INFLUENCE OF INTERFACE COMPONENTS ON THE STREET LEVEL

ADEB QAID AHMED AL-AMERI

UNIVERSITI TEKNOLOGI MALAYSIA

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To MY BELOVED

Father, Mother, Wife, Brother and Sisters

TO MY RESPECTED SUPERVISOR

Dr. Dilshan Remaz Ossen

FAMILY MEMBERS

BEST FRIENDS

For Making This Day a Reality

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ABSTRACT

Buildings and streets are essential components of the city. Building form along the street space generates a sensitive area known as interface area. It is determined between the building edge and street curb. The street and building events such as interaction and communication happens in the components of this area as well. These interface components are responsible in making connection between building and street. The issue is centered on the ambiguity and lack of clarity of this relationship. The issue also concentrates on the vague relationship between the components and their activities which are responsible in strengthening or reducing the building and the street interrelationship. Hence; to find out this relationship, the influence of the interface components are studied. The components are complex and complicated but work collectively in animating the street. This thesis dismantles the complexity of components into individual component in accordance with their location and function weather on horizontal aspect (street level) or in the vertical aspect (building's façade) or between the both. The study based on the principle theories of the interface which determine the interface limitations. Hence, this thesis highlights the character of the component and studied them independently in order to find out the influence of each one on the street level. Wong Ah Fook Street in Johor bahru was selected to emphasis the influence of interface components highlighted in the literature. It considers being the functional and the most active street in Johor Bahru region. The street is divided into five parts; the interface components in each part were enumerated, analyzed and evaluated with their influence on the street level. The result highlighted the utilization of the interface components to animate the street level. The finding indicated that the side walk, the corridors, the street corners as well as the ground level doors are the essential interface components in animating the street. They also can help in improving the building and street relationship.

ABSTRAK

Bangunan dan jalan-jalan adalah komponen penting bagi sesebuah bandar. Bentuk bangunan yang dibangunkan di sepanjang jalan menghasilkan ruangan sensitif yang dikenali sebagai kawasan antaramuka. Hal ini ditentukan antara tepi bangunan dan bahu jalan. Jalan dan bangunan seperti peristiwa interaksi dan komunikasi berlaku dalam kawasan komponen tersebut. Komponen-komponen antaramuka bertanggungjawab membuat hubungan antara bangunan dan jalan. Isu ini bersandarkan pada hubungan yang kabur dan kurang jelas. Isu ini juga tertumpu pada hubungan yang jelas antara bahagian dan aktiviti mereka yang bertanggungjawab dalam menguatkan atau mengurangkan bangunan dan jalan yang berhubungkait antara satu sama lain. Oleh sebab itu, pengaruh komponen antaramuka dipelajari untuk mengetahui hubungan tersebut. Komponen adalah kompleks dan rumit tetapi tetapi bekerja secara kolektif dalam menghidupkan jalan. Tesis ini membongkar komponen yang kompleks kepada komponen individu sesuai dengan lokasi dan fungsi cuaca pada aspek melintang (peringkat jalan) atau aspek menegak (muka bangunan) atau antara kedua-duanya. Kajian berdasarkan pada prinsip teori antaramuka yang menentukan batasan antaramuka. Oleh kerana itu, tesis ini menerangkan ciri-ciri komponen dan mempelajarinya secara bebas untuk mengetahui pengaruh setiap peringkat jalan. Jalan Wong Ah Fook di Johor Bahru dipilih untuk penekanan pengaruh komponen antaramuka yang diterangkan dalam sastera. Jalan ini dianggap berfungsi dan merupakan jalan yang paling aktif di daerah Johor Bharu. Jalan tersebut dibahagikan kepada lima bahagian iaitu; komponen antaramuka dalam setiap bahagian dihitung, dianalisa, dan dinilai dengan pengaruh pada setiap peringkat jalan. Keputusan menerangkan manfaat komponen antaramuka untuk menghidupkan peringkat jalan. Penemuan ini menunjukkan menunjukkan bahawa sisi jalan, koridor, sudut-sudut jalan serta pintu-pintu dalam tanah merupakan komponen antaramuka yang penting dalam menghidupkan jalan. Ia juga dapat membantu dalam meningkatkan hubungan antara bangunan dan jalan.

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The city is affected by two elements buildings and street. The buildings and the street have equal affect on each other, so this effect is reflected generally on the city. Most of the cities are known either by street or buildings. The dynamic urban form with the variable street level display dramatic forms. Street level and building form both plays vital role in animating the urban space of the street by their activities and their components.

In Commercial Street the building activities and the street activates reflect the area between buildings edge and the street curb. Multi-activities interaction occurs between buildings and street, they are responsible in animating the street. They give spectacular sight to urban space. Jacobs (1961) stated that successful places typically have animation and vitality an “urban buzz”.

However; present physical activities in the street level verily based upon the diversity of physical components. Hence; the vitality of the street based upon the variety of the components initially than the activities which occupy later. Physical components with the physical activities actually constitute the essential structure of any livable street. Accordingly it cannot go beyond the importance of the interface components.

These components are classified as ‘interface components” due to their location. Their location in the interface space of buildings and street lie horizontally on the street and vertically on building’s façade. Moreover; these components are created spontaneously by incorporating buildings and street.

The interface components are divided into two types according to classification of the street; one of them is privacy interface components that are located in residential street and public interface components which are located in Commercial Street (Le An 2006). This study focuses on the latter type of interface.

Building forms and street structure formulate the character of the interface components. Therefore the effectiveness or non-effectiveness of the components directly reflects on both of them. The interface is the mediator zone receives the buildings, street communications, and interactions as well.

Therefore; the characters of these components include, the types, the numbers, locations, and the area. All of these factors are important in influencing the street and animating it by bringing about multi-activities. These factors are the core of this study in dividing character and studying their effect separately.

1.2 Problem Statement

Buildings facades as well as street level spontaneously created a critical area locate between them known by interface area. However; this area is a sensitive area pools the buildings as well as street character with their identities within it. Building's façade and street level meet in this area. Buildings height and street width formulate the shape of the area. Both of them also determined the limitation of this area in the height aspect as well as in the width aspect. Meanwhile this area has ability to determine the shape, the size of relationship between the building and the street equally. It is a key of relationship between the two elements. It is a mediator to received and appearance the buildings and street interactions. It could be created vibrant or non-vibrant environment that depends on the buildings and the street interrelations and their interchange communications.

Strengthen or reducing the relationship between buildings and street depends on the increasing or reducing the interface area. The more interface area between buildings and street are, the more components it can absorb. Therefore enriching the relationship between buildings and street depend on increasing diversity of the components among interface area. However; an increasing the diversity of components is not entirely means strengthening their relationship but they give opportunity to rooting this relationship as long as they are used-well by the activities that occur there.

The numbers of interface components as well as the diversity of the shapes, the area, the types, the locations of them within interface area has effectiveness and impact in polarizing the multi-activities. Each component has independently character to fit its activities. Components and activities each one effect to each other they cooperate in vitalizing the street level. However the character of the components those determine the type of the activities which must be upon them. This is a

relationship between the activities which occupied and the interface components which offer their potentialities.

These components either are able to fit the diversity of the activities and absorb their flow or not are depending on their characteristic. However these components have to attract the activities in exploiting their area, number, shape and locations for creating relationship between buildings and street as well as for animating the street otherwise they become burden on the street level.

The issues constitute relationship whether in between buildings and street through the interface components or between the components of the interface area and their activities, both the relationships are vague. In the meantime the role of these components characterizes within interface area and their effect on the street level is non- evident.

This issue is common in city streets. But Magnitude of the issue differs by the diversity of the street forms. However such issues depend on the form of street space as well as the buildings form along with it. When the street components or activities are integrated and interrelated with the buildings components or activities. The relationship between the two is complicated and complex.

Therefore this study will concentrate on the components and their relation with the activities to demonstrate the relationship between buildings and street. Such study will be in Wong ah Fook Street being the functional and more active street in Johor bahru and also due to its dynamic urban form with overlapping components. The Prediction will obtain the optimum results for understanding the effect of components character on the activities as well as the street and buildings relationships.

1.3 Research Gap

Livable as well as the vibrant of street environment is studied in different cases in different methods. However such studies centered on aspects of activities whose influence on the street creates different ambiances either it is desirable or undesirable. Such studies also contain catalog of the activities on livable environments to realize the necessity of the daily activities which are responsible in turning the street into social or Business Street. Abundant amount of literature are available and the same time many authors are specialist in this field such as Gehl, Jan (1987) in his book (*Life Between Buildings-Using Public Space*) and Jacobs, Jane (1961) in the book (*The Death and Life of Great American Cities).* They have enriched the amount of literature as well.

On the other hand; there is a lack of studies about the physical aspect of the components which are present with different characteristics to the activities occupied by them. The study of these components is important with their entity and character. The components are interrelated and overlapped producing a blend of activities that are worth to dismantle their complexity in order to understand them individually and their influence on the street separately. These types of components are fully responsible in attracting specific activities which create street a livable place. Also; there is a need to study these components. This study will enrich the literature about the concept of the interface components between buildings and street in general the character of the interface components.

1.4 Aim of the Study

The aim of the study is to find the interface components influenced in commercially livable street in order to enhance or improving their effectiveness.

1.5 Objectives

1. To determine the pattern of the street structure and the street characteristic.
2. To identify the characteristic of buildings form which define their identity.
3. To determine and enumerating the characteristic of interface components between buildings and street.
4. To assess the performance influence of each component whether they are in the street or in the buildings or between buildings and street.

1.6 Research Questions

This research seeks following answers further questions:-

1. What are the characteristic and identity of buildings and street?
2. What are the physical characteristics of the interfaces components within Street space?

3. The most physical interface components influencing on the street level?
4. What are the functions of physical interface components on the street level, building's façade as well as between buildings and street?

1.7 Scope of the Study

The study will focus on the physical aspect of interface components within Wong ah Fook Street either the components on building's façade or in the street level or between two. The study will be base on the theories of the interface components derived from literature review. These theories restrict and limit the components on both buildings and street.

The limitation of this study will focus on the components that interacts with the street level or which can be seen from the specific angle from the street level. The angle is 60^0 from the eyes of people. The limitation of these components also will focus on the building's façade which possibly interact with the street level. These components are confined between ground level and sixth level of the tall buildings or the whole façade of the small buildings that carry little level of floors. The components of the upper levels from the sixth floor are delimitated on this study due to their uninfluenced components on the street. This study is for the components within Wong Ah Fook Street from the beginning of the street till the bridge of the city square building. These studies exclude existing components that are located after the bridge.

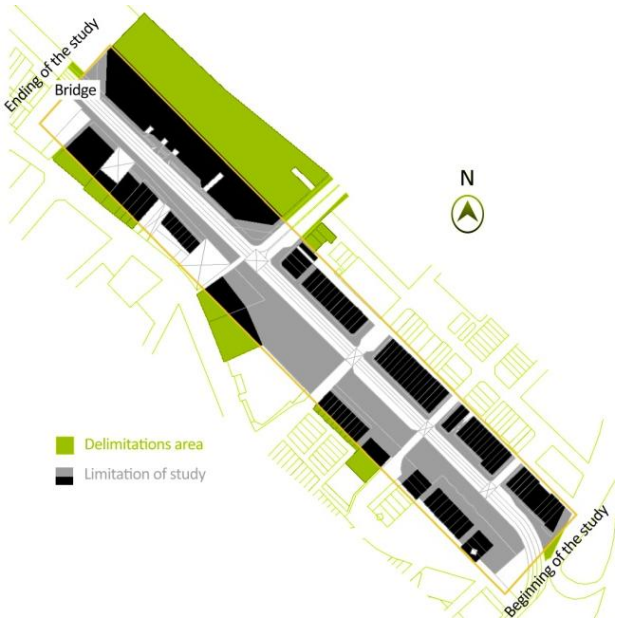

Figure 1.1: The scope study and the limitation as well as the delimitations of the study

Source: Author (2010)

1.8 Significance of the Study

This study might be contributive in enhancing the architectural design and urban designer's awareness about the opportunity and potentiality of the mediator components. It actually helps to realize the relationship between building form and street space. Realizing the interface components, give verily alternative solution to buildings or to the street issues. This study will illustrate the components which influence the street that can be improving the street vibrancy or treatment its problems. Buildings and street problems are unfolded through such components. Buildings and street identity and their characteristics are appearance by their components, means that these components are addressing the street and buildings simultaneously.

1.9 Research Methodology

This research will adopt a qualitative methodology which involves visual survey of field observations in the form of photographs and physical mapping. Both are transcribed to gain information on influencing the interface components between buildings and street. The physical feature of environment will develop knowledge which might aid to realize the interface components types and characters which has influence on vitality of the commercial street level.

In order to obtain the accurate data for achieving the research aim and the objectives, the study will carry out in two stages. In the first stage, primary data will gather from the literature review. A detail inventory will carry out at stage two on the case study.

a. Secondary Data

This study will base on the data collection from literature review of buildings and the street. It is also fully based on the theories and information of the interface components in vertical sections (Buildings Form) or in horizontal sections (Street Level).

b. Primary Data

The primary data will collect from the physical mapping of the case study area which highlights the street components, map and height of buildings, and the limitation of perception interface in vertical sections. Such data helps in determining

the components location and their use on the street level as well as on the buildings form.

c. Observation

This study will hold conceive plan in order to study and to observe the components within street in properly and precise ways. The plan will carry two suggestions. One of them is to divide the street length into parts; each part will be taken specific distance of the street length. The other suggestion is to adopt the existing division of the street that is happened by sub-streets beside Wong Ah Fook Street. However; such as sub-streets are actually dividing the length of the street into five parts see Figure 1.1. The suggestion is the concept of the study totally similar in both of them.

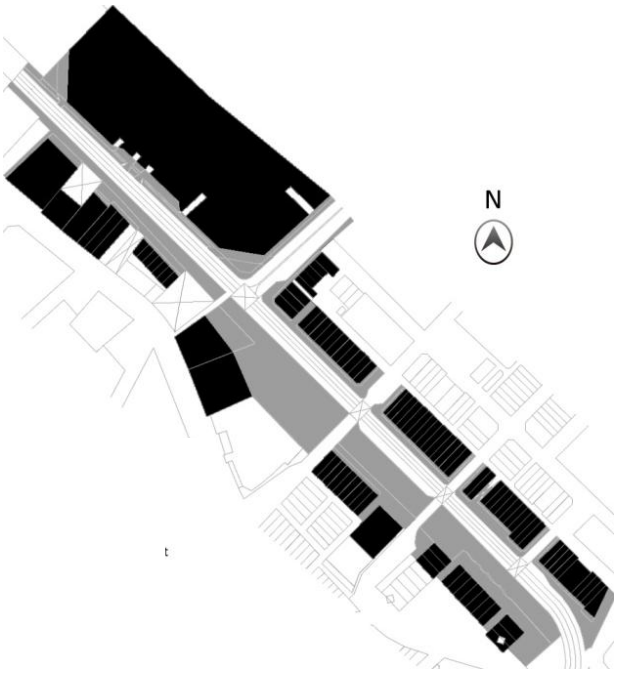

Figure 1.2: The sub-street are dividing the length of Wong Ah Fook Street into parts
Source: Author (2010)

The concept is to study each part of the street individually. The rows of buildings in each part will indicate by (A) and (B). A refers to one row of buildings in specific part. B was indicated to opposite row of buildings in opposite side. The components of each building will study in one tabular form as well. The street components will take another tabular form for both side of the each part. Components which are created by buildings and the street also will hold a different tabular.

Each tabular form is composed of components and their characters belong to the elements either the elements are buildings or street or buildings and street both. The purpose of this way of study is to find out the interface components that are influenced on livable street. Also; in order to evaluate the performance of the interface components on the street.

1.10 Research Instrumentations

The following instruments will used for data collection purposes

Map: Wong ah Fook Street Map to understand the street context in Johor Bahru business district. Buildings map and buildings height maps are essential maps to illustrate the structure of the street and their affect on the interface components.

Camera: The camera is to capture the area, the locations and the shapes as well as the activities of the physical interfaces components in both elements buildings form and street level. The photographs of the interface components were provided overall

view about the character of the components and their daily work. This instrument is critical tool during the analytical process.

Tabuar Form: Tabular forms will helpful to divide the interface components into three parts. Components belong to buildings, the components which belong to the street and the components that belong to both street and buildings. Tabular form helps us to classify and inventor the components character of each part.

Measurement Tools: This is to measure the dimensions of the physical interface components in the ground floors of buildings and on the street level.

1.11 Data Analysis

Firstly the theories of interfaces will apply on the field survey in order to understand the limitations of the interface in buildings and in the street. Also in order to determine which component belong to the interfaces. The whole components within street will be study individually. Each component enrolls their characteristics in the tabular form that are formerly done by researchers. After that procedure evaluates the performance of each component on the street. Finally comparison will be done between the whole components in order to obtain which are the most and the least influence on the street.

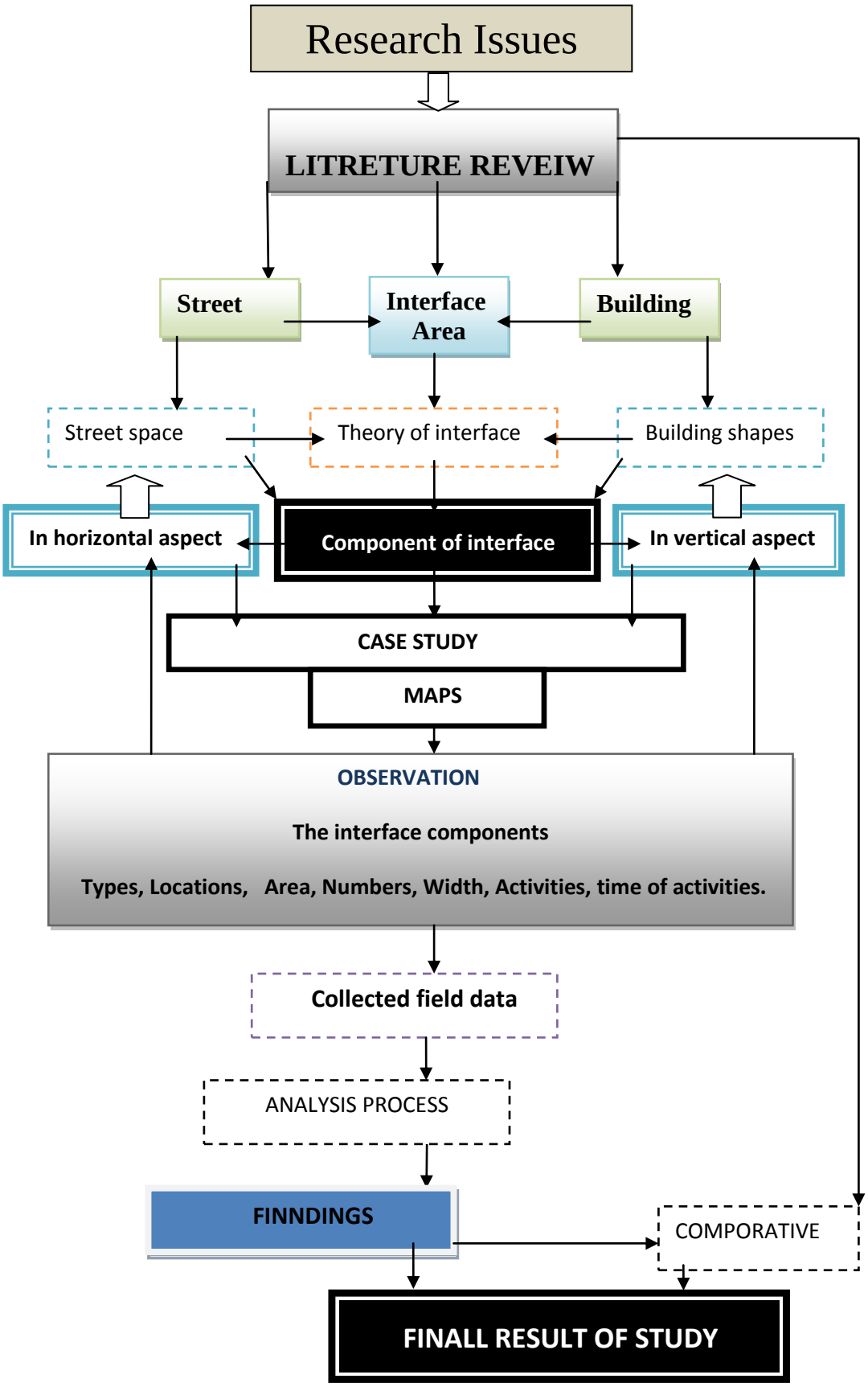

Figure 1.3: Flow Chart for research process

Source: Author (2010)

1.12 Study Area

Johor Bahru central business district is one of the most popular shopping districts in Johor, attracting local visitors and tourists to its wide range of shopping and public plaza. The study will focus city center area in Johor Bahru exactly in the Wong ah Fook Street.

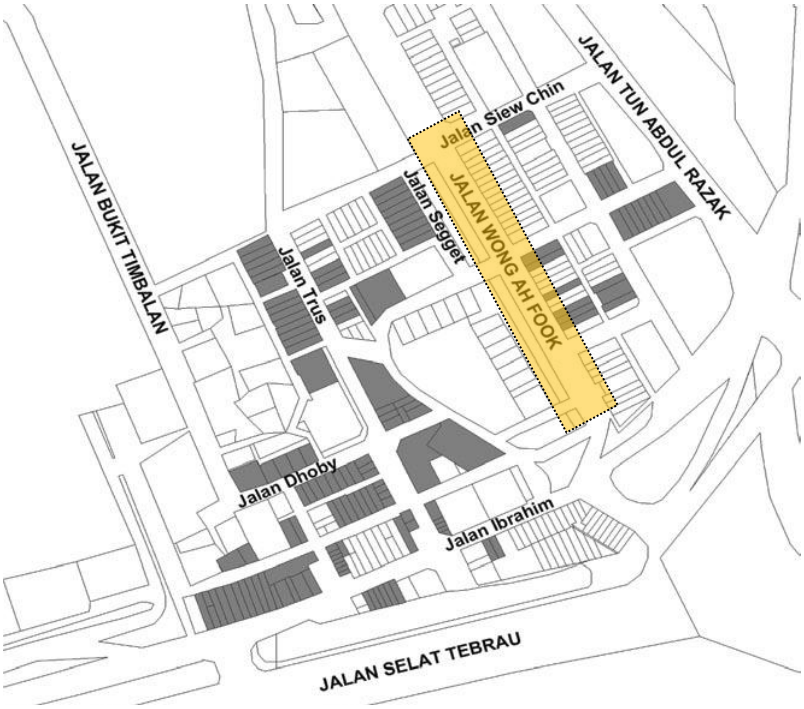

Figure 1.4: show the city center of Johor bahru among it the case study of Wong ah Fook Street.

Source: SJER CDP 2025

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