5.34 The findings of examination of parking space within Tun Perak Street

<table>
<tr><td>Field note</td><td>——Lots of private vehicles but no public parking space
— Motorcycles & cars parkd at pavement
— People find parking space at the adjacent streets
} Inadequate parking space</td></tr>
<tr><td>Visual evidence</td><td> 
Motorcycles parked at the pavements
 

Cars parked at the pavements</td></tr>
</table>

õ **Accessibility via public transportation**

Table 5.35 shows the findings of examination of accessibility to public transportation. Although, two important lines of the LRT system pass through this area, overcrowded station, long queues and full wagons at morning and evening show that they are not adequate and cannot cover all the transportation needs of people here. Passengers who are waiting for taxis for a long time can be seen at every point along Tun Perak Street.

Table 5.35 The findings of examination of accessibility to public transportation

Field note	—Two lines of lrt as the major mode of traffic — Overcrowded station at peak hour, long queues, full wagon — More railway lines is needed — Hard to find a taxy or bus (passengers are waiting for long time)	Inadequate access to public transportation
Visual evidence	 Entrances of Masjid Jamek LRT station	

õ **Traffic**

Table 5.36 reveals the result of examination of conditions of vehicular traffic in Tun Perak Street. As mentioned in the examination of size of this street part, the vehicular traffic volume is not proportionate with size of this street. Therefore, people usually encounter with traffic congestion in this street especially at peak hours or raining time. Generally, people consider the traffic congestion as the most critical problem of the area, especially at the peak hours. Users, who pass Tun Perak Street daily, must spend hours in traffic congestion. Also this problem causes other problems such as air or noise pollution as well as wasting people's time.

Table 5.36 The findings of examination of conditions of vehicular traffic in Tun Perak Street

Field note	— Too many private vehicles — Traffic congestion at morning, evening, raining time, and Friday - slow movement at the other time	Heavy traffic congestion
Visual evidence		

Heavy traffic congestion in Tun Perak Street

õ **Maintenance and cleaning**

Table 5.37 shows the findings of examination of maintenance and cleaning in Tun Perak Street. These pictures show there are many insanitary parts with litter accumulated which can endanger the health of the neighbourhood's people as well as, alter the attractive appearance of the area. In addition, maintenance of this area is not only about cleaning and other public services; it consists of renovation and conservation of old and damaged buildings and cleaning of dirty facades as well.

Table 5.37 The findings of examination of maintenance and cleaning in Tun Perak Street

<table>
<tr>
<td>Field note</td>
<td>— Accumulated garbage at some parts
— Dirty facade and floors at some parts
— Some buildings renovated but some ruined
Buildings need repairment and renovation
} Not well maintained</td>
</tr>
<tr>
<td>Visual evidence</td>
<td> 
Accumulated garbage at different parts of Masjid Jamek area</td>
</tr>
</table>

Table 5.37 (continued)

	 Renovated buildings in Tun Perak Street  Old ruined buildings and dirty facades in Tun Perak Street

❖ **Location of figures**

Figure 5.10 shows the location of pictures which reveals the current conditions of examined attributes (facilities for disabled people, accessibilities via public transportation, parking space, traffic, maintenance and cleaning) of Tun Perak Street.

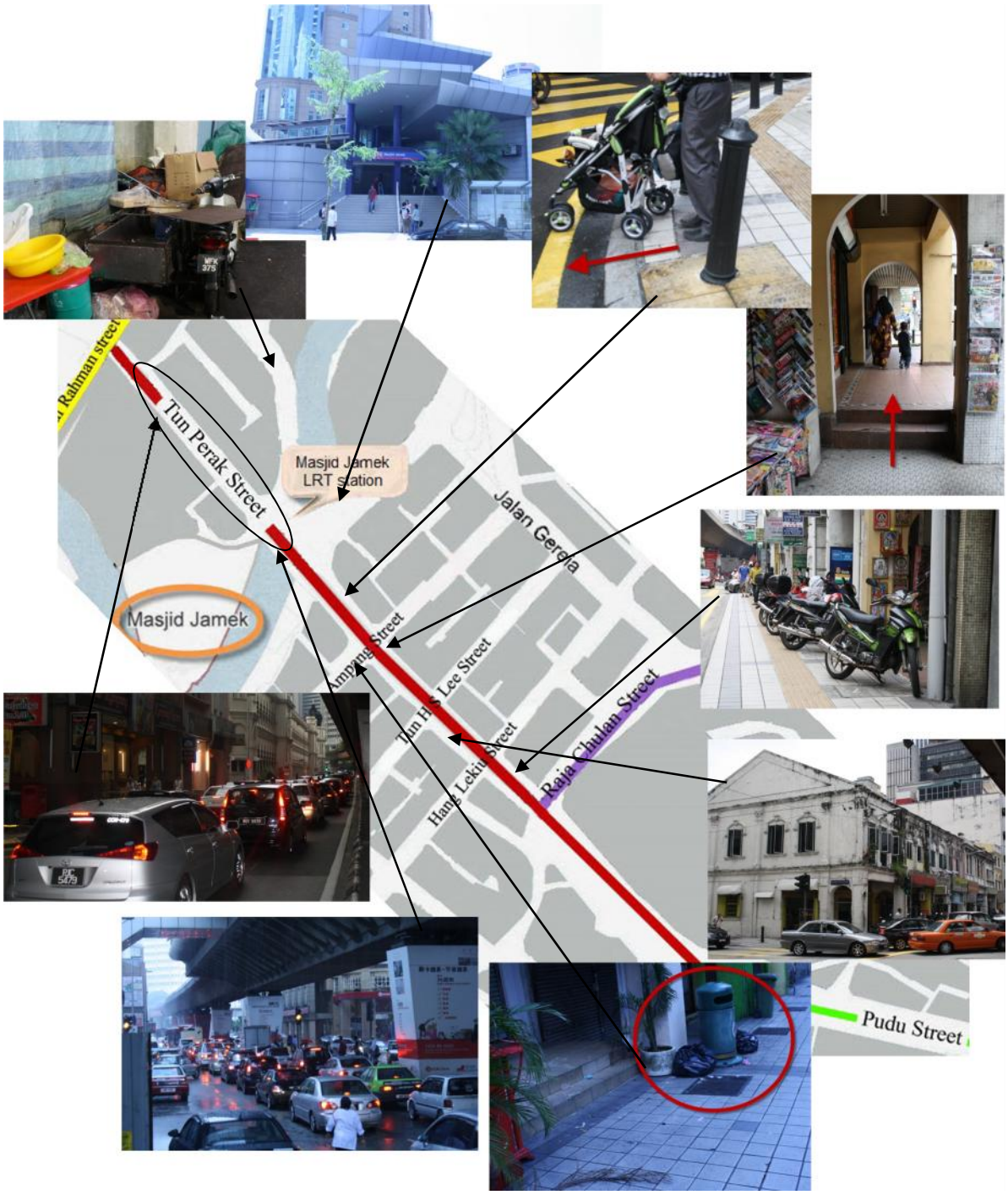


Figure 5.10 Location of pictures related to the examined attributes (facilities for disabled people, accessibilities via public transportation, parking space, traffic, maintenance and cleaning) of Tun Perak Street.

5.3.2.2 Results of the first phase of data collection of Tun Perak Street

Through the visual evaluation and image analysis of the area, the physical condition of Tun Perak Street examined qualitatively. Table 5.38 illustrates the result of qualitative examination of physical attributes of Tun Perak Street.

Table 5.38 Evaluation of physical attributes of Tun Perak Street

No	Physical attributes of streetscape	Result of qualitative evaluations
1	Paving	Inappropriate
2	Seating	Inadequate
3	Shelter and canopy	Inadequate
4	Lighting	Good quality
5	Signs	Irregular
6	Planting	Inadequate
7	Sculpture and fountain	Inadequate
8	Proportions of space	Small road
9	Time and different architectural style of buildings	Contrast between the new buildings and old ones
10	Skyline	Disharmonious
11	Facilities for disabled people	Inadequate
12	Parking space	Inadequate
13	Accessibility	Inadequate access to public transportation
14	Traffic	Heavy traffic congestion
15	Maintenance and cleaning	Not well- maintained

Identifying the physical problems of the Tun Perak Street was based on the same procedures of Bukit Bintang Street. So through the qualitative process of direct observation and examination of the physical attributes, these physical problems were identified as follows:

i. Improper walkway paving and flooring
ii. Inadequate shelter and canopies
iii. Inadequate suitable street furniture and seating
iv. Irregular signs
v. Inadequate planting and inappropriate landscaping
vi. Small road
vii. The lack of renovation of the old building
viii. The architecture of new buildings contrasts stylistically with the traditional architecture of old buildings
ix. Disharmonious skyline
x. The lack of facilities for disabled people
xi. Inadequate parking space
xii. Traffic congestion
xiii. The lack of public services and maintenance.

These identified problems provide a database for quantitative examination of this area. However, as discussed in quantitative evaluation of Bukit Bintang Street, the disharmonious skyline is not examined quantitatively due to skyline is not familiar concept for public. The next part demonstrates conducting the second phase of data collection.

5.3.3 Quantitative evaluation of Tun Perak Street

The same process used for quantitative survey of Bukit Bintang Street was done to examine the second case study for this research, Tun Perak Street, which is located at the Masjid Jamek area. So, in order to examine the quality of Tun Perak streetscape, the identified problems of this area - except disharmonious skyline - were considered as independent variables and the quality and livability of the streetscape was dependent variable. Table 5.39 shows the dependent and independent variables of Tun Perak street survey.

Table 5. 39 The dependent and independent variables of Tun Perak Street's survey

Dependent variable	Independent variable
Livability and Quality of streetscape	i. Improper paving and flooring
	ii. Inadequate shelter and canopies
	iii. Inadequate street furniture and seating
	iv. Irregular signs
	v. Inadequate planting
	vi. Small road
	vii. Lack of renovation of the old buildings
	viii. Architectural style of new buildings contrast stylistically with old ones
	ix. Inadequate facilities for disabled people
	x. Inadequate parking space
	xi. Traffic congestion
	xii. Inadequate public services and maintenance

Also, the samples of studies consist of 150 people who live, work or know the area. Demographic information of the respondents of the survey of Tun Perak Street in Masjid Jamek area is shown in Table 5.40. The questionnaire survey of Tun Perak Street has two parts, which includes users' attitude on identified problems and the role of organization on solving the problems.

Table 5.40 Demographic information of respondents of Tun Perak Street's questionnaire

	Number of respondents	**Percentage**
Gender		
Male	69	46
Female	81	54
Age		
18-35	117	78
35-50	30	20
50 or above	3	2
Race		
Local	69	46
Foreigner	81	54
Level of education		
Under diploma	18	12
Diploma- bachelor	54	36
Master-PhD	78	52
Purpose of being in the area		
Living-working	12	8
Shopping- visiting- others	138	92

5.3.3.1 The quality and livability of Tun Perak Street and importance of the identified problems

Since the methodology of this study is sequential mixed method, the findings of the first phase of data collection were used to design the questionnaire. After the demographic questions, in the first part of the questionnaire users' agreement with the identified problems was asked. This part reveals respondents' perceptions about the quality and livability of the 12 identified physical problems of Tun Perak Street.

As mentioned in the third chapter - data analysis section - five categories of users' responses were collapsed in the three groups. Appendix H shows the result of the survey of Tun Perak Street, before collapsing the five categorizes of users' responses to three categories. In this section, in order to have a better understanding about people's perception, the result of the survey is revealed after collapsing the five responses categories to three categorizing.

Table 5.41 indicates people's perception of the quality and livability of the area and Table 5.42 shows users' agreement with existence of these problems.

Table 5.41 Perception of quality and livability of Tun Perak street

	Agree		Neither agree nor disagree		Disagree		Mean	Std. Deviation
	Frequency	percent	frequency	percent	frequency	percent		
Quality and livability	21	14%	57	38%	72	48%	1.66	0.713

Table 5.42 Users' perception of identified physical problems of Tun Perak Street

No	The identified physical problems	Agree		Neither agree nor disagree		Disagree		Mean	Std deviation
		Freq*	Per**	Freq*	Per**	Freq*	Per**		
1	Improper paving and flooring	78	52%	51	34%	21	14%	2.38	0.772
2	Inadequate shelter and canopies	90	60%	36	24%	24	16%	2.44	0.755
3	Inadequate suitable street furniture & seating	69	46%	51	34%	30	20%	2.26	0.772
4	Irregular signs	51	34%	60	40%	39	26%	2.12	0.761
5	Inadequate planting	93	62%	45	30%	12	8%	2.54	0.641
6	Small road	105	70%	42	28%	3	2%	2.68	0.509
7	Lack of renovation of the old building	105	70%	42	28%	3	2%	2.68	0.509
8	Architectural style of building contrast stylistically with old one	66	44%	57	38%	27	18%	2.26	0.746
9	Inadequate facilities for disabled people	93	62%	45	30%	12	8%	2.54	0.641
10	Inadequate parking space	123	82%	24	16%	3	2%	2.80	0.449
11	Traffic congestion	126	84%	24	16%	0	0%	2.84	0.328
12	Inadequate public services and maintenance	30	20%	75	50%	45	30%	1.92	0.719

*Frequency - **Percent

This finding revealed that almost half the respondents believed that this area does not have the livable and quality streetscape and only few of them - almost one seventh of the respondents- agreed with the livable environment within this area. In addition, result of examination of identified problems, conformed this issue (refer to Table 5.42). Users mostly agreed with the existence of these problems. The 84% of respondents agreed with existence of traffic congestion in this area. The second major problem of this street, which also deals with the number of cars in this area, is inadequate parking space. Approximately, 82% of the users agreed with this problem, while only 2% disagreed with.

The small road and the lack of renovation of the old buildings are the other important physical problems, which 70% of the users agreed with them. About 62% of respondents admitted that this area has inadequate planting. The inadequate facilities for disabled people is another major problem in Tun Perak street which got the same ranking as inadequate planting. These problems are followed by inadequate shelter and canopies which 60% of users agreed with. In addition, 52% of respondents thought that this area suffers from improper paving and floor, besides 46% prove lack of suitable street furniture and seating.

Moreover, 44% of people agreed with existence of contrast between architectural style of new buildings and the old ones. Finally irregular signs and the inadequate public services and maintenance were least important problems which 35% and 20 % of users admitted to, respectively.

The order of identified physical problems of Tun Perak Street based on their importance from users' point of view obtained from the results of the questionnaire survey, are as follows:

i. Traffic congestion
ii. Inadequate parking space
iii. Small road
iv. Lack of renovation of ruined building
v. Inadequate facilities for disabled people
vi. Inadequate planting
vii. Inadequate shelter and canopies
viii. Improper paving and flooring
ix. Inadequate street seating and furniture
x. Architectural style of new buildings contrast with old ones
xi. Disharmonious skyline
xii. Irregular signs
xiii. Inadequate public services and maintenance

Although disharmonious skyline was not asked of users for the questionnaire survey, because of difficulties in explaining on a written questionnaires, it can be considered the eleventh problem of this area after Architectural style of new buildings contrast with old ones.

The next parts includes the different analysis were used to examine the relationship between the variables.

5.3.3.1.1 Reliability Test

The process of doing the reliability test for Tun Perak Street survey is the same as Bukit Bintang survey. The 12 identified physical problems of this area which were evaluated through questionnaire survey - improper walkway paving, inadequate shelter and canopies,

inadequate street furniture and seating, inadequate planting, irregular signs, small road, lack of renovation of old ruined buildings, contrast between architectural style of new buildings and old ones, inadequate facilities for disabled people, inadequate parking space, traffic congestion, and lack of public services and maintenance - used together as a complex measure for " deterioration of physical quality of the streetscape".

To assure that this measure is considered reliable, the reliability test was proceeded to see whether the measure make a satisfactory scale that is a true measure of the physical quality and livability of Tun Perak Street. This test measures the internal consistency of the survey. In this test, Cronbach's Alpha values of 0.7 and above are considered acceptable value for a scale (Froude, 1993).

Table 5.43 indicates the result of reliability test of Tun Perak Street survey. The result of the reliability test showed that the value of Cronch alpha for Bukit Bintang Street survey is 0.75, which is greater than the minimum alpha value (0.7) and acceptable for the scale.

Table 5.43 Reliability test of Tun Perak Street survey

Reliability Statistics	
Cronbach's Alpha	N of Items
0.757	12

5.3.3.1.2 Validity Test

The KMO and Bartlett's Test was selected to measure the validity of Tun Perak survey. In this test, Kaiser-Meyer-Olkin Measure of Sampling Adequacy of 0.6 and above are considered acceptable value for a scale (Coakes & Steed, 2007). Table 5.44 shows the result of KMO and Bartlett's test of Tun Perak Street's survey.

Table 5.44 KMO and Bartlett's test of Tun Perak Street

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.617
Bartlett's Test of Sphericity	Approx. Chi-Square	239.214
	df	105
	Sig.	.000*

Bartlett's Test of Sphericity is significant at the 0.05 or below

The result of the validity test showed that the Bartelett's test of sphericity is significant. Also, the value of Kaiser-Meyer-Olkin Measure of Sampling Adequacy for is 0.617, which is greater than 0.6 and is acceptable for the scale.

5.3.3.1.3 Correlation analysis: Physical problems and livability of Tun Perak Street

Spearman correlation analysis was proceeded to examine the relation between the identified physical problems of Tun Perak Street and quality of the area. Table 5.45 reveals the findings of this analysis.

Table 5.45 Findings of correlation coefficient analysis: Physical problems and livability of Tun Perak Street

No	Physical problems	Correlation Coefficient
1	Improper paving and flooring	-0.171*, *p(0.031)* <0.05
2	Inadequate shelter and canopies	-0.028, *p(0.732)*>0.05
3	Inadequate street furniture and seating	-0.010, *p(0.904)*>0.05
4	Inadequate planting	-0.160*, *p(0.040)*<0.05
5	Irregular signs	-0.114 , *p(0.120)*>0.05
6	Small road	-0.227**, *p(0.005)* <0.01
7	Lack of renovation of the old buildings	-0.157*, *p(0.045)*<0.05
8	Architectural style of new buildings contrast stylistically with old ones	-0.054, *p(0.513)*>0.05
9	Inadequate facilities for disabled people	-0.029, *p(0.729)*>0.05
10	Inadequate parking space	-0.212**, *p(0.009)* <0.01
11	Traffic congestion	- 0.264**, *p(0.000)* <0.01
12	Inadequate public services and maintenance	- 0.202*, *p(0.013)* <0.05

Correlation is significant at the 0.05 and is strongly significant at 0.01

The result of this analysis revealed that there is a negative correlation between quality of Tun Perak Street and the seven physical problems named as improper paving and flooring, inadequate planting, small road, lack of renovation of old building, inadequate parking space, traffic congestion, and inadequate public services and maintenance. It means that the quality and livability of this area is deteriorated by increasing the mentioned physical problems. In addition, this negative correlation is strongly significant between quality of the area and small road, inadequate parking space, and traffic congestion which means these

problems affects the quality of area more than others. However, this analysis did not indicate any correlation between the quality of Bukit Bintang Street and inadequate shelter and canopies, inadequate seating, irregular signs, inadequate facilities for disabled people and contrast between architectural style of new and old buildings.

The last section of the questionnaire was about the role of different organizations to solve the problems. The next part highlights the users' perception on this issue.

5.3.3.2 Role of organization in solving the problems of Tun Perak Street

The same process was done to figure out the users' opinion about who can solve the identified problems of Tun Perak Street in Masjid Jamek area. Table 5.46 indicates the respondents' attitude about the named organizations which may have control on the conditions of Tun Perak Street.

Table 5.46 The role of organization in improving the quality and livability of Tun Perak Street

	The organization	Agree		Neither agree nor disagree		Disagree		Mean	Std deviation
		Freq	Per	Freq	Per	Freq	Per		
1	Kuala Lumpur Municipality	111	74%	33	22%	6	4%	4.16	0.970
2	Local People	69	36%	45	30%	36	24%	3.40	1.253
3	Federal ministries of Malaysia	87	58%	54	36%	9	6%	3.82	0.997
4	Malaysian Institute of Architects (PAM)	78	52%	51	34%	21	14%	3.52	1.085
5	Police	87	58%	45	30%	18	12%	3.62	1.021

The results revealed that 74% of users agreed with important role of KLCH in solving the problems of Tun Perak Street. So, people recognized it as the most influential organization. Then 58% of users agreed with the influence of both police and Federal ministries of Malaysia; however, they didn't get the same percentage for the disagree rate. About 6% and 12% of respondents did not believe that Federal ministries of Malaysia and police, respectively, can contribute to solving the problems in this area.

People also believed that Malaysian Institute of Architects (PAM) can have effects on solving the problems. Approximately 52% of users agreed with the contribution of this organization and 14% disagreed with it. The last group was local people, which 36% of users thought they can help with solving the problem, while 24% did not agree. Indeed, respondents ranked local people as the last group which can contribute to improving the conditions of Tun Perak Street.

The importance of named organization from user's perception is as follows:

i. Kuala Lumpur City Hall
ii. Federal ministries of Malaysia
iii. Police
iv. Malaysian Institute of Architects (PAM)
v. Local People

5.4 Summary of the chapter

To sum up, this chapter reveals findings of the examination of two case study areas. The case studies' examination comprises the two sections of qualitative approach and quantitative survey. In order to achieve the second objective of the study, during the first phase of data collection, the physical attributes of two case study streetscapes are examined

via observation, photographs and visual analysis to identify the physical problems of each studied streetscape. The results revealed the 13 physical problems identified at Bukit Bintang Street and Tun Perak Street.

The second step involves quantitative surveys to perceive the people's point of view. Users are asked about the importance of identified physical problems and the organizations which can solve the problems. The respondents named traffic congestion as the main problem of both areas and Kuala Lumpur City Hall as the major responsible organization to solve the problems. Finally, the examination of each case study and its result was presented in different sections.

The next chapter is a discussion and comparison of the findings of these two case studies. The current conditions of these areas are compared with the Kuala Lumpur City Hall's guidelines, as well.

Chapter 6
Discussion

6.1 Introduction

Discussion on what the investigator found out during the process of data collection and analysis of the findings is an essential part of the research that generally reveals the hidden perspectives. This chapter is comprised of two parts of comparison which form the discussion platform of the study.

The first part is about comparing the results of examining the two case study streets. Since the examination includes two separate phases, the comparison also has two sections - the comparison of the result of qualitative approach and quantitative surveys. In this part the similarities and differences between the findings of examining the two streetscapes - Bukit Bintang Street and Tun Perak Street - are highlighted.

After the comparison of existing conditions of the two case studies and revealing which areas have critical problems and which organizations are expected to improve the quality of the areas, the second step of comparison commences. Since the Kuala Lumpur City Hall (KLCH) is known as the most responsible organization for planning, designing and controlling the development of Kuala Lumpur urban spaces, the current conditions of physical attributes are compared with the KLCH's guidelines for these areas. This part discovers the gaps and inconsistencies between what is planned at Kuala Lumpur Development Control Plan (KLDCP) 2008 and what the existing conditions of the case study areas are.

6.2 Comparison of the result of examination of case study streetscapes

One of the strengths of the multiple case study strategy is the ability to compare the findings of each case study together. If there is no opportunity to choose from several cases to utilize the advantage of comparison it is advised to select at least two case studies (Yin, 2003).

In regards to this issue and to gain a better understanding of the problems of Kuala Lumpur's old streetscapes, the result of two phases of examination of two case study streets are compared in this section. In general, this comparison provides an overall picture of the physical conditions of the old part of Kuala Lumpur's streetscapes.

6.2.1 Comparison of the result of qualitative approach

Through the qualitative examination of physical attributes of case study streetscapes, Bukit Bintang and Tun Perak Streets, the physical problems of each area were explored. Since two areas are part of old fabric of Kuala Lumpur city, the most identified problems are common in both areas. Although, they do not have the same physical conditions, among these identified problems eleven problems were the same in both streets and only four problems were identified which were different in the two case study areas. The four different problems are:

i. Inadequate seating and street furniture
ii. Inadequate planting
iii. Lack of plaza for social events
iv. Inadequate pavement and pedestrian crossing

Inadequate seating and lack of planting were discovered only in Tun Perak Street. As lots of people go to only Bukit Bintang Street for some social events such as celebrating New

Year or watching street shows, lack of plaza for performing street shows and social events were found out at the Bukit Bintang Street. The accumulation of several shopping centers and international hotels, as well as, the importance of this street in terms of tourism, makes this street one of the most visited districts of the city. Therefore, people usually encounter inadequate pavement and pedestrian crossings on this street, especially during the peak hours or the holidays.

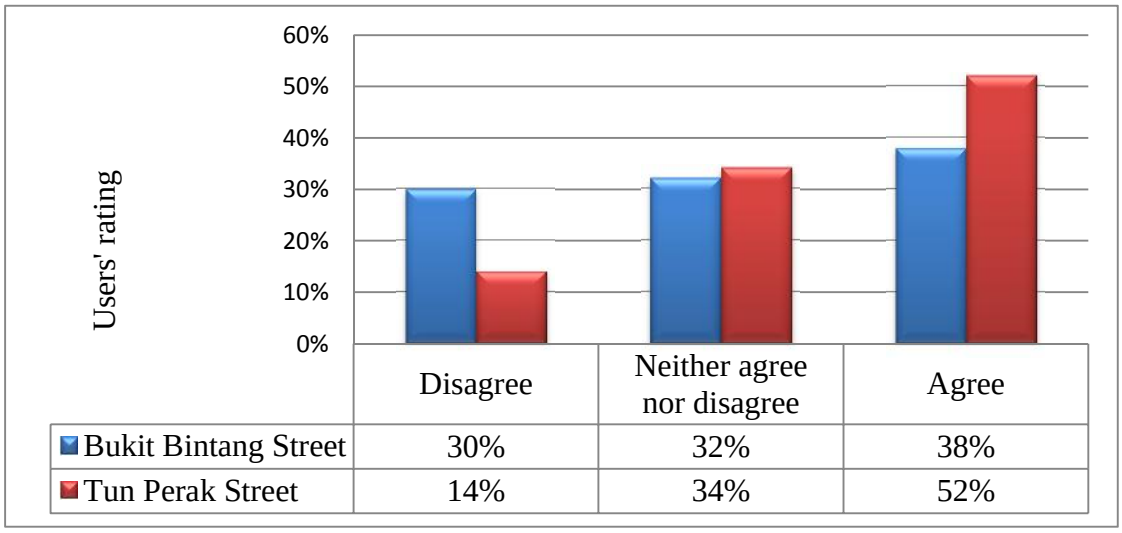
6.2.2 Comparison of the result of quantitative surveys

After identifying the physical problems of two areas from an urbanization point of view, the importance of the identified problems were perceived from users' perspective. The second step of examining the case study streets included the distribution of questionnaires among people who live or work in those areas or know the area very well. The users were asked to what extent they agree with the existence of physical problem which were identified during the first step of data collection. Users' perceptions on the importance of identified problems at three levels – agree, neither agree nor disagree, and disagree –were questioned. In addition, at the end of questionnaires people responded about the role of different organization on solving the identified problems.

6.2.2.1 Users' perspective on the physical problems of two areas

To compare the extent people think that Bukit Bintang Street and Tun Perak Street have those problems, the collected data related to each problem, is shown in separate tables. These tables provide a database for the comparison of users' perspective on the identified problems which are common in both case study streets. Consequently, these comparisons reveal which street suffers from the physical problems more seriously and needs more improvement from users' perspective.

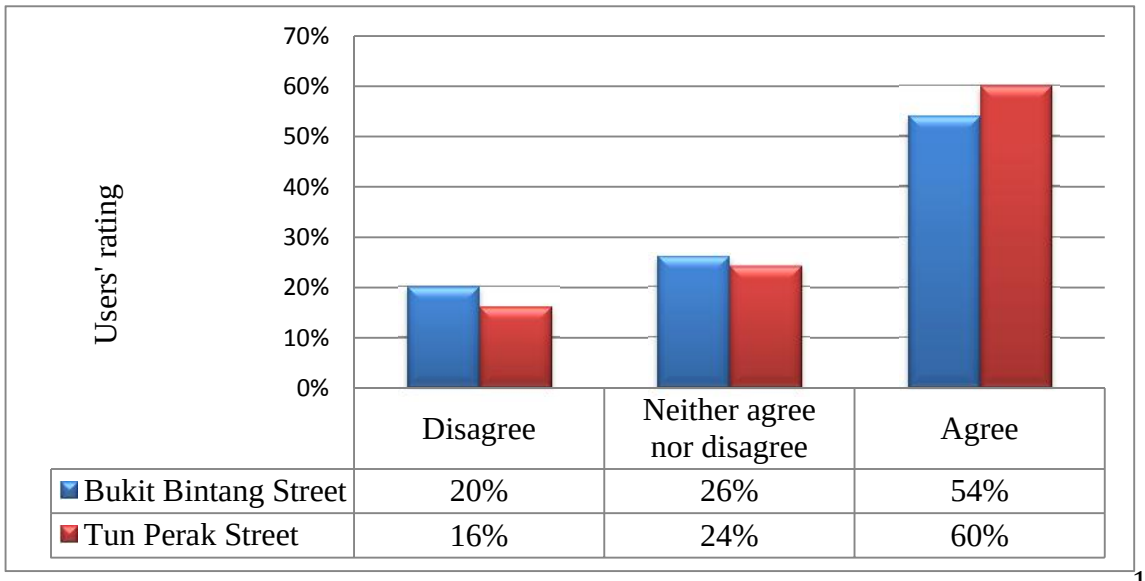
Table 6.1 Perception of people on improper walkway paving



	Disagree	Neither agree nor disagree	Agree
Bukit Bintang Street	30%	32%	38%
Tun Perak Street	14%	34%	52%

Table 6.1 shows that improper paving is a serious problem in Tun Perak Street. Due to the responses that more than half of the users think that this street has the improper paving problem. In addition, around one third of the respondents of Tun Perak Street did not mention any opinion about this problem and only a few disagreed with. However, this problem was seen in Bukit Bintang Street, but the users did not rate it as much as in Tun Perak Street.

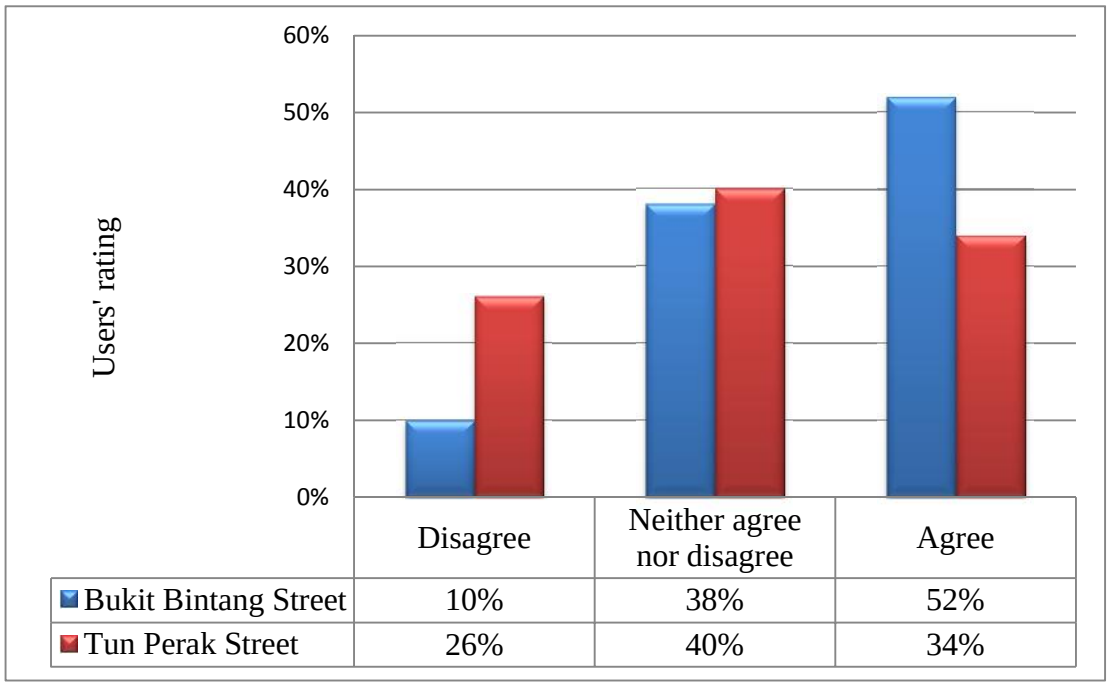
Table 6.2 Perception of people on inadequate shelter and canopies



	Disagree	Neither agree nor disagree	Agree
Bukit Bintang Street	20%	26%	54%
Tun Perak Street	16%	24%	60%

Table 6.2 reveals that lack of shelter and canopy is a major problem in both areas since most users think that these streets suffer from this problem and only few respondents disapproved it or did not have a stated opinion. However, the rating shows that this problem in Tun Perak Street is considered a little more serious than Bukit Bintang Street.

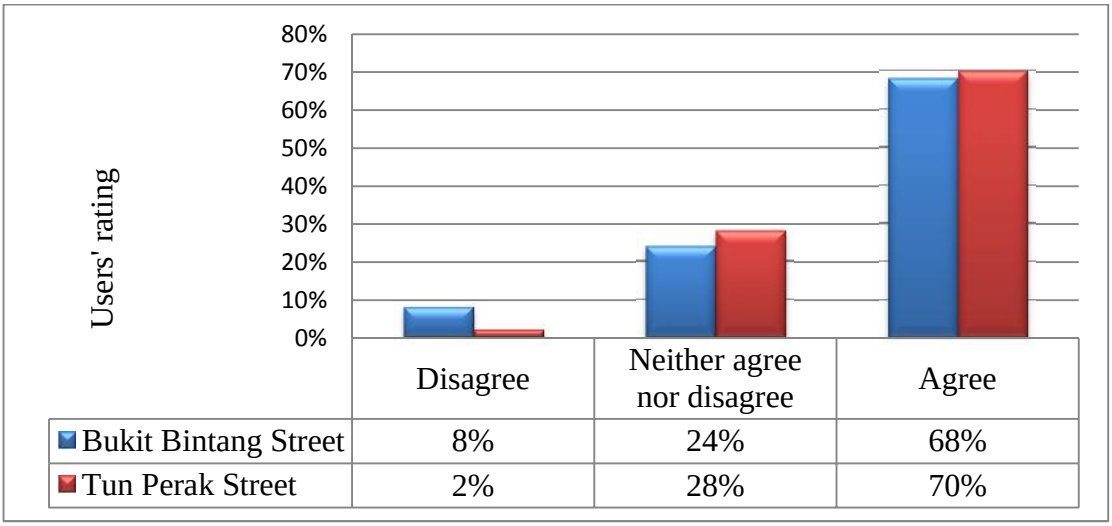
Table 6.3 Perception of people on irregular signs



	Disagree	Neither agree nor disagree	Agree
Bukit Bintang Street	10%	38%	52%
Tun Perak Street	26%	40%	34%

Table 6.3 shows that the irregular signs are seen more in Bukit Bintang Street than Tun Perak Street. More than half of the respondents of Bukit Bintang Street agreed with this problem, while the users in Tun Perak Street who did not have any special opinion were more than the other two categories. However, the number of people who agreed that this problem exists in the Tun Perak Street was more than people who did not agree.

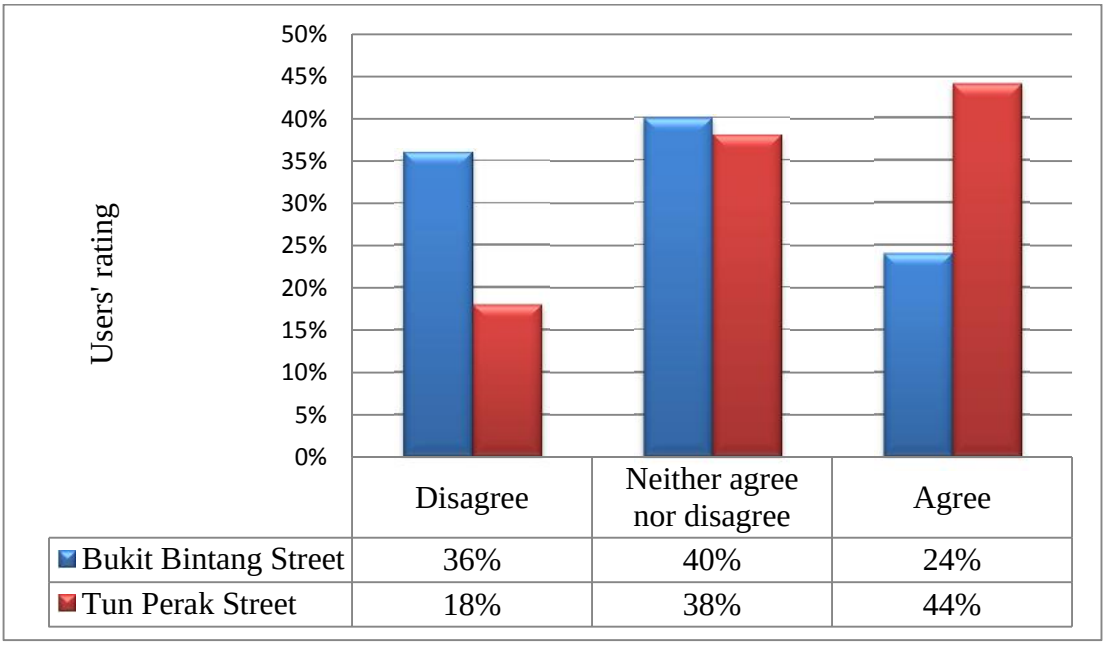
Table 6.4 Perception of people on small road



	Disagree	Neither agree nor disagree	Agree
Bukit Bintang Street	8%	24%	68%
Tun Perak Street	2%	28%	70%

Table 6.4 reveals that the small scale of the road is one of the major problems of both streets and that more than two thirds of the respondents approved it. Around one fourth of the respondents did not state any idea. Indeed, this problem received one the highest ratings in both areas and only a few people disagree with the existence of this problem.

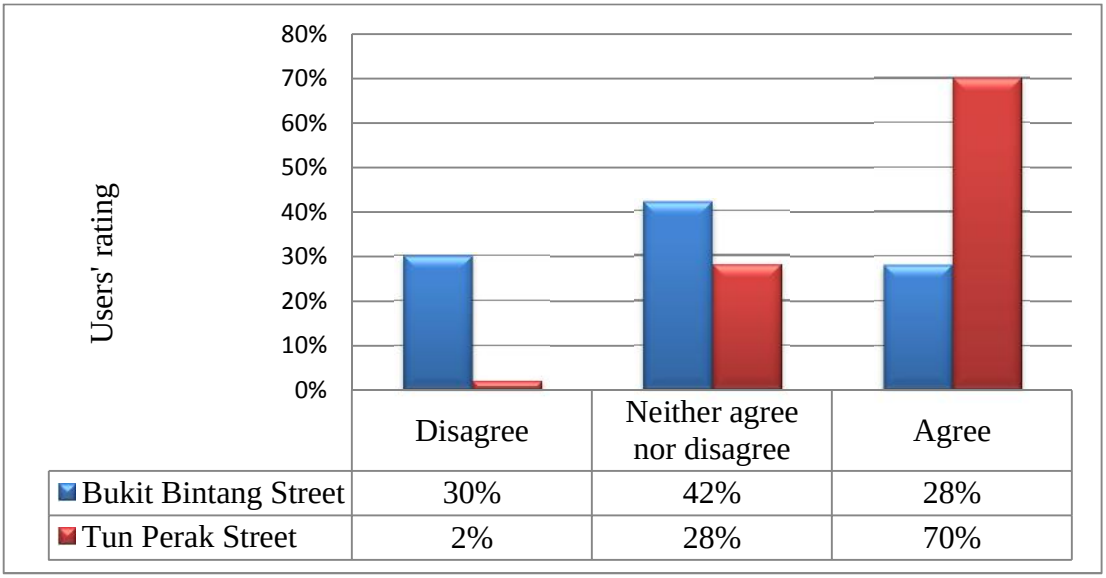
Table 6.5 Perception of people on contrast between the architectural styles of new buildings with the traditional architecture of old buildings



	Disagree	Neither agree nor disagree	Agree
Bukit Bintang Street	36%	40%	24%
Tun Perak Street	18%	38%	44%

Table 6.5 shows that the contrast between architectural styles of new buildings with old ones does not have similar condition in both areas. The users of Tun Perak Street mostly agreed, while in Bukit Bintang Street, few people agreed with this problem. However, more than one third of respondents in both streets did not mention any opinion about this problem. In Bukit Binatng Street, among users who expressed a clear attitude, 60% of respondents, more than half of them disagreed with existence of this problem and only 24% approve this problem. Finally, it is clearly seen that due to the lack of renovation of old buildings in Tun Perak Street, this problem is considered more serious than Bukit Bintang Street.

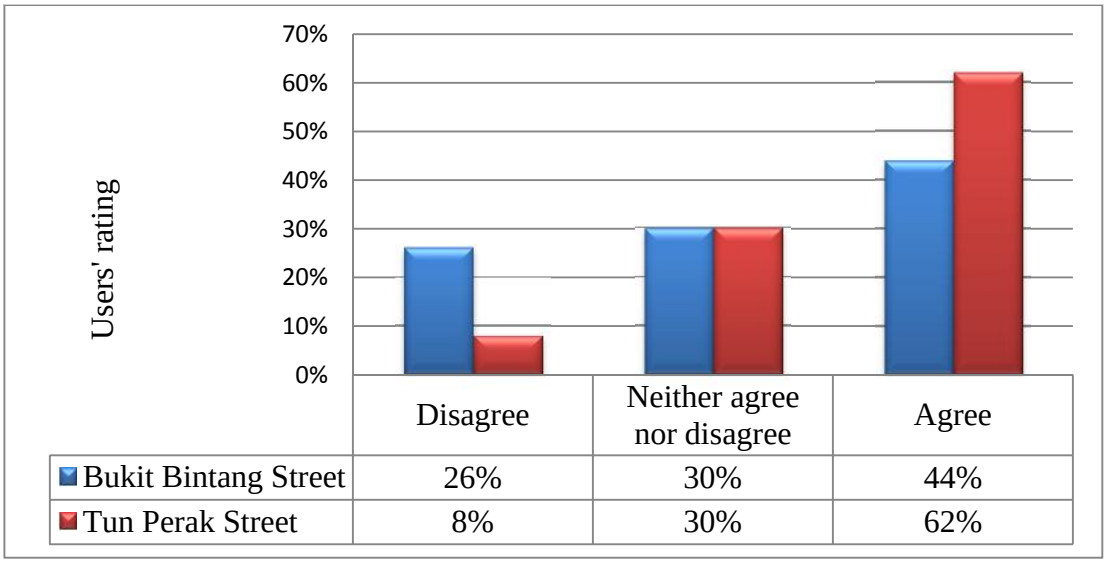
Table 6.6 Perception of people on lack of renovation of the old ruined buildings



	Disagree	Neither agree nor disagree	Agree
Bukit Bintang Street	30%	42%	28%
Tun Perak Street	2%	28%	70%

Table 6.6 illustrates that the current conditions of old buildings varies greatly between the two streetscapes. The figures show that most of the respondents believed old buildings in Tun Perak Street need renovation and only 2% of users disagreed with it. While, this problem is not considered so seriously in Bukit Bintang Street and the number of people who agreed with the existence of this problem are equal with the percentage of users who disagreed with it.

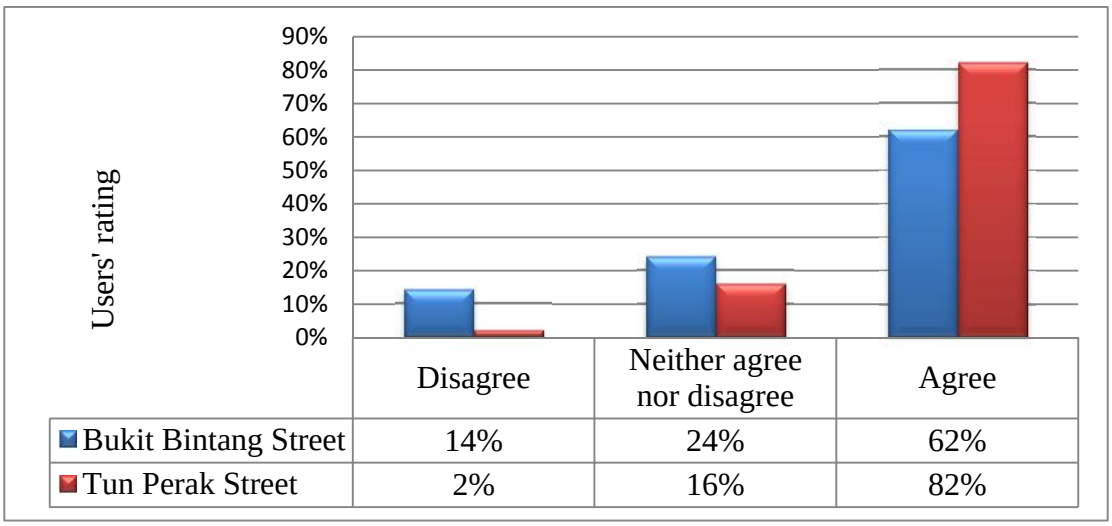
Table 6.7 Perception of people on inadequate facilities for disabled people



	Disagree	Neither agree nor disagree	Agree
Bukit Bintang Street	26%	30%	44%
Tun Perak Street	8%	30%	62%

However, inadequate facilities for disabled people is seen in both streets and the ratings in Table 6.7 reveal that users thought Tun Perak Street has this problem more than Bukit Bintang Street. The percentage of respondents, who did not mention any clear idea, is equal in both areas but it is not the same for the disagree category. Only a few people disagreed with the existence of this problem in Tun Perak Street, while one fourth of the users disagree with it in Bukit Bintang Street.

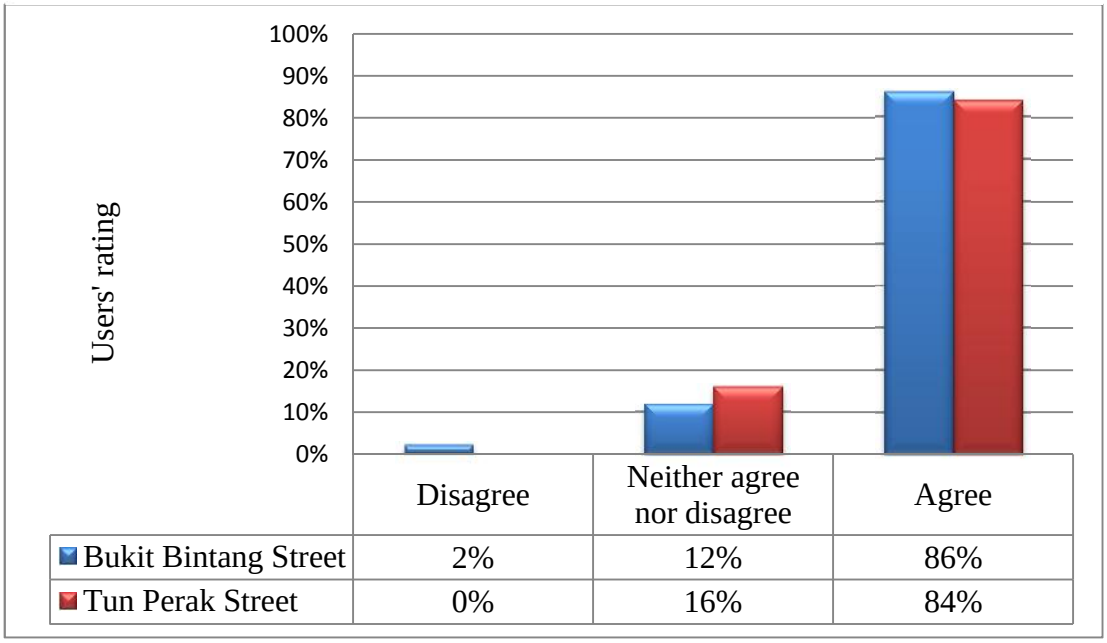
Table 6.8 Perception of people on inadequate parking space



	Disagree	Neither agree nor disagree	Agree
Bukit Bintang Street	14%	24%	62%
Tun Perak Street	2%	16%	82%

Table 6.8 shows that the perception of respondents about the inadequate parking space in both areas is the same. However, it is visible that people believe this problem in Tun Perak Street is more serious then in Bukit Bintang Street. The total result of the questionnaire survey illustrated that inadequate parking space got the second highest rank among the other problems and can be considered as the second major problem of these two streets.

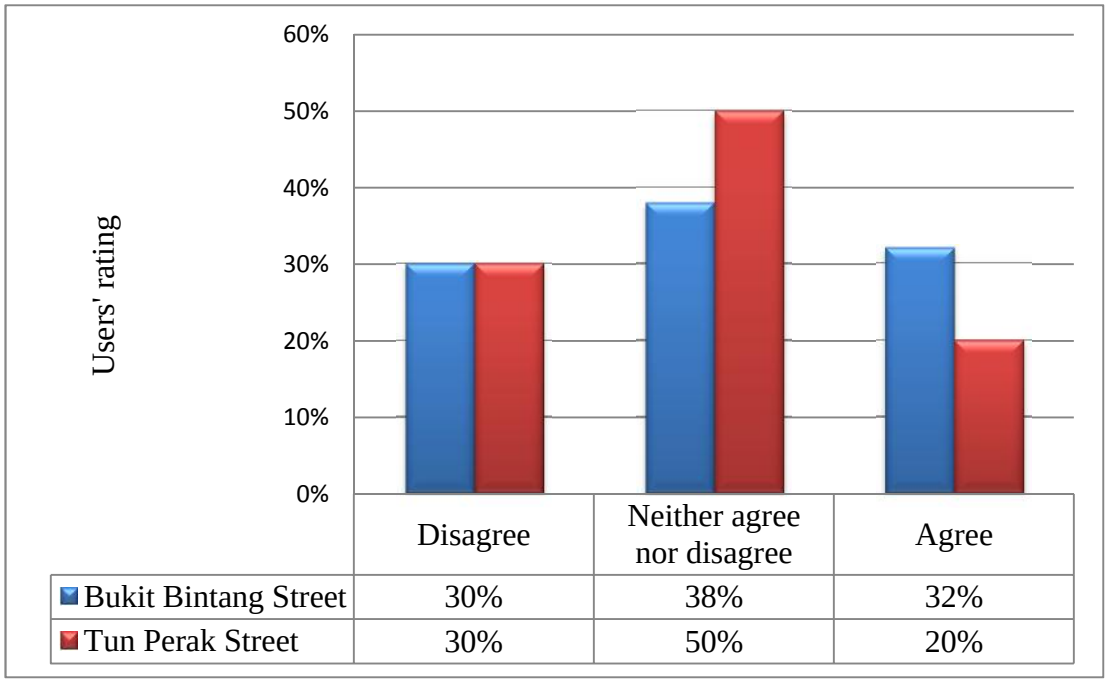
Table 6.9 Perception of people on traffic congestion



	Disagree	Neither agree nor disagree	Agree
Bukit Bintang Street	2%	12%	86%
Tun Perak Street	0%	16%	84%

Table 6.9 reveals the most important problem of Tun Perak Street and Bukit Bintang Street. Since most respondents believed in the presence of the traffic congestion and only few people did not express any clear idea, it can be seen as the major problem for these areas. The other point that shows the significance of this problem in Tun Perak Street is that almost nobody disagreed with it.

Table 6.10 Perception of people on inadequate public services and maintenance



	Disagree	Neither agree nor disagree	Agree
Bukit Bintang Street	30%	38%	32%
Tun Perak Street	30%	50%	20%

Table 6.10 indicates the results of questioning users' attitudes about inadequate public services and maintenance. In Tun Perak Street, half of the users did not state any opinion and the other half of the respondent mostly disagreed with identifying this problem and only 20% agreed with it. In Bukit Bintang Street, the figures were close to each other and the numbers of people who agreed and disagreed with the existence of this problem were fairly the same.

To sum up, the data on these tables - from Table 6.1 to Table 6.10 - reveal that people evaluated the problems in Tun Perak street higher than Bukit Bintang street. Irregular signs with 18% discrepancy and inadequate public services and maintenance with 12% difference were the only two problems that ranked higher in Bukit Bintang Street rather than Tun Perak Street. If the small differences can be ignored, the conditions of Traffic congestion - in Bukit Bintang Street with 86% agree rate and in Tun Perak Street with 84% - and small scale of the roads - 68% agree rate in Bukit Bintang Street and 70% agree rate in Tun Perak

Street - can be considered almost the same in both areas. Therefore, it can be seen that except these four mentioned items, the problems of Tun Perak Street are considered more seriously. Overall, users have more negative perceptions on the conditions of physical attributes of Tun Perak Street.

6.2.2.2 Comparison of correlation analysis between two areas: Physical problems and livability of streetscape within both Bukit Bintang Street and Tun Perak Street

Among the identified problems which have negative correlation with the livability of studied streetscapes, the seven problems were similar in both areas, which are shown in Table 6.11.

Table 6.11Significant correlation between the livability of street and common identified Physical problems in both studied areas

No	Physical problems	Correlation Coefficient
1	Improper paving and flooring 1- Bukit Bintang Street 2- Tun Perak Street	- 0.185*, *p(0.023)* <0.05 - 0.171*, *p(0.031)* <0.05
2	Small road 1- Bukit Bintang Street 2- Tun Perak Street	0.079, *p(0.336)*>0.05 -0.227**, *p(0.005)* <0.01
3	Lack of renovation of the old building 1- Bukit Bintang Street 2- Tun Perak Street	- 0.167*, *p(0.042)* <0.05 -0.157*, *p(0.045)*>0.05
4	Inadequate facilities for disabled people 1- Bukit Bintang Street 2- Tun Perak Street	- 0.185*, *p(0.023)* <0.05 0.029, *p(0.729)*>0.05

5	Inadequate parking space 1- Bukit Bintang Street 2- Tun Perak Street	 -0.282**, *p(0.000)* <0.01 -0.212**, *p(0.009)* <0.01
6	Traffic congestion 1- Bukit Bintang Street 2- Tun Perak Street	 - 0.240**, *p(0.002)* <0.05 - 0.264**, *p(0.000)* <0.01
7	Inadequate public services and maintenance 1- Bukit Bintang Street 2- Tun Perak Street	 - 0.191*, *p(0.019)* <0.05 - 0.202*, *p(0.013)* <0.05

It shows that the correlation between improper paving and flooring, lack of renovation of the old building, inadequate public services and maintenance and livability of street are significant in both areas. Though, the negative correlation between inadequate facilities for disabled people and livability of area is only significant in Bukit Bintang Street. In addition, this negative correlation is strongly significant for traffic congestion and inadequate parking space in both streets. While the correlation between small road and livability of street, is strongly significant only in Tun Perak Street.

This means that people perceive that traffic congestion and inadequate parking space are two important factors that have strong effects on deterioration of livability of both studied streets. However, small road has only strong effect on livability of Tun Perak Street from users' perspective. Since the Tun Perak Street is a two way road but Bukit Bintang Street is one way road, it may be the reason for the importance of this problem - small road- in Tun Perak Street and its effects on the livability of the area considered more seriously.

In addition, respondents believed that the livability of these two areas are deteriorated by improper paving and flooring, lack of renovation of the old buildings, inadequate public services and maintenance, though their effects are not as significant as traffic congestion, inadequate parking space, and small road. Also users perceive that inadequate facilities for disabled people affect only the livability of Bukit Bintang Street. It may be because of existence of Bintang Walk in Bukit Bintang Street. So, the pedestrian friendly pavements and facilities are more required in this area rather Tun Perak Street.

Furthermore, there are two more problems that deteriorate the quality and livability of studied areas. But because they were not similar in both areas, they were not stated in Table 6.11. The first item is lack of plaza for social events or street in Bukit Bintang Street. Table 5.16 shows that livability of this area is also negatively affected by this problem. The second item is inadequate planting in Tun Perak Street which has significant negative correlation with the quality of the area, as well.

Besides, for better understanding of this analysis, it is notable that the result of correlation analysis between these identified problems and deterioration of livability of the studied areas are weak; however, the qualitative examination of physical attributes of these two areas has shown the strong evidence for physical problems in these two areas. The reason for this contrast maybe underlies in differences between objective and subjective perspectives for considering the problems. Respondents of questionnaire surveys may not consider the effects of these problems so seriously. This subjective perception about the impact of physical problems on quality and livability of the studied streets caused the week result for correlation coefficient analysis.

In overall, comparisons of the results of both areas and the finding of the three major problems - traffic congestion, inadequate parking space and small road - common in both streets, reveals that vehicular traffic and its negative effects are the main obstacles to have quality and livable streetscapes in inner parts of Kuala Lumpur. The result of this study reinforces the findings of previous researches especially livable streets (Appleyard, 1981; Appleyard & Lintell, 1972) that revealed traffic impacts on deterioration of livability streets. In addition, these findings confirm the other earlier researches' result like study of Sauter and Huettenmoser (2008) on Switzerland's streets, Park (2008)'s study in California and Mesbahul Tariq (2007) research in Morden city in Canada.

In addition to effects of traffic, other studies have shown similar results on examination of physical attributes of urban spaces. For instance, finding the significant negative correlation between inadequate planting and livability of Tun Perak Street reinforces the study of Layne (2009) and Bosselmann et al. (1999) that shows the importance of landscape setting in urban spaces. Moreover, the significant negative correlation between the livability of Bukit Bintang Street and inadequate facilities for disabled people corroborates the findings of Mackett et al. (2008)'s study in England streets about the importance of provision of facilities for street access and other needed services for disabled people. Forsyth et al. (2008)'s research on effects of physical characteristics on walkability of the area also illustrated the similar result.

Generally the results of this study confirm mostly the earlier researches though it does not cover all studies. For example, in contrast to Portella (2007)'s findings on effects of visual pollution of irregular commercial signs in the historical parts of the city center, no significant correlation found between irregular signage and livability of studied areas, especially in Bukit Bintang Street that has this problem more seriously. Since this problem

has hidden impact on quality of the areas, may be due to unawareness of people about the negative effects of this issue, this correlation was not found significantly.

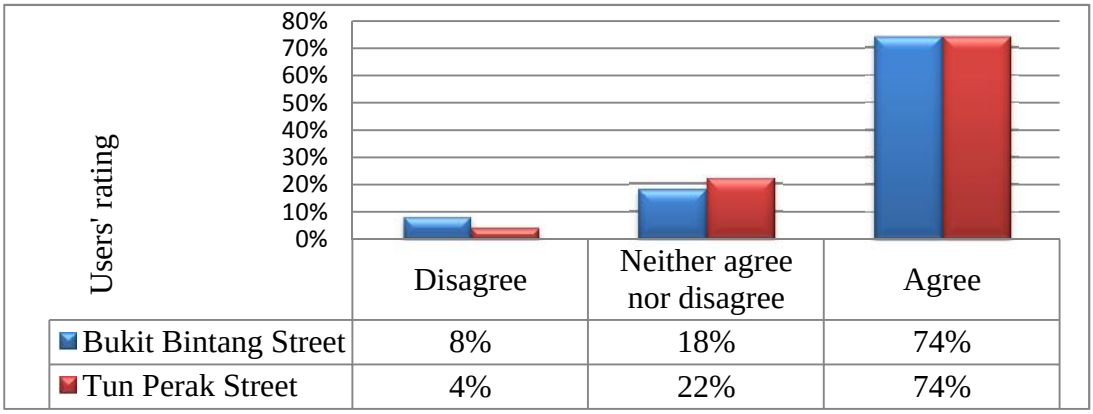
However, these reviewed studies have chosen different methods to evaluate their case studies, this discussion and the comparison illuminated the common findings which verify the result of this research. It is very regretful that the idea of livable streetscape and importance of physical environment was defined more than four decades ago, yet our streets still have the common physical problems which deteriorate the quality of space.

6.2.2.3 Users' perspective on the role of organizations in solving the problems

The last part of the questionnaires was about the role of different organizations on solving the identified problems. In this section, users were asked to what extent you agreed that each organization is responsible for solving the physical problems of the area. The same as the other parts, users were asked to what extent they agreed that the identified problems existed in the case study area. The users' perception at three levels – agree, neither agree nor disagree, and disagree – were questioned.

In order to compare the people's perspective on the role of organizations between two case study streets, the following tables are provided to show the users' ratings on each organization separately.

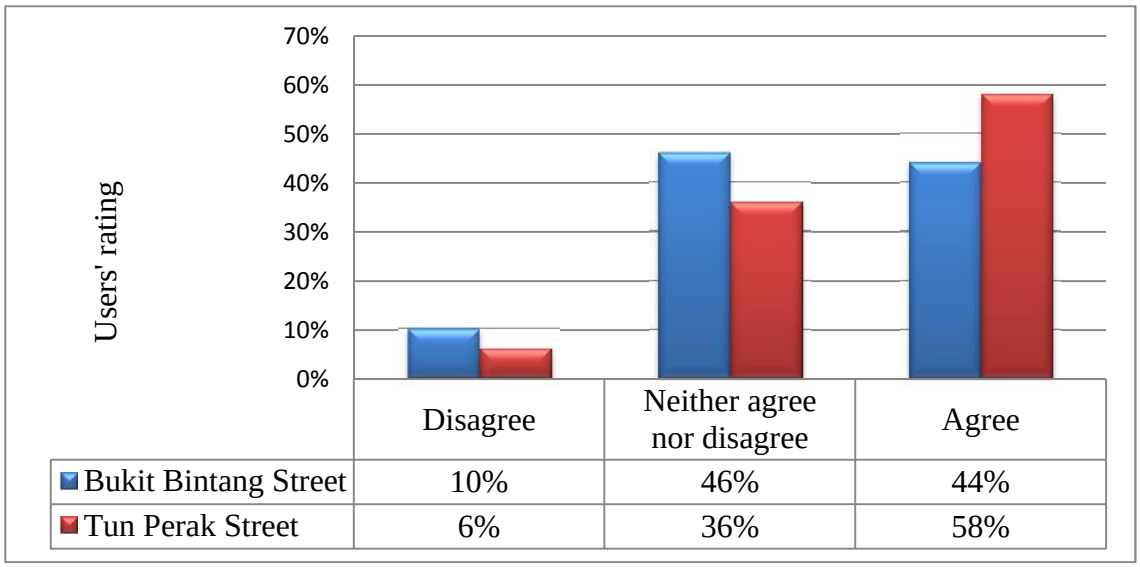
Table 6.12 Perception of people on Kuala Lumpur City Hall's role



	Disagree	Neither agree nor disagree	Agree
Bukit Bintang Street	8%	18%	74%
Tun Perak Street	4%	22%	74%

Table 6.12 shows that people believe that Kuala Lumpur City Hall has the greatest influence on solving the identified problems of both areas. The majority of people, 74% of respondents, agreed with the contribution of Kuala Lumpur City Hall in two case study streets. Coincidently, only few users, around one fourth of respondents, disagreed or did not state any clear opinion.

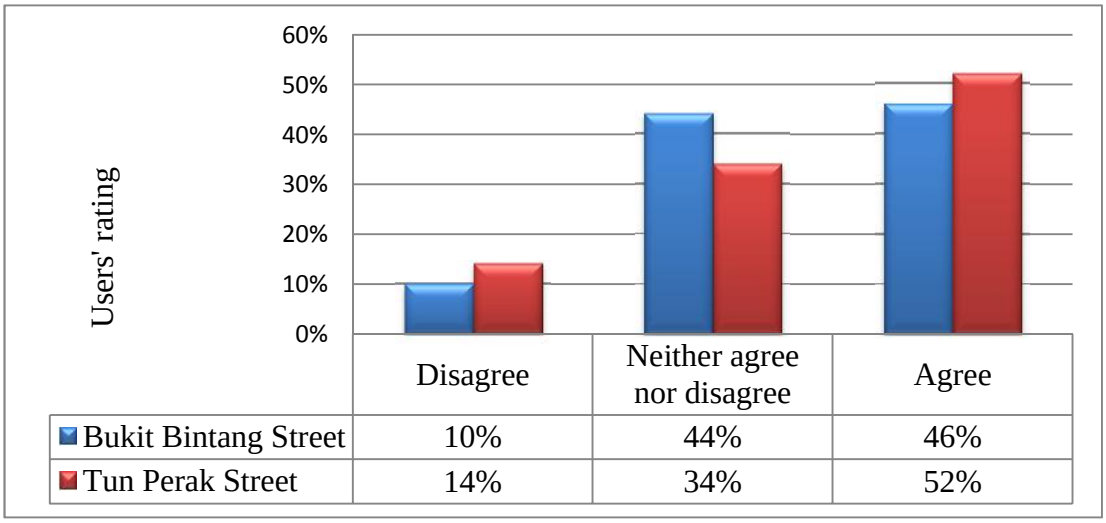
Table 6.13 Perception of people on Federal Ministries of Malaysia's role



	Disagree	Neither agree nor disagree	Agree
Bukit Bintang Street	10%	46%	44%
Tun Perak Street	6%	36%	58%

Table 6.13 illustrates a little difference between the perceptions of respondents about the role of Federal Ministries of Malaysia in solving the problems for the two streets. More than half of the respondents in Tun Perak Street agreed with their contribution to solving the problems, while in Bukit Bintang Street people who did not expressed any idea were more than those who agreed. It reveals that users perceive the Federal Ministries of Malaysia can have more influence in solving the problems of Tun Perak Street rather than Bukit Bintang Street.

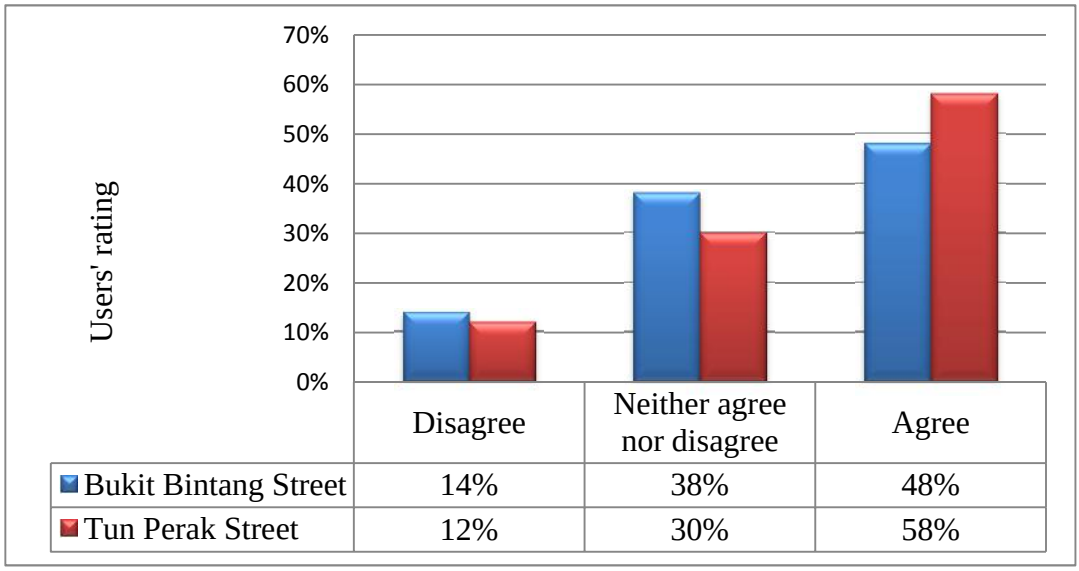
Table 6.14 Perception of people on Malaysian Institute of Architecture's role



	Disagree	Neither agree nor disagree	Agree
Bukit Bintang Street	10%	44%	46%
Tun Perak Street	14%	34%	52%

Table 6.14 reveals the role of Malaysian Institute of Architecture (PAM) in solving the identified problems of the case study streets from users' perspective. More than one third of the respondents did not express a clear idea and few people disagreed with the great influence of PAM in solving the problems of both streets. Since the percentage of respondents who agreed with the contribution of PAM in Tun Perak Street is more than the respondents in Bukit Bintang Street, it concludes that people consider the impact of Malaysian Institute of Architecture in Tun Perak Street more than in Bukit Bintang Street.

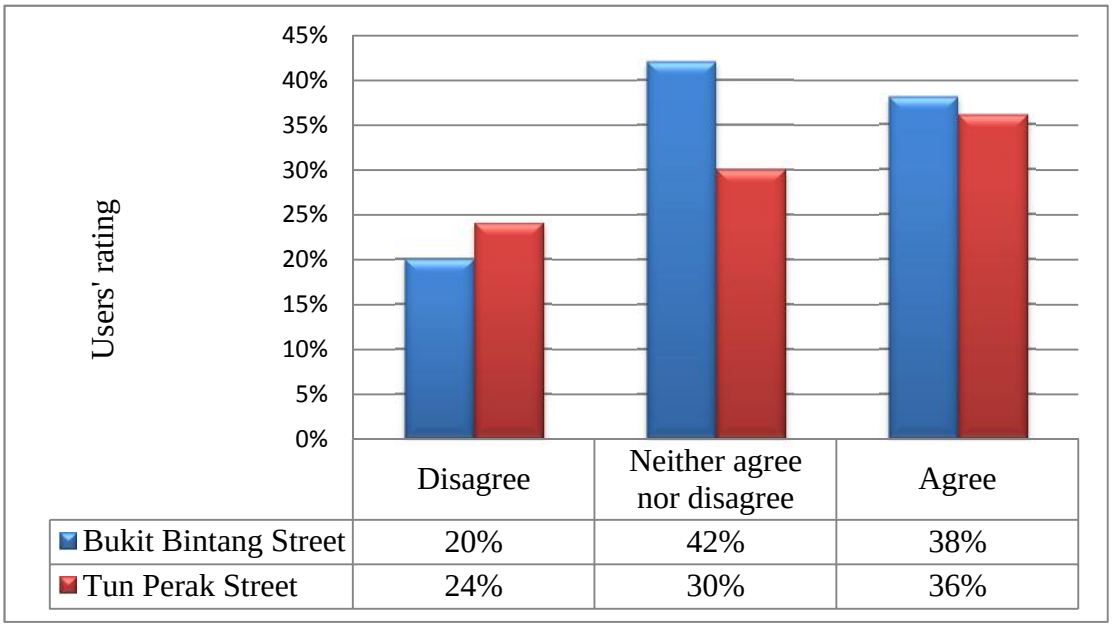
Table 6.15 Perception of people on Police's role



	Disagree	Neither agree nor disagree	Agree
Bukit Bintang Street	14%	38%	48%
Tun Perak Street	12%	30%	58%

Table 6.15 shows that people think that police can play a great role in solving the problems of both areas. Though, the numbers of respondents who agreed in Tun Perak Street are more than Bukit Bintang Street, the total rating reveals most people expect the police to contribute in solving the problems. Aside from the few people who disagreed with the influence of the police, around one third of the users did not highlight clear attitude.

Table 6.16 Perception of people on Local people's role



	Disagree	Neither agree nor disagree	Agree
Bukit Bintang Street	20%	42%	38%
Tun Perak Street	24%	30%	36%

The last table - Table 6.16 - indicates the people's perception about their own effects on solving the problems of the case study streets. In Bukit Bintang Street, most respondents did not state any clear opinion and one fifth of the users disagreed with the perspective of local people contributions. Therefore, it shows that they do not think they can have great effects on improving the condition of the street, while in Tun Perak Street most users agreed. However, the differences among the percentage of respondents who agreed, or disagreed, or neither agree nor disagree in Tun Perak Street is very few.

Overall, these tables - from Table 6.12 to Table 6.16 - reveal that respondents believe that Kuala Lumpur city Hall has the most significant role in solving the problems of both streetscapes and local people have the least contribution on this issue. Furthermore, these two organizations have been rated with fairly the same ranking - 74% agree rate for Kula Lumpur City Hall in both area; 38% agree rate in Bukit Bintang Street and 36% in Tun Perak Street for local people. The other four organizations got the higher agree rate in Tun Perak Street rather than Bukit Bintang Street.

Generally, these statistics show that users see the role of organizations in the Tun Perak street more necessary than in Bukit Bintang Street and consequently users of Tun Perak street expect more from mentioned organizations to solve the problems and improve the conditions of the street more effectively. It might be due to people thinking that Tun Perak Street's problems are more serious than Bukit Bintang Street's. In addition, the other interesting issue illustrated through this survey is that users probably do not participate on the solving of problems because they believe that they can play the least important role on developing the areas.

6.3 The comparison between current conditions of case studies and the guidelines of the development plan for the city

The results of the examination of current conditions of physical attributes for the case study areas - first step of examination of case studies - shows the result of performing the KLCH's Development plan in three years (from 2008 to 2011), reveals to what extent it was executed according to the plan during this time and to what extent it fulfills the users expectations.

Actually, after studying the development plan of Kuala Lumpur city and examining the physical conditions of two case study streetscapes, investigators recognized a gap in the situation. The identified gap between existing conditions of some attributes and KLDCP 2008 are stated as follows;

6.3.1 Height Control

One of the problems identified through the examination of Bukit Bintang Street and Tun Perak Street was disharmonious skyline. It was shown via the pictures in Table 5.9 that there is no harmony among the height of buildings before and after Sultan Ismail Street and the connecting buildings. Table 5.32 indicates this problem in Masjid Jamek area, as well.

As is apparent in **Error! Reference source not found.**4.3 (Plan of Heritage Area Height Control Zone) some shophouses and buildings at Bukit Bintang Street, on the part of the street which is located after the Sultan Ismail Street, and the whole Tun Perak street is under the Height Control Zone, although with different portions.

The Height Control Zone Plan has determined that 4-6 story buildings are allowable for most of Tun Perak Street in Masjid Jamek area, while some examples of the 20 story buildings are seen beside two story shophouses - refer to Table 5.32. This problem is more complicated in the Bukit Bintang area. The Height Control Zone Plan has determined the limitation only for part of the Bukit Bintang Street. The part of the street which is situated before the Sultan Ismail junction has no limitation on height of buildings, so most of the high, modern buildings are located in this area. While, the other part of the street which is located after the Sultan Ismail junction is under the Height Control Zone, mostly 20-30 story for the shophouses beside the street – **Error! Reference source not found.**4.3. The pictures in Table 5.8 show that the buildings in this area are usually 4-8 story and there are

only a few 15 -20 story building or special signs which destroy the harmony of this part of the street. Due to these reasons, this street was divided into two parts with two different sky lines which none of them are harmonious.

6.3.2 Verandah ways

While, Verandah ways are not considered a general attribute for all streetscapes, in the historical streets of Kuala Lumpur city it plays an important role on urban life and also affects other attributes such as shelters and facilities for disabled people. In this section, the current conditions of two case study streets are compared with its guidelines in the KLCDP 2008.

There were some guidelines for improving the condition of verandah ways at the development control plan of Kuala Lumpur[4]; such as, replacing the steps with ramps to reduce the differences in levels between verandah ways and inside of shop units. This change makes the sidewalks more pedestrian friendly, especially for handicap people. Unfortunately, however this guideline was set in 2008, as was mentioned in Chapter V - examining the attributes of facilities for disable people. This problem still exists and pedestrians cannot enjoy barrier free pavements.

6.3.3 Signage

Development Control Plan 2008 has set a series of strict regulations for installing signs, especially at Secondary Heritage Zone which includes Tun Perak Street[5]. Yet, as the area was examined and can be seen in pictures of Table 5.28, none of the rules are followed for installing signs at Tun Perak Street. Lastly, most of the signs are horizontal not even the requested vertical.

[4] Refer to chapter IV, page 89
[5] Refer to Appendix J

The condition of commercial signs in Bukit Bintang Street is more tragic than Masjid Jamek area as shown in Table 5.4. However, the regulation for Tertiary Heritage Zone, which also contains part of Bukit Bintang Street, is less strict than Secondary Zone. After reviewing this area, it was revealed that no rules or regulation is adhered to this streetscape.

6.3.4 Dilemma of parking space in Secondary Heritage Zone

However, there is not enough public transportation in some areas such as Masjid Jamek area. Kuala Lumpur City Hall (KLCH) wants to encourage people to use public transportation when they travel to and from this area, by setting some policies like limiting the availability of parking space. KLCH believes that no more facilities such as parking spaces or extra roads should be provided in these areas because it encourages using more private transportation and consequently causes more traffic congestion.

Nevertheless users think that this situation is an unfair punishment for people who drive their personal automobiles when they have no other choice. It is good to remind that respondents rated the lack of parking space in Tun Perak Street as the second major problem of this area - after traffic congestion - with 82% high rank.

In most developed cities, when people suffer from the shortage of public transportation, firstly adequate facilities for public transportation like train lines are provided, then people are expected not using their own private vehicles during traveling to and from city center.

Although, it has been planned at the Kuala Lumpur Development Control Plan 2008 that public transportation will be improved by adding some more LRT and Monorail lines in the next 5 to 7 years especially at Bukit Bintang and Masjid Jamek area, no temporary solutions has been considered to help users in the meantime. Considering this issue, gap is not considered between what has been planned at KLDCP 2008 and what is the current

condition of this area, but it can be demonstrated that KLDCP 2008 has not suggested any solution for this problem and only ask people to be patient till more public transportation are facilitated and they will not need using their own cars or motorcycles.

6.3.5 Other attributes

However, the researcher identified the 15 physical attributes which influence the design and livability of streetscapes, in the KLDCP 2008 the design guidelines were demonstrated for only four mentioned attributes - height control, verandah ways, signage, parking space. Since, no practical design guideline was found for the other attributes and only general explanation on planning for future was highlighted, the comparison and discussion those attributes are not helpful.

6.4 Summary of the chapter

This chapter discusses the findings of examination of case study streetscapes. This discussion comprised of three parts and provided a platform for the researcher to suggest the recommendation on how to solve the problems. Since the data collection included two sequential phases, the two parts were related to the comparison between the results of two areas. In addition, the last section was devoted to comparing the current conditions of case studies with the guidelines of KLCH for designing the two areas.

At the first step, the existing conditions of physical attributes were compared between the two areas. Some attributes have the same quality in both areas while some of them are worse in one space. The evaluation of these attributes illustrated the quality of these urban spaces. The second phase compared the findings of quantitative survey. Overall, this comparison between the results of survey revealed that people perceived the identified physical problems of Tun Perak Street are more serious than Bukit Bintang Street and it

also needs more improvement. At the last part, the findings of the qualitative examination of case studies were compared with the guidelines of KLCH that provided in the contextual chapter. Finally, the investigator recognized a gap between the current conditions of some attributes and KLDCP 2008.

The next chapter reviews the conclusion of the study. Besides, it suggests the recommendations to improve the general quality of physical attributes of studied areas which were examined through previous chapters.

Chapter 7

Conclusion and Recommendation

7.1 Introduction

The intention of enhancing the quality of streetscape is to create the livable, safe, sustainable and attractive environment for people who spend their daily time there. In order to create such a livable space, this study identifies the affecting attributes - physical and non-physical attributes - on the quality and design of the urban space, and then it explores the physical problems of the area and finally recommends effective strategies to decrease the problems and improve the quality of physical environment of studied areas. The first and second steps, which were the two objectives of this study, have been achieved and presented in the previous chapters. Here, the process of achieving the objectives is highlighted briefly.

Through reviewing the significant precedent literature, the influential physical attributes on livability of streetscape were identified and consequently the first objective was achieved. Thereafter, two phases of data collection through observation, photographing and questionnaire survey were proceeded to explore the physical problems of case study streets. So, the second objective was achieved consequently. Finally, in order to achieve the third objective, the last phase of this study - recommending improvement strategies- is demonstrated in this chapter. In addition, providing the new and rational conclusion enhances the quality of the study and also indicates the significance of the study.

In order to conclude the last chapter, the researcher tries to review all parts of the study to collect the significant points and draw the conclusions. The summary of findings and conclusions are listed based on the objectives achieved. By revealing this part, the whole

picture of the study is depicted and the last part of the research is completed. It also provides a basis for recommendation and suggestion for the future research.

Finally, suggesting the recommendation is the other section in the last chapter, which follows the conclusion part. It illustrates the creativity of the researcher in solving the identified problems and improving the livability of studied streetscapes. Besides, it expresses how the knowledge of study transforms into the practical solutions. In addition, after stating the conclusions and advising the recommendation, the researcher recommends some tips for the further research in the future.

7.2 Summary of findings

During the process of research and different phases of data collection and comparison of the findings, several issues were concluded based on achievement of the objectives of study, as follows:

- Objective I: To identify the physical attributes affecting the design and livability of streetscapes.

In order to identify the physical attributes of streetscape, the past prominent relative literature was reviewed and the 15 physical attributes were identified which are named as: paving, seating, shelter and canopy, lighting, signs, planting, sculpture and fountain, proportions of space, time and different architectural style of buildings, skyline, facilities for disabled people, parking space, accessibility, traffic, and maintenance and cleaning.

The review of pertinent literatures revealed that although most literatures related to urban space and urban design have discussed these attributes which affects the design of urban space, there is no comprehensive classification of attributes in any literature that can be considered as a reference category. Generally, each literature enumerates some of the

influential attributes and regard to its purpose of the study, categorizes the attributes into the different groups. Even the responsible organizations on urban designing and urban planning of the cities usually adopt this approach and there is no unique system on designing the urban space.

In addition, it was understood that identifying the attributes which affect the physical quality of urban space is the first step to designing a livable streetscape. Urban designers can apply the knowledge of influential physical attributes to create a special sense in the urban spaces or improve the physical quality of streetscapes.

- Objective II: To investigate the physical problems of Kuala Lumpur's streetscapes with the special look at Kuala Lumpur streetscapes of Bukit Bintang Street and Tun Perak Street which are situated at the inner part of the city.

After identifying the physical attributes, it was found out that studying the pertinent literature is not sufficient for discovering the problems of urban spaces. It is also needed to attend in the area and examine the conditions of different attributes of the urban space. So, the researcher visited the case study streets for more than six months and during different times of day, nights and various occasions. During visiting the studied area, it was observed that people's behavior in an urban space varies during different times and various occasions. This difference indicates the different types of people's needs. Observing their different attitudes and paying attention to this issue helps the researchers to identify the various needs of users as well as their problems.

In addition, after qualitative evaluation of the case studies, the researcher noticed that to explore the people's problems in the urban space, attending in the area and observing their behavior and examining the existing conditions of its attributes are not enough either.

Proceeding the surveys of people and talking to them is the only way that researcher can perceive the real users' needs and problems. This approach can be applied as the complementary method after doing the observation of the area.

Therefore, the mixed method strategy was adopted and through two phases of data collection, qualitative and quantitative approach, the 11 common physical problems were identified in Bukit Bintang Street and Tun Perak Street. The identified problems are: Improper walkway paving and flooring, Inadequate shelter and canopies, Irregular signs, Small road, Lack of renovation of the old building, Contrast between architectural style of traditional buildings and new one, disharmonious skyline, Inadequate facilities for disabled people, Inadequate parking space, Traffic congestion, Inadequate public services and maintenance. In addition, Inadequate suitable street furniture, and Inadequate planting were discovered in Tun Perak Street and Inadequate pavement and pedestrian crossing and Lack of plaza for social events or street show were identified in Bukit Bintang Street.

Then, in order to understand the effect of these problems on the livability of the studied streets from users' perspective, the correlation coefficient analysis was carried out between the livability of the studied area and the identified problems. The findings of this analysis revealed that the negative correlation between livability of both studied areas and traffic congestion and inadequate parking space is strongly significant. Also in Tun Perak Street, the negative correlation between livability of the area and small road is strongly significant.

In addition, improper walkway paving, lack of renovation of old ruined and inadequate public services and maintenance have significant negative correlation with livability of both studied areas. Furthermore, there are two more problems that have significant negative correlation with livability of Bukit Bintang Street - inadequate facilities for disabled people

and lack of plaza for social events- and one more problem - inadequate planting - which have the significant negative correlation with livability of Tun Perak Street. These findings revealed that these highlighted problems mostly deteriorate the livability of studied streetscapes from.

Mainly these results of correlation analysis and revealing traffic congestion, inadequate parking space, and small road as the three major problems which have the strong negative correlation with livability of studied areas indicated that entering the automobile into the old streets and not commensuration with the scale and function of the street can be considered as the most significant problem of the old streetscapes which also creates the other problems such as traffic congestion, air pollution, and noise pollution.

In addition, the comparison of the result of two case study streets generally revealed that whatever a streetscape is older and it has been less renovated, its problems are more highlighted and the users are less satisfied. Indeed, it can barely address the users' need.

The last important point was about respondents' perception on the role of local people in solving the problems. Since the users consider their role on solving the problems of the areas as the least one, they do not do any effort to enhance the quality of the area and always wait to Kuala Lumpur City Hall or other responsible organizations do changes and improve the conditions.

- Objective III: To recommend effective strategies and design measures to improve the physical problems and enhance the livability of study areas.

As it demonstrated in the discussion chapter, a gap is observed between the regulation of Kuala Lumpur Development Control Plan (KLDCP) 2008 and the current conditions of the case study areas. It reveals that what have been planned in KLDCP 2008, are not being

performed completely in the case study streets and it requires the practical supervision by Kuala Lumpur City Hall or an enforcement approach by the government.

In addition, improvement of these areas needs cooperation of all organizations. Since Kuala Lumpur City Hall cannot improve the quality of physical environment and livability of studied streetscapes without users' help, the support of government is necessary to educate people for taking care of their living environment. Besides, government needs to supervise the law enforcement to ensure the KLCH's guidelines are implemented properly.

7.3 Recommendation

The purpose of planning and designing the cityscape is generally to make the urban environment functionally more efficient, aesthetically more attractive, safer and healthier for living and working. Tibbalds (1992, p. 87) defined the great urban space with such characteristics of "a rich, vibrant, mixed-use environment that does not die at night or at weekends and is visually stimulating and attractive to residents and visitors alike". To have such a livable space, it is necessary to improve the conditions of urban space consistently. Hence, in order to make the case study spaces quality streetscapes, improvement strategies are recommended in this part, to improve the quality and livability of the case study streets.

Implementing the suggested strategies and design recommendations will create pedestrian-friendly streetscapes which are not devoted only to vehicle traffic. These recommendations facilitate and encourage people to walk as well as to do outdoor activities. In addition, they harmonize the different physical characteristics of the areas which were indicators of different styles and passing the time. The beautification of the space and avoiding the visual pollution are the other benefits of these suggestions. Eventually, the implementation of

these recommendation help to create the cohesive, specified urban character in each studied streetscape.

Therefore, regarding the current problems in the two case study areas, the recommended strategies can be applied in both studied streets. Since the Kuala Lumpur city Hall cannot improve the conditions of identified problems alone, the recommendation is comprised of two parts; the Kuala Lumpur City Hall's role and the Government's role, as follows:

7.3.1 Kuala Lumpur City Hall's role

In this section, four main recommendation groups are suggested for improvement of physical quality of studied areas. However, Kuala Lumpur City Hall has already defined a guideline for Kuala Lumpur City Center; this part can be used as a complementary suggestion.

i. Provision of facilities

- Adequate shelter:

Since raining is a usual phenomenon in Malaysia which is considered as a barrier for outdoor activities, providing shelters especially for the pavements which can facilitate the pedestrian movement during raining time is strongly recommended. However, there are verandah ways in both studied areas which help pedestrian movement during raining time, covered space is also needed to connect the public transportation station (like LRT Station or monorail station) to verandah ways.

- Suitable street furniture and seating:

Such a busy pedestrian areas should provide some comfortable furniture to sit and rest, wherever is possible. The seats should also be available for disabled people. Since there are lots of cafe and restaurants in Bukit Bintang Street, lack of the suitable seating is more

apparent in Tun Perak Street. So, providing street furniture and seating in Tun Perak Street is more important than Bukit Bintang Street.

- Facilities for disabled people:

Urban spaces should promote healthy, secure and fulfilling lifestyle for all citizens. The elderly, young and those with physical and sensory disabilities should have the right to live in convenience and safety, besides others. To give the access for wheel chair users and other disabled people to all buildings and other urban elements, the suitable ramps and appropriate pavement surface for moving the wheelchair should be provided. In addition, there should be the appropriate and enough space for a wheelchair maneuvering.

- Adequate parking space:

The findings of this study revealed that public transportation is not efficient thus people usually use their own vehicles. As a result, they need parking space. However, in this situation providing more parking spaces cannot be a reasonable solution, it can be applied as a temporary solution until enhancement of public transportation. Regarding the public response, provision of parking space is also more needed in Tun Perak Street.

ii. <u>Enhancement of quality</u>

- Public Transportation system:

Improving the public transport is the only key solution for the major problems such as traffic congestion, lack of parking space and the small road, especially in the inner parts of city centers. Having the efficient and various kinds of public transportation systems like rail transport and bus can encourage the people to use public transport rather using their own vehicles.

In Bukit Bintang Street taxi is found easier while in Tun Perak Street using LRT system is the only choice for travelling to and from that area. Users usually do not recognize the buses as an efficient public transportation system in both areas. So, apart from improving the railway transport, it is recommended to enhance the buses quality as well as increasing their numbers.

- Public services:

A clean and well maintained street is the desirable area which welcomes to all users and encourages them to stay more. However, KLCH have done too much effort on cleaning both case study areas, the result of this study showed they are not effective enough.

The most essential elements in cleaning the public space are litter bins and collecting the garbage. Though, there are many bins in two studied streets, they were found not so helpful. Litter bins should be emptied frequently so that they never are seen full or overflowed. In addition, in order to have a clean and healthy environment, the accumulated rubbish in different parts of streets should also be collected.

- Landscaping and planting:

Generally, the plan of landscaping should reinforce the walkability of pedestrian and promote the traffic calming. It should provide a unified planting structure for the street which contains some variation of planting for creation of visual interest. The planting trees, grass, hedge or shrubs are suggested as the different kinds of vegetation for laying out the pavements.

Finally, street furnitures such as seating, lighting, signs, trash bins should be coordinated with plan of street landscaping. In addition, the future development of the street should be considered for coordination with design of landscape plan.

iii. Redesign, renovation and maintenance:

- Pavements

Due to the lack of an integrated pattern in the pavements of the studied areas, the walkway plans of these streets need an overall revision. A new pavement plan for both case study streets should be designed to unify the pavements pattern with a uniform landscaping, various decorative paving characteristics and other street furniture. Appropriate paving pattern and flooring should be designed to create pedestrian friendly transition areas between the buildings and the driveway. In some parts of the streets which are possible, provide the wider pavements for the comfort of pedestrians.

- Old ruined buildings and facades:

One of the bases of sustainable development is conservation and renovation old elements in the historic areas. Since the studied areas are located at the two Heritage Zones of Kuala Lumpur city and include many old ruined components, renovation of these elements is considered as one of the major works needs to be done for enhancing the quality and livability of the two studied streetscapes.

In conservation and renovation of the ruined elements, the compatibility and continuity between the components of the street should be considered simultaneously. The material, texture, color and other street constituents need to be compatible between the historical and contemporary, current and proposed, and old and new elements. In other words, the streetscape and its surrounding environment need to be physically continuous and functionally linked together.

- Minimising the contrast between the architectural style of new and old buildings:

One of the most important factors which deteriorate the coherence of character of a street is the contrast seen among different architectural style of the buildings in the area. In order to avoid this contrast, buildings should be related sensitively to and be harmonious with other buildings in the same street. In particular, they should be designed to complement the proposed framework of road and pedestrian linkage. Redesigning and renovation of the shell of existing building can help to coordinate building facades and enhance the frame work of the street.

- Harmonizing skyline by redesigning:

Currently due to the existence of many buildings with different styles and various heights, a graduation of building heights can improve the transition between low and higher buildings.

iv. Control of traffic congestion

As stated in previous part, the best solution for decreasing and controlling the traffic congestion in both streets is to enhance the quality of public transportation as well as encouraging the people to use the public transportation. Besides, one more recommendation is suggested for Bukit Bintang Street, as follows

- Transforming Bukit Bintang Street to a 'transit mall' (Rubenstein (1992):

To reduce the existence of heavy traffic congestion in this street due to vehicular traffic, it is recommended that this street be transformed to a transit mall which avoids the private vehicle traffic and enhance the livability of area for pedestrian. So, only the public vehicles like buses will be allowed to pass this street.

7.3.2 Government's role

Kula Lumpur City Hall will not be successful in improving the quality of urban environment unless by the support of government. Government can contribute to improve the quality and livability of urban space by educating people and supervising the law enforcement.

i. Education of people:

- Not throwing rubbish at the public spaces:

Having a healthy and clean urban space is not possible, except people learn not to throw the garbage in the public space and protect their living environment themselves.

- Encouraging people to use public transportation rather than using private vehicle:

If people believe that traveling by public transportation can improve the quality of their life especially in the inner city, most problems related to the traffic congestion and parking space will be decreased.

ii. Supervision for law enforcement:

- Installing the signage:

However, Kuala Lumpur City Hall has set some rules for installing the signs in these Heritage zones -as mentioned in the fourth chapter and Appendix J-, it was found that these guideline are not followed by the people and shopkeepers who install the signage. So, it is needed to an enforcement power to supervise the installation of signs.

- Height control for harmonizing the sky line

The same as the installing signage, people usually do not like to follow the height control rules, especially when they can make more money by constructing taller building. In this particular item, government should not let anybody violate the KLCH's Height Control Plan in any way.

- Controlling the taxis fare:

With the close monitoring of government on the taxis fares, the taxi drivers cannot cheat the foreigners, and users can trust the taxi drivers as well. It also enhances the users' satisfaction for public transportation.

7.4 Suggestion for further research

After achieving the objectives of this study, researcher recommends some suggestions for future research, in order to expand the knowledge of this study:

i. Conducting further research on the other old streetscapes of Kuala Lumpur city center is needed to provide more comprehensive data base for generalizing the findings and conclusion of this study to the total old city centers' streets.

ii. To examine the conditions of non-physical attributes of Kuala Lumpur's streetscape located in the old part of the city, in order to identify the social problems of the areas.

iii. Further studies to explore the relationship between the conditions of the physical and non-physical attributes of case study areas, in order to identify how and which groups of attributes affects the others.

iv. To perceive the users' attitude about the identified non-physical problems.

v. Consultation with a sociologist is also required for discussing on the identified social problems and people's perception, in order to understand the underlying reasons related to social problems.

vi. Further research is needed to investigate whether enhancing the physical conditions of an area can help to improve the social conditions of the area and if it does, how it affects the social environment.

vii. To recommend the practical solution for solving the social problems of the studied areas.

7.5 Conclusion

This chapter comprised of five major parts - summary of findings, recommendation, Significance of the study, and suggestion for further research - which terminates the documentation of this research. At the first part, the drawn conclusions were demonstrated through achieving three objectives of the study such as the fifteen identified physical attributes of streetscapes and the physical problems of studied areas. Secondly, improvement strategies which composed of two major sections - Kuala Lumpur City Hall‘s role and government’s role - were suggested for minimising the identified problems and enhancing the overall quality of two case study streetscapes. The first part includes the recommendation for Kuala Lumpur City Hall and second part related to government's contribution in improving the urban environment. Finally, the researcher suggested seven related subjects for further research in the future which enhance the body of knowledge in this field of study.

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Appendix A

Times of observation of studied areas and identifying the problems

	Time of observation	10 am to 4 pm	Peak hours Morning-Evening	Night	Weekend & Holidays	Raining Time
Identified physical problems in studied areas	Improper walkway paving	√	√	√	√	√
	Inadequate shelter &canopies					√
	Inadequate street furniture (only in Tun Perak Street)	√	√	√	√	√
	Inadequate planting (only in Tun Perak Street)	√	√	√	√	√
	Irregular signs	√	√	√	√	√
	Small road	√	√	√	√	√
	Inadequate pavements & pedestrian crossings (only in Bukit Bintang Street)		√	√	√	
	The architecture of new buildings contrasts stylistically with the traditional architecture of old buildings	√	√	√	√	√
	Disharmonious skyline	√	√	√	√	√
	Inadequate facilities for disabled people	√	√	√	√	√
	Inadequate parking space	√	√	√	√	√
	Traffic congestion		√		√	√
	Lack of public services and maintenance	√	√	√	√	√
	Lack of plaza for street show or social events (only in Bukit Bintang Street)			√	√	

Appendix B

Pilot Study of Bukit Bintang Street's Survey

This survey is aiming to seek users' perceptions on the Bukit Bintang Street's attributes and to explore the physical problems of this area. The result of this survey is to examine the current conditions of physical attributes of the Bukit Bintang Street from the users' point of view.

Date: Time:

Location: Masjid Jamek area

- All information is strictly confidential and will not be disclosed.

❖ **Demographics information**

1. Age

□ 18-35 □35-50 □50 above

2. Gender

□Female □Male

3.Race

□ Malaysian

□ Malaysian-Chinese

□ Malaysian-Indian

□ Others, foreigners.....

4. Level of education

□ Illiterate

□ Under diploma

□ Diploma - Degree

□ Master - PHD

5. What is your purpose of being in Bukit Bintang Street?

□ Living-working

□ Shopping- visiting

□ Others …….

6. How long have you been living/working in Bukit Bintang neighbourhood or knowing this area?

□ Less than year

□ 1-5 years

□ 5 years and above

❖ **Space Identity**

1	To what extent do you agree that following phrases remind people Bukit Bintang street?	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree
1-1	Landmarks like Pavilion Shopping Centre					
1-2	Tourists center of Kuala Lumpur					
1-3	Business center of Kuala Lumpur					

❖ **Quality of area**

2	To what extent do you agree that Bukit Bintang Street has the livable and quality environment?	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree

❖ **Problems Identification**

3	To what extent do you agree that Bukit Bintang Street has the following urbanism problems?	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree
3-1	Improper paving and flooring					
3-2	Inadequate shelter and canopies for raining time					
3-3	Irregular signs					
3-4	Inadequate pavement and pedestrian crossing					
3-5	Small road					
3-6	Lack of renovation of the old building					
3-7	Architectural style of building contrast stylistically with old one					
3-8	Inadequate facilities for disabled people					
2-9	Inadequate parking space					
3-10	Traffic congestion					
3-11	Inadequate public services and maintenance					
3-12	Lack of plaza for social events or street shows					

❖ Solving Problems

4	To what extent do you agree that mentioned organizations can contribute to solve the problems of Bukit Bintang street?	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree
4-1	Kuala Lumpur City Hall					
4-2	Ministries of Malaysia (such as Ministry of National Unity and Social Development , Ministry of Housing and Local Government, Ministry of Science, Technology, and Green Technology, and Ministry of Land and Cooperative Development)					
4-3	PAM: Pertubuhan Akitek Malaysia/Malaysian Institute of Architects					
4-4	Police					
4-5	local people					

Thank you for your time

Appendix C

Pilot Study of Tun Perak Street

This survey is aiming to seek users' perceptions on the Masjid Jamek area's attributes and to explore the physical problems of this area. The result of this survey is to evaluate the current conditions of physical attributes of the Masjid Jamek area from the users' point of view.

Date : Time:
Location: Masjid Jamek area

- All information is strictly confidential and will not be disclosed.

❖ **Demographics information**

1. Age

□ 18-35 □35-50 □50 above

2. Gender

□Female □Male

3.Race

□ Malaysian

□ Malaysian-Chinese

□ Malaysian-Indian

□ Others, foreigners.....

4. Level of education

□ Illiterate

□ Under diploma

□ Diploma - Degree

□ Master - PHD

5. What is your purpose of being in Masjid Jamek area?

□ Living-working

□ Shopping- visiting

□ Others …….

6. How long have you been living/working in Masjid Jamek area or knowing this area**?**

□ Less than year

□ 1-5 years

□ 5 years and above

❖ Space Identity

1	To what extent do you agree that following phrases remind you Masjid Jamek area?	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree
1-1	Land marks like Masjid Jamek					
1-2	Transportation system terminal					
1-3	Business centre of Kuala Lumpur					
1-4	Bazar					

❖ **Quality of area**

1	To what extent do you agree that Tun Perak Street has the livable and quality environment?	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree

❖ **Problems Identification**

2	To what extent do you agree that Masjid Jamek area has the following urbanism problems?	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree
2-1	Improper paving and flooring					
2-2	Inadequate shelter and canopies					
2-3	Inadequate suitable street furniture and seating					
2-4	Irregular signs					
2-5	Inadequate planting and inappropriate landscaping					
2-6	Small road					
2-7	Lack of renovation of the old building					
2-8	Architectural style of building contrast stylistically with old one					
2-9	Inadequate facilities for disabled people					
2-10	Inadequate parking space					
2-11	Traffic congestion					
2-12	Inadequate public services and maintenance					

❖ Solving Problems

3	To what extent do you agree that mentioned organizations can contribute to solve the problems of Masjid Jamek area?	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree
3-1	Kuala Lumpur City Hall					
3-2	Ministries of Malaysia (such as Ministry of National Unity and Social Development , Ministry of Housing and Local Government, Ministry of Science, Technology, and Green Technology, and Ministry of Land and Cooperative Development)					
3-3	PAM: Pertubuhan Akitek Malaysia/Malaysian Institute of Architects					
3-4	Police					
3-5	local people					

Thank you for your time

Appendix D

Questionnaire Survey of Bukit Bintang Street

This survey is aiming to seek users' perceptions on the Bukit Bintang Street's attributes and to explore the physical problems of this area. The result of this survey is to examine the current conditions of physical attributes of the Bukit Bintang Street from the users' point of view.

Date: Time:

Location: Masjid Jamek area

- All information is strictly confidential and will not be disclosed.

❖ **Demographics information**

1. Age

□ 18-35 □35-50 □50 above

2. Gender

□Female □Male

3.Race

□ Malaysian

□ Malaysian-Chinese

□ Malaysian-Indian

□ Others, foreigners.....

4. Level of education

□ Illiterate

□ Under diploma

□ Diploma - Degree

□ Master - PHD

5. What is your purpose of being in Bukit Bintang Street?

□ Living-working

□ Shopping- visiting

□ Others …….

6. How long have you been living/working in Bukit Bintang neighbourhood or knowing this area?

□ Less than year

□ 1-5 years

□ 5 years and above

❖ **Quality of area**

1	To what extent do you agree that Bukit Bintang Street has the livable and quality environment?	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree

❖ **Problems Identification**

2	To what extent do you agree that Bukit Bintang Street has the following urbanism problems?	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree
2-1	Improper paving and flooring					
2-2	Inadequate shelter and canopies for raining time					
2-3	Irregular signs					
2-4	Inadequate pavement and pedestrian crossing					
2-5	Small road					
2-6	Lack of renovation of the old building					
2-7	Architectural style of building contrast stylistically with old one					
2-8	Inadequate facilities for disabled people					
2-9	Inadequate parking space					
2-10	Traffic congestion					
2-11	Inadequate public services and maintenance					
2-12	Lack of plaza for social events or street shows					

❖ Solving Problems

3	To what extent do you agree that mentioned organizations can contribute to solve the problems of Bukit Bintang street?	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree
3-1	Kuala Lumpur City Hall					
3-2	Ministries of Malaysia (such as Ministry of National Unity and Social Development , Ministry of Housing and Local Government, Ministry of Science, Technology, and Green Technology, and Ministry of Land and Cooperative Development)					
3-3	PAM: Pertubuhan Akitek Malaysia/Malaysian Institute of Architects					
3-4	Police					
3-5	local people					

Thank you for your time

Appendix E

Questionnaire Survey of Masjid Jamek area

This survey is aiming to seek users' perceptions on the Masjid Jamek area's attributes and to explore the physical problems of this area. The result of this survey is to evaluate the current conditions of physical attributes of the Masjid Jamek area from the users' point of view.

Date : Time:

Location: Masjid Jamek area

- All information is strictly confidential and will not be disclosed.

❖ **Demographics information**

1. Age

□ 18-35 □35-50 □50 above

2. Gender

□Female □Male

3.Race

□ Malaysian

□ Malaysian-Chinese

□ Malaysian-Indian

□ Others, foreigners.....

4. Level of education

□ Illiterate

□ Under diploma

□ Diploma - Degree

□ Master - PHD

5. What is your purpose of being in Masjid Jamek area?

□ Living-working

□ Shopping- visiting

□ Others …….

6. How long have you been living/working in Masjid Jamek area or knowing this area**?**

□ Less than year

□ 1-5 years

□ 5 years and above

❖ **Quality of area**

1	To what extent do you agree that Tun Perak Street has the livable and quality environment?	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree

❖ **Problems Identification**

2	To what extent do you agree that Masjid Jamek area has the following urbanism problems?	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree
2-1	Improper paving and flooring					
2-2	Inadequate shelter and canopies					
2-3	Inadequate suitable street furniture and seating					
2-4	Irregular signs					
2-5	Inadequate planting and inappropriate landscaping					
2-6	Small road					
2-7	Lack of renovation of the old building					
2-8	Architectural style of building contrast stylistically with old one					
2-9	Inadequate facilities for disabled people					
2-10	Inadequate parking space					
2-11	Traffic congestion					
2-12	Inadequate public services and maintenance					

❖ Solving Problems

3	To what extent do you agree that mentioned organizations can contribute to solve the problems of Masjid Jamek area?	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree
3-1	Kuala Lumpur City Hall					
3-2	Ministries of Malaysia (such as Ministry of National Unity and Social Development , Ministry of Housing and Local Government, Ministry of Science, Technology, and Green Technology, and Ministry of Land and Cooperative Development)					
3-3	PAM: Pertubuhan Akitek Malaysia/Malaysian Institute of Architects					
3-4	Police					
3-5	local people					

Thank you for your time

Appendix F

Case Study Protocol

I. Overview of the case study project

Following parts reveals the research project details:

A. Purpose

The main purpose of doing the case study is to explore the physical problem of Kuala Lumpur streetscapes in the old fabric of the city through the examining the current conditions of identified physical attributes of streetscapes. Besides, the researcher tries to understand the users' perspective about the identified physical problems of the areas and their perceptions about responsible organization for solving the problems.

B. The rational of selecting the case study areas :

i. The most visited and important streetscapes of the tourist city of Kuala Lumpur which are located at the old part of the city

ii. Being the multifunctional street

iii. Easy to access

iv. Being known by most Malaysian as well as foreigners

C. Background information of case study streetscapes

- Street characteristic

i. Street name

ii. Street location

iii. Street boundaries

iv. Street function

v. Type of buildings which are located in the area

vi. Type of people who visit the area daily

II. Field Procedure

Field procedure provides a well-planned guideline of the major tasks for collecting the data and preparation for having the required resources.

A. **People involve in data collection process:**

The author is the only person who involves collecting the data and investigating the case study sites without further assistance.

B. **Access to the case study sites:**

Since the case study streetscapes – Bukit Bintang Street and Tun Perak Street- are the urban spaces which all people can visit them freely; no special or formal permission is needed to access the sites.

C. **Resources for the data collection:**

For data collection during visiting the sites some facilities is needed such as umbrella for raining time, personal camera for photographing, writing instruments and paper.

D. **Schedule of data collection:**

The data collection of this research includes two steps. The first step is about visiting the sites, observing and photographing to identifying the physical problems of the area. The second step is about distributing the questionnaires to understand the users' perceptions about the identified problems as well as solving the problems.

Task	November December (2010)	January February (2011)	March April (2011)
First step (Observation and Photographing of sites)			
Second step (Distributing the Questionnaire)			

III. Case study questions

- Discovering the physical problems of the case study area through examining the physical conditions of the identified physical attributes (pavement and flooring, shelter and canopies, signs, planting, style of the buildings, skyline, facility for disabled people and etc) of the streetscapes at different times.

  (Source of evidence: observation, photographing)

  1. How is the condition of the pavements and flooring?
  2. Is there enough shelter and canopies for the raining time?

3. Is there enough suitable furniture & seating?
4. Are the commercial signs placed regularly on the building and do they follow any rules or order?
5. Do the areas have enough planting?
6. Is the scale of the roads proportionate with the extent of automobile traffic? (How is the proportion of the road to the automobile traffic?)
7. Do the case study streets have the adequate pavement and pedestrian crossing?
8. Do the facades of the old buildings in the case study streets need the renovations?
9. Is there enough parking space in the case study areas?
10. Is there traffic congestion in the case study streets at different times of the day especially at the peak hours?
11. Are the case studies areas maintained very well and are the users satisfied with the urban public services?
12. Do the case study streets have any special function at the different times of the year? If there is, do the physical conditions of the area is responsive to that function?
13. Is there enough facility for the disabled people at the case study areas?
14. Do the case study streets have the harmonious sky lines?
15. Is there harmony between the different architectural styles of buildings in the streets?
16. Do people can access to these areas easily by the public transportation?

- To what extent users think that the case study areas have the identified physical problems (improper walkway paving and flooring, inadequate shelter and canopies, inadequate street furniture & seating, irregular signs, inadequate pavement & pedestrian crossing, small road, the lack of renovation of the old building, the architecture of new buildings contrasts stylistically with the traditional architecture of old buildings, a disharmonious skyline, inadequate facilities for disabled people, the lack of appropriate parking space, traffic congestion, Inadequate public services and maintenance, lack of plaza for social events or street) ?

  (Source of evidence: questionnaire)

- To what extent users think that the different organizations (police, parliament, various ministries of Malaysia, Municipality, PAM and local people) can help to solve the problems of the case study streets?

  (Source of evidence: questionnaire)

IV. Outline of the case study report

Outline of the case study report includes the following parts:

a. Introductions
b. Process of evaluations
c. Examining the case study areas
    - Examination of the first case study site: Bukit Bintang street
        i. Examining the identified physical attributes of Bukit Bintang Street
        ii. Identifying the physical problems of the Bukit Bintang Street

iii. Understanding the users perceptions about the identified physical problems

iv. Understanding the users' perceptions about the role of different organization on solving the problems

- Examination of the second case study site: Tun Perak Street in Masjid Jamek area

i. Examining the identified physical attributes of Tun Perak Street

ii. Identifying the physical problems of the Tun Perak Street

iii. Understanding the users perceptions about the identified physical problems

iv. Understanding the users' perceptions about the role of different organization on solving the problems

d. Analysis of the questionnaire survey result of Bukit Bintang street

e. Analysis of the questionnaire survey result of Tun Perak street

f. Comparing the result of two case study areas with each other

g. Summary of the chapter

Appendix G

The result of questionnaire survey of Bukit Bintang Street (before breakdown of the categories)

	The identified physical problems of Bukit Bintang street	Users' attitude				
		Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1	Improper paving and flooring	18%	20%	32%	20%	10%
2	Inadequate shelter and canopies	24%	30%	26%	10%	10%
3	Irregular signage	18%	34%	38%	10%	0%
4	Inadequate pavement and pedestrian crossing	12%	32%	26%	20%	10%
5	Small road	24%	44%	24%	8%	0%
6	Lack of renovation of the old building	10%	18%	42%	22%	8%
7	Architectural style of new buildings contrast stylistically with old ones	12%	12%	40%	24%	12%
8	Inadequate facilities for disabled people	6%	38%	30%	22%	4%
9	Inadequate parking space	24%	38%	24%	4%	10%
10	Traffic congestion	34%	52%	12%	2%	0%
11	Inadequate public services and maintenance	6%	22%	30%	32%	10%
12	Lack of plaza for social events or street shows	8%	30%	38%	16%	8%

Appendix H

The result of questionnaire survey of Tun Perak Street (before breakdown of the categories)

	The identified physical problems of Tun Perak street	Users' attitude				
		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1	Improper paving and flooring	22%	30%	34%	12%	2%
2	Inadequate shelter and canopies	28%	32%	24%	14%	2%
3	Inadequate suitable street furniture & seating	16%	30%	34%	20%	0%
4	Irregular signs	10%	24%	40%	20%	6%
5	Inadequate of planting and inappropriate landscaping	22%	40%	30%	8%	0%
6	Small road	36%	34%	28%	2%	0%
7	Lack of renovation of the old building	34%	36%	28%	2%	0%
8	Architectural style of building contrast stylistically with old one	32%	12%	38%	16%	2%
9	Inadequate facilities for disabled people	38%	24%	30%	8%	0%
10	Inadequate parking space	46%	36%	16%	2%	0%
11	Traffic congestion	38%	46%	16%	0%	0%
12	Inadequate public services and maintenance	4%	16%	50%	24%	6%

Appendix I

Result of Correlation Coefficient analysis: Identified Physical Problems and Quality and Livability of Bukit Bintang Street and Tun Perak Street

NO	**Physical problems**	**Quality and Livability**	
		Bukit Bintang Street	Tun Perak Street
1	Improper paving and flooring	- 0.185*, *p(0.023)* <0.05	-0.171*, *p(0.031)* <0.05
2	Inadequate shelter and canopies	- 0.034, *p(0.682)*>0.05	-0.028, *p(0.732)*>0.05
3	Inadequate street furniture and seating	_____	-0.010, *p(0.904)*>0.05
4	Inadequate planting	_____	-0.160*, *p(0.040)* <0.05
5	Irregular signs	- 0.48, *p(0.559)*>0.05	-0.114, *p(0.120)*>0.05
6	Small road	- 0.079, *p(0.336)*>0.05	-0.227*, *p(0.005)* <0.01
7	Inadequate pavement and pedestrian crossing	- 0.126, *p(0.126)*>0.05	_____
8	Lack of renovation of the old buildings	- 0.167*, *p(0.042)* <0.05	-0.157*, *p(0.045)* <0.05
9	Architectural style of new buildings contrast stylistically with old ones	- 0.129, *p(0.116)*>0.05	-0.054, *p(0.513)*>0.05
10	Inadequate facilities for disabled people	- 0.185*, *p(0.023)* <0.05	-0.029, *p(0.729)*>0.05
11	Inadequate parking space	- 0.282**, *p(0.000)* <0.01	-0.212**, *p(0.009)*<0.01
12	Traffic congestion	- 0.240**, *p(0.002)* <0.01	-0.264**, *p(0.000)*<0.01
13	Inadequate public services and maintenance	- 0.191*, *p(0.019)* <0.05	-0.202*, *p(0.013)* <0.05
14	Lack of plaza for social events or street shows	- 0.194*, *p(0.018)* <0.05	_____

Appendix J

Signage in Secondary Heritage Zones

Kuala Lumpur City Hall (2008b) demonstrated the regulation for commercial signs in Secondary Heritage Zone. Figure 1 shows how to install the signage on the buildings facades in this area.

> "Signage will be confined to the ground floor shop front panel and the first storey fascia panel. Such signage should not project more than 250mm from the face of the building... The signage shouldn't be mounted in such a way that especial features such as pediments or decorative elements such as pilasters or spandrels are covered over or so that support brackets damage decorative elements" (p. 5.35)

Guideline to install the signage on the shophouses in the Secondary Heritage Zone

Source: Kuala Lumpur City Hall (2008b)