

**IMPACT OF UNIFORM COMMERCIAL
DEVELOPMENT ON A STREET AND ITS EFFECT ON
THE STREET CHARACTER**

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Dissertation submitted in partial fulfilment of the requirements for the Master in
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February 2022

DECLARATION

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ABSTRACT

The quality of most Commercial Streets in cities are negatively affected by the lack of open areas and urban spaces. The streets and its activities when unplanned, are an unpleasant built space to urbanity. This impacts the maintenance of a good built environment and a quality urban life. Therefore, a well-functioning, pleasant urban landscape which maintains the disciplines required of a commercial development is important. This study investigated how to assess the impact of uniform commercial development on the urban streetscape and the effect of physical street characters. The study explored street characters generated by uniform commercial activities in selected urban streets. Usage qualities, spatial qualities of existing Commercial Streets were tested in this study, using three case studies similar in scale, but differing in location and physical characteristic in the Colombo district. Quantitative and qualitative characters were considered for this study, while data collection was done via self-study, questionnaires and interviews.

Each Street has its own unique characters due to its physical qualities. By evaluating these physical Street characters and its activities, it is possible to identify what is the most uniform character. Street qualities of attractiveness, permeability, visibility, legibility, human scale and safety, which utilize street elements of furniture, lamps, sidewalks, etc.; further help to produce a distinct quality. These components facilitates social interactions, creates a comfortable atmosphere and highlights the character of the street. This ultimately affects the atmosphere of the town, which are identified by characteristics such as activeness/dead, plan/unplanned, cosiness and uniqueness. The street characters which are generated from uniform commercial development has a stronger character than a general commercial street.

Key words – *Uniform commercial activities, Street characters, Spatial and Usage qualities*

ACKNOWLEDGEMENT

I would like to thank our Dissertation supervisor and Course Director Dr. Janaka Wijesundara, and my external tutor Archt. Janaka Dharmasena for their guidance, suggestions and thoughts for the study. I would also like to convey my sincere gratitude to Dr. Senaka Dharmathilaka for his valuable comments at the initial stages of the study.

None of this work would have been possible without the help of Archt. R. Dissanayake, who kept everything running and corrected my writing.

I would also like to thank my family for their support and encouragement.

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INTRODUCTION

Background

Buildings help to serve different functions. The term ‘**function**’, in the built environment, refers to the purpose of the building/structure. That is, a house is to be lived in, an office is for business activities, a school is for education, a shopping centre serves to fulfil retail needs, etc... The function of a building can also relate to the operation, performance of an activity and the processes that affects this activity. In turn, urban design and its environment deal with buildings at a large scale, infrastructure, streets, and public spaces.

It is important to understand how a building or group of buildings and its functions affects the urban space of its immediate neighbourhood. Most often, an urban space will change depending on the function of the building activities. In general, a successful business will spread its sub businesses to the neighbourhood, and this will continue on till demands are met. Through this, people can fulfil their requirements with a variety of options. However, on the other hand, it causes tasteless spaces, monotonous buildings and lack of breathing spaces.

The physical form, characteristics of towns, morphology, building typology, behaviour of activity, accessibility and liveability of urban environment are changing according to building functions. In turn these will affect the urban street scape.

When functions of surrounding buildings are uniform, a unique streetscape is created. Uniformity in architecture is the state or quality of being identical, homogenous or regular (Corbusier, n.d.). This can refer to uniformity in architectural elements or the uniformity in function of the built form. Uniformity in function can be seen to directly affect the physical components and thus affect the configuration of the urban landscape.

The inclusion of buildings with similar functions or businesses along the same road can have its pros and cons. For example, the Colombo-Nawala Road is known for shops that sell sanitary fittings and hard ware items. This has brought about a bad image to the city, as sanitary fittings can be seen displayed at the front of the road.

In comparison if we look at cafes, art and luxury craft shops along Stratford Avenue; it has proven advantageous to the streetscape. Majority of the public realm has developed with decorated front yards, pavements, seating arrangements and beautification of the street. Therefore, it can be seen that the type of building and its function will give an urban character to the street, the city and urban life.

Need for the study

By disregarding building functionalities, the urban environment will become an unplanned, unpleasant built space to its urbanity. In order to avoid this, proper management and planning of built environment is imperative to ensure a well functioned, pleasant urban landscape while maintaining the disciplines required of a commercial development.

Therefore, the influence of uniform commercial development and its impact on the transformation of the street character and the measurable impact it has on the user is an important area of study.

Research issue (Hypothesis)

Commercial boulevards are suffering from lack of open spaces and urban spaces in cities. Most public spaces and road side walkways have been used in an unauthorized way due to lack of space. Simultaneously, uniform commercial developments have been spread or scattered by keeping low quality urban street spaces. Therefore, the cities /boulevards have lost their inherent urban beauty.

Research gap

Studies conducted on the impact of uniform commercial development and its impact on transforming a streets character in relation to the Sri Lankan context are limited.

Main research problem

The main research problem will investigate how to assess the impacts of uniform commercial development on the urban streetscape.

The proposed study can help to measure the following research questions.

- Degree to which buildings with similar functions effect neighbourhood urbanity
- The impact of monotonous building facades or businesses on the urban streetscape.
- The impact of maintaining a good built environment and quality urban life

Objectives of the study

The main objective of the study is to examine the definitions of uniformity and uniform commercial developments, by identifying the physical street characters and its impact to urban neighbourhood space.

In addition to the main objective, the following sub-components can be identified:

- Examine the possible implications of having a quality urban environment with uniform commercial developments
- Explore the public and occupant's perceptions and authors' observations on selected case studies and identify possible quality urban spaces.

Method of Study

1. Literature review
 - E books and E papers
 - Theories
 - Case studies
 - Input from professional bodies

2. Physical research
 - Direct Observations
 - Photographic survey with context study
 - Conducting interviews of users and building owners
 - Public survey using a questionnaire

3. Psychological research
 - Observations
 - Behavioural studies of users

Methodologies Adopted

Phase – 1 (formative evaluation)

1. Background Studies
2. Listing out / categorizing type of buildings based on scale, age
3. Grouping of buildings as structured and non-structured
4. Study of road functions.

Phase – 11 (outcome evaluation)

1. Pilot survey from users
2. Preparation of a questionnaire and making a report
3. Direct Observation – by observing built patterns, road patterns, etc...

Phase – 111 (Impact evaluation)

1. Qualitative Measures – by information
2. Quantitative Measures – by spatial experience through graphical representation

The physical built environment, characteristics of the space and functional aspects will be discussed under phase – 111.

Key Theoretical Approaches / Arguments

- Guidelines for shops in order to garner better customer relations and create quality urban spaces.
- Study of streetscape with discipline of commercial activities.
- Analysis of commercial /building functions
- Customer satisfaction with quality of shops and shop maintenance.
- Methods used by shop owners to attract customers.
- Illegal ways in which street and public spaces have been used by businesses.
- Shop owner's willingness to accommodate the public.

Research out comes

- To identify the visual influences, impacts and their magnitude on a particular street character.
- To review management of urban public spaces and quality urban life along streets with mostly commercial developments.
- To design a method to assess visual impact on commercial streets.
- To identify new ways of designing commercial streets.
- Establish guidelines in order to plan roads and design buildings on commercial streets.

Limitations

1. The study will discuss only the visual impacts due to time constraints.
2. As this is a basic study, three cases were selected and are within the Colombo District. They are:
 - Sanitary shops and hard ware shops from Nugegoda to Nawala junctions
 - Cut piece retail shops on Pamunuwa road
 - Art and craft shops and cafes along Stratford Avenue
3. The study will be limited to analyze the impact of uniform development seen in the street character only. Other impacts will not be discussed in this study.
4. Current COVID -19 pandemic limited access for physical interviews and physical observations.

CHAPTER 01

UNIFORM COMMERCIAL DEVELOPMENT AND STREET CHARACTERS

In this Chapter the impact of a street will be examined with focus on uniform commercial developments. The chapter will further explore parameters that can be used to identify street characters and how these elements can be manipulated to provide the desired street character with special emphasis on uniform commercial developments.

1.1 Commercial Street Activities

“In a city the street must be supreme. It is the first institution of the city. The street is a room by agreement, a community room, the walls of which belong to the donors, dedicated to the city for common use. Its ceiling is the sky.” (Khan, n.d.)

In the early era, most commercial activities took place near rivers or close to a natural harbor. However, today this has expanded more landward and developed in a city center or node; where several streets connect to one another. The commercial activities ran up to a certain extent along with the street. Sometimes commercial activities will be concentrated between two nodes of a city. Street activities are stronger near the node and become less at the edge of the street. Most commercial streets consist of varying types of buildings and street elements. The development of a commercial street also tend to create pedestrianized streets.

Traditional commercial streets showcase the local urban culture. Thus reflecting the relevant community's cultural and social values. The streets also help to support the context around. Ideally there should be a clear transitions from a commercial street to a residential neighbourhood. This is done by communicating a change in surroundings with a change in street character.

As per Mehanna's (2019) opinion, most public spaces in cities are made up of streets. When an ideal healthy street is created it optimizes a sense of place, is pleasant for habitation and naturally creates connections within the community. Thus as Mehanna (2019) elaborates a good street can then define the unique character of the place.

1.2 Identifying of Uniform Commercial Street activities and its development

“Uniformity is the state or quality of being identical, homogeneous or regular” (Corbusier, n.d.)

Uniformity is achieved by not mere repetition alone, it can be varied in one form and share uniformity of order with other aspects. In architecture buildings can be uniform in function but be varied in physical composition or vice versa.

In the study what is focused on is the uniformity in relation to the function, and further focused on the aspect of commercial developments. This niche analysis will help identify the impact such functional uniformity has on the street and ultimately the street character.

From the 1950's many have wanted commercial streets to be further developed into areas dedicated to business activities, with malls, shady areas and pedestrian walkways. A slow pace is preferred to navigate these areas, which are not linked to a significant path, such that pedestrians can change their pathway according to what interests them. Such areas are said to revive economic activities and create an attraction in the city centre. (Mehanna, 2019)

With time, street activities can develop in a variety of ways. Majority of street activities seen around the world are mixed activities. In mixed street activities, which would appear as a live street; may have vendors selling many products. The customer/buyers will then spend more time out in the street engaging in different activities; such as enjoying food while shopping.

However, some streets serve only one purpose of activity. This may be due to a political, historical or social reason. The street in question could be one that is famous for one thing for a long period of time. That purpose has developed with time and has

led to the whole street selling the same kind / same category of products. Therefore, such a street that has similar activities, can be referred to as a uniform commercial activity street.

1.3 The causative factors of uniform commercial developments

1.3.1 Functional factors

- Traffic Moment – Traffic flow on the street, parking facility, degree of street traffic (less or high), public and private transport access
- Pedestrian Movement – pedestrian safety, comfort, shadiness, walking distance, pedestrian activeness
- Infrastructure – access to infrastructure, the location of infrastructural lines and its appearance
- Existing Buildings set up – the building character, architectural value, historical value, building sky line, building features (façades, details, finishes, materials, textures) and construction methods
- Maintenance – this will focus on street cleanliness, disposal system used for storm water, street lighting system, street landscape elements and repair of damaged elements.

1.3.2 Natural factors

- The topography of the earth- commercial development can be developed along canals, banks, costal line
- Climate- provides thermal comfort in such streets

1.3.3 Social and Economic factors

It is interesting to note that the success of commercial development might be influenced with regional aspects and the age factor of people.

The cost and prices of retail goods sold in commercial buildings will also affect customers. This will decide if the boulevard is cheap or exclusive.

1.3.4 Political and Legal factors

Politicians and political decisions directly impact on commercial developments whether uniform or not.

1.4 Globalization and Uniform commercial development in cities

Globalization allows money, labour, materials, goods and technology to flow between countries with relative ease and extends to the exchange of culture and ideas. The result of which can lead to homogenous societies and places. This will lead to a lack of “sense of continuity with place” which Harvey Cox (1968, p. 423) believes is “necessary for people’s sense of reality and so essential for their identity; the meaning of places will become as short-lived as their physical form”.

C.W. Moore in Lyndol (1962, pp. 31-41) states “the richly varied places of the world... are rapidly being obliterated under a meaningless pattern of buildings, monotonous and chaotic”. From this it is apparent that the consequences of loss of place identity leads to ‘placelessness’ as coined by Relph.

The precedent studies given below discuss on uniform commercial development seen internationally

1.4.1 Orchard road - Singapore

The humble beginning of Orchard road dates back to the early 1830s’. Back then, Orchard road was an unnamed road and had fruit orchards, pepper farms and nutmeg plantations. In 1958, Orchard Road’s first department store, House of Tangs (Currently known as Tangs) was set up by C.K. Tang (a local merchant). One can consider this the neighbourhood’s first step that led to it becoming Singapore’s most beloved shopping district. (National Heritage Board , 2002) (Anderson, 2012)

Today, Orchard Road is Singapore’s retail heart, consisting of high end branded outlets, department stores, world class malls. Luxury hotels have also come up along, which ultimately offers the ultimate lifestyle experience to both tourists and locals. (National Heritage Board , 2002)



Figure 1: Buildings along Orchard road [Online image]
Source: www.en.wikipedia.org

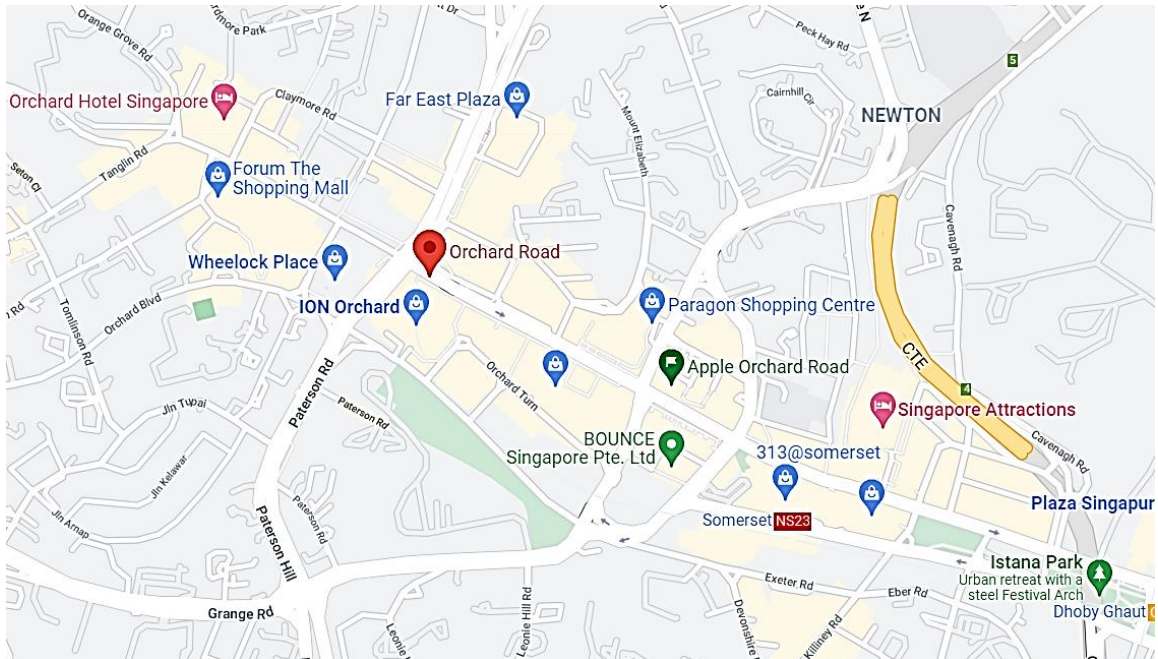


Figure 2: Location of Orchard road [Map]
Source: Google Maps

Its 2.6 km long Orchard road is inclusive of shady and wide sidewalks that are comfortable to pedestrians. The large shopping mall buildings with interconnected bypasses for shoppers, are located on either side the road. (National Heritage Board , 2002)

1.4.2 Foshan Boulevard Street - China

Foshan city is a large city located next to Guangzhou in China. Foshan city remained primarily focused on ceramic and steel production. At the same time Foshan has been known for producing and selling furniture. Foshan Boulevard Street consists of a large number of shopping malls which are interconnected. The large blank facades of the buildings face the main street with its functions taking place mostly internally.



Figure 5: Lecong furniture market in Foshan street [Online image]
Source: www.facebook.com



Figure 4: Foshan Furniture market building [Online image]
Source: www.ciff-gz.com



Figure 3: Foshan furniture wholesale market [Online image]
Source: www.synotrip.com

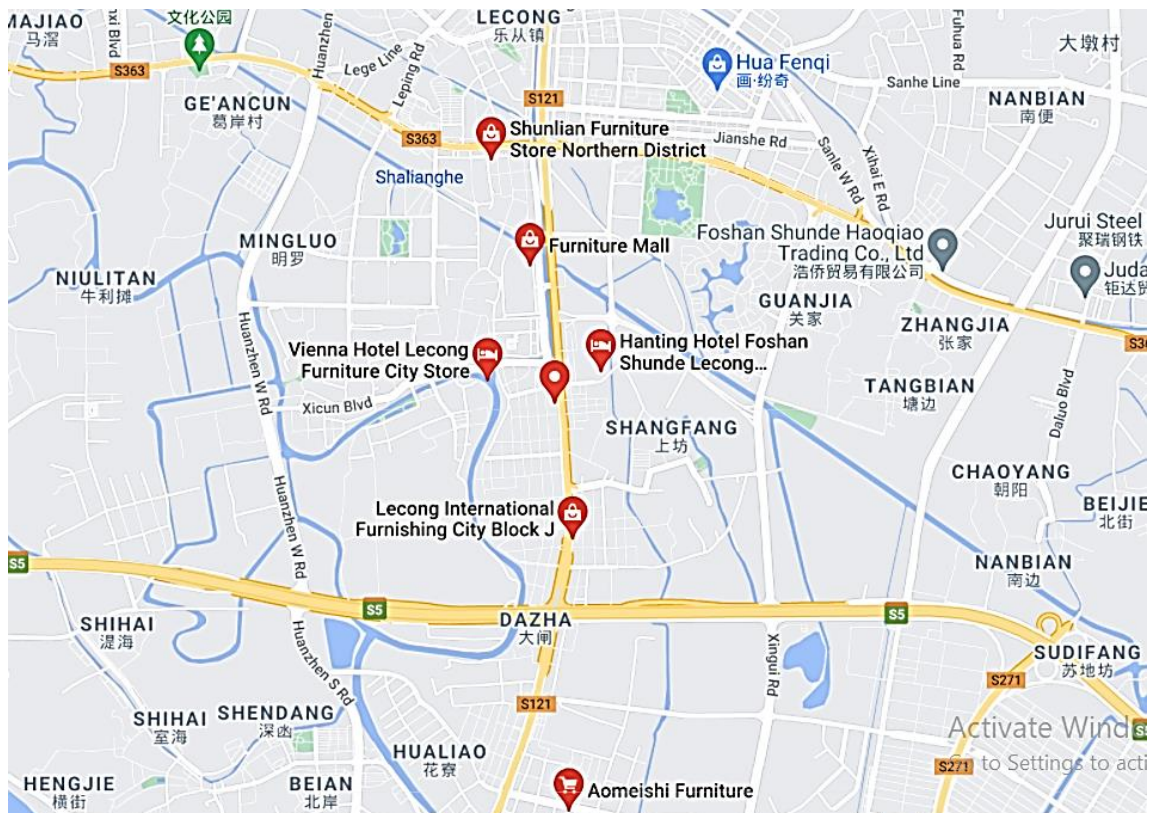


Figure 6: Location of Foshan Boulevard Street [Map]
Source: Google Maps

Foshan Boulevard Street can be easily identified as a uniform commercial street due to the entire street selling only furniture related products.

1.5 Commercial Development seen in Sri Lanka

The City of Colombo, is Sri Lanka's largest and most developed city and is considered the commercial capital of the island, . The presence of a natural harbour and its central placement to many sea routes made it a magnet for successive traders and conquerors;

the Indian, Greek, Persian, Roman, Chinese, Arab merchants, Portuguese, Dutch and British imperialists (Pandiraratna, 1963); who all contributed to the continuing evolution of the city.

There remains little to indicate physically the Portuguese and Dutch eras, however there exists some remnants of the British period. According to the Colombo City Development Plan History (2013), the British were the first to initiate the Colombo city plan in 1921, with Sir Patrick Geddes developing the concept of a Garden City plan; which emphasised to preserve the rural spirit of the city (as seen today around the Cinnamon Gardens area: tree lined streets and the grid system of roads). The Patrick Abercrombie Plan in 1948, was then brought to decentralized urban activities in the region, and thereafter development plans of 1978, 1985, 1996, 1999 and 2008 contributed to the physical development of the city. However during the civil war, Colombo was a high security zone, therefore its inherent heritage was hidden in fortifications and limited in access to public spaces.

After the end of the civil war, regeneration plans focused on more public oriented development which triggered a boom in urban development. State sector buildings were opened to the public and were made physically permissible with the removal of boundary walls, streets were cleared of physical barriers and litter and by the introduction of places for recreation, etc.. helped to enhance the level of public experience in the city. The changes continue to grow and today's development trend is transforming the city into a global homogeneous place.

1.6 Understanding of street activities/ characters

This following sections focus on defining place, people's perception of place and how it applies to identity of a place in relation to urban design. This has been established through critical analysis of prior research conducted in the subject area.

1.6.1 Defining Place

“Places occur at all levels of identity, my place, your place, street, community, town, country, region, continent, but places never conform to tidy hierarchies of

classification. They all overlap and interpenetrate one another and are wide open to a variety of interpretations” (Donat, 1967, p. 9)

“Space is transformed into place as it acquires definition and meaning” (Tuan, 1997, p. 136) According to Tuan, meanings are given or derived directly through senses (sight, hearing, smell, taste and touch) or indirectly through symbolic physical features.

Relph (1976, p. 29) asserts, place “is a multifaceted phenomenon of experience”.

Halpenny (2010, pp. 409-421) states that place is a spatial location invested with meanings and values assigned by individuals or a culture.

Rapoport (1990, pp. 9-20), states that people conceive a meaning to a place based on their age, gender roles, memories, experiences, expectation, motivations and community involvement. Therefore the meaning people evoke onto a place is subjective and can evolve through the lifetime of each individual.

From the above we can surmise that the term ‘place’ is a fusion of human and natural order and is a significant core of our immediate understanding of the world. They are defined more by the direct experiences of the world, and less by unique locations, the landscape or communities. Hence a place can be rich in meaning with real objects and ongoing activities and can become an important source of individual and communal identity.

A person’s relationship with places are necessary; and can be varied and sometimes unpleasant. The extent or understanding of a place can vary as a part of a room, a town or even a continent. Regardless of scale, places can be considered as whole entities and a synthesis of natural and man-made objects, activities and functions; and have a meaning that has been given through intentions (Relph, 1976). E.g.:- the sacred experience felt in a temple/church.

Due to the flexibility of the word ‘place’, it can refer to a wide range of meanings. A ‘place’ can refer to a social context or imply something about a certain area. A definition would sometimes not be needed. E.g.: ‘Save a place for me’, or ‘Colombo

is the place to be' or 'the world is a big, complex place'. These range of uses as given in the examples thereby suggest that a place can be anything we want it to be. This was referred by Relph as the identity of place. (Relph, 1976)

Relph aimed to alter the discourse of abstract technical thinking by re-implementing the phenomenon of "wondering" in relation to everyday geographical experiences. The core of this discipline is to investigate how people experienced places they encountered. Relph theorizes that every relationship between humans and the environment is determined by such subjective ideas. That is, by the importance one gives to their surroundings. As Relph states, this is not just about the description of a place in detail but how 'places' show themselves in different ways to people. (Relph, 1976)

1.6.2 Perceiving Place

According to Canter (1977) the environment is perceived by people based on three dimensions as illustrated below;

- Cognitive dimension - physical setting or symbolic cues of the environment
- Behavioural dimension - functional relationship or activities
- Emotional dimension - meanings derived through memories

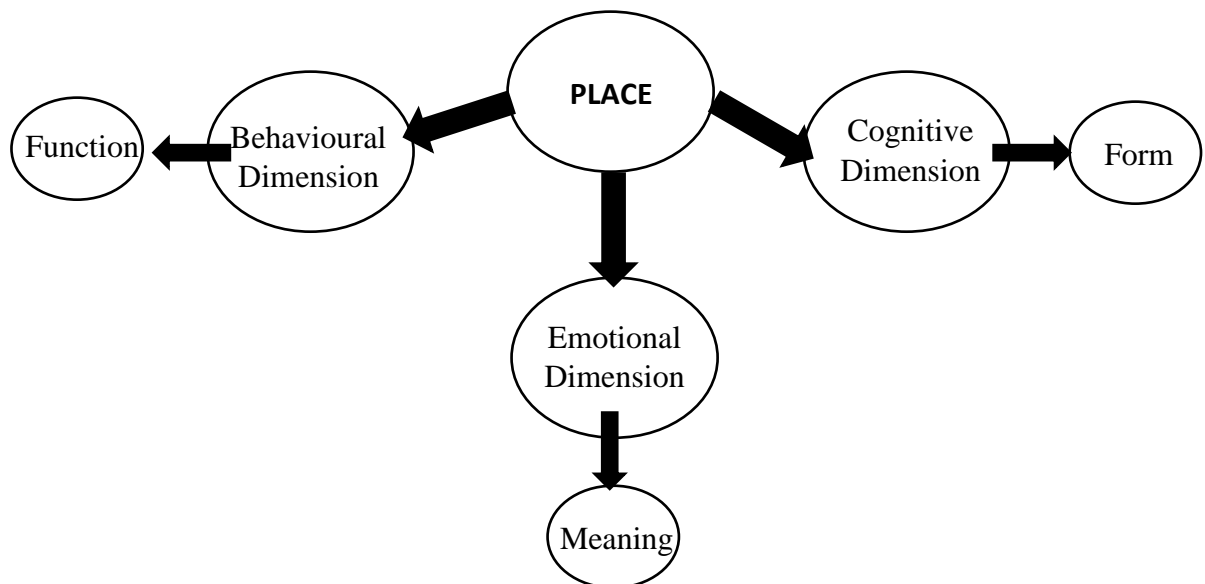


Figure 7: Dimensions of creating places by Canter 1977 [Graphic]
Source: By author

As described before, Relph states that places are formed of three basic components; the physical setting, the activities and the meanings associated with the place which are generated through the human-environment relationship.

Relph also states that human experience of places are of different intensities based on familiarity; which is limited to a particular setting. Therefore people do not generate a deep understanding or an attachment with the place except for a passing familiarity of its function.

Ordinary familiarity with place

This is where a person develops an unconscious perception through the collective understanding of a place. Though there is an involvement with the activity of the place, it is an experience influenced by culture and rituals of a particular setting.

E.g.: In religious or sacred spaces- where a strong relationship is present with symbolic cues of the physical setting.

Profound familiarity with place

This is the most familiar place for an individual; where people unknowingly develop a strong feeling of belongingness. Relph further elaborates this as the 'existential space'. It is the existential quality of the place that makes place a centre for human existence (Norberg-Schulz, 1971).

As elaborated above, Norberg-Schulz's work describes the concept of familiarity as the vertical and horizontal structures of existential space. This structure denotes the strong connection between people and places and the significant role of a street in a city.

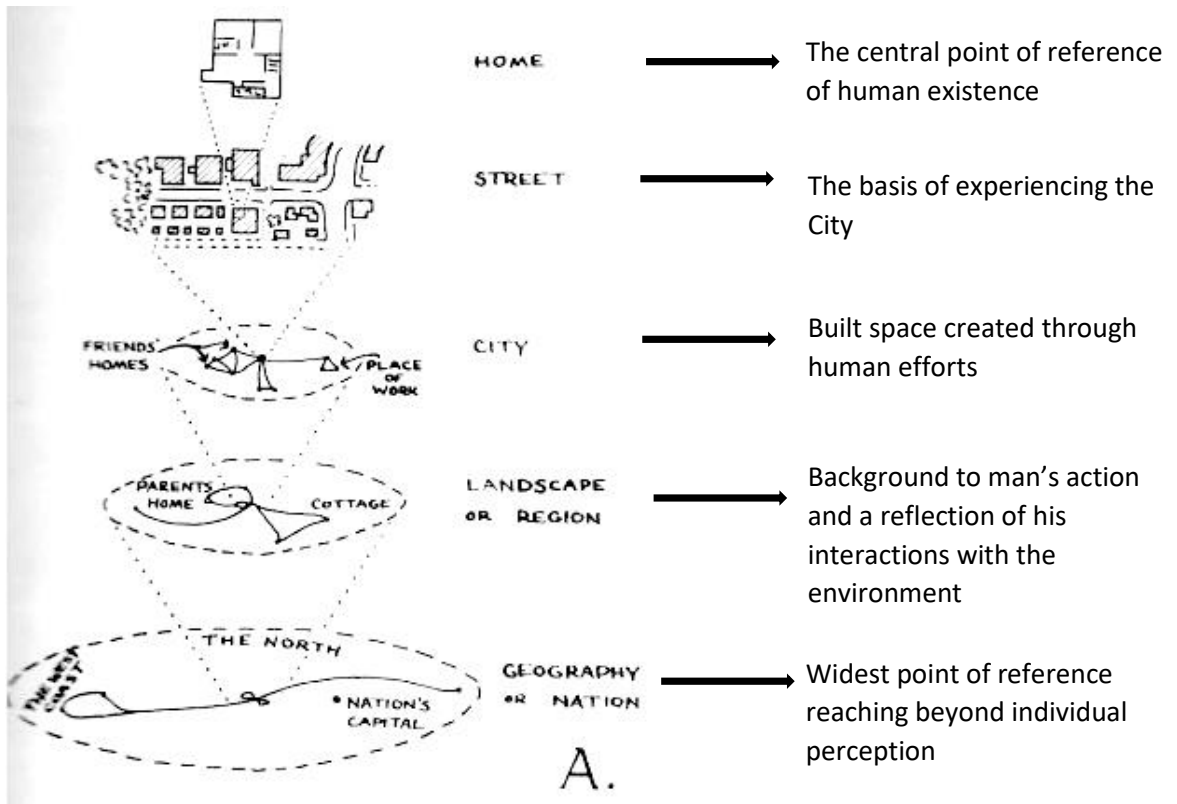


Figure 8: Vertical Structuring of Place- City as a Place [Graphic]
 Source: Relph E., Place and Placelessness, 1976:p.21

1.6.3 Placelessness

Placelessness is an environment without a significant place and an underlying attitude. Placelessness also does not acknowledge the significance in a 'place'. It cuts the root, erodes any symbols present, replaces diversity present with uniformity, and experiential order with conceptual order. (Relph, 1976, p. 143)

Relph argues that today a true sense of place is being steadily overshadowed by a less authentic attitude that he terms 'placelessness'. It is a "not-place"; with qualities that are manifested in uniformity, standardization, and has a disconnection with the surrounding context. If a place is said to be somewhere, placelessness is anywhere. (Relph, 1976)

Relph attributes mass production and an increasingly mobile world to placelessness. Economics and technology further contributes to this. Relph emphasises on places that are 'museumified' and 'disneyfied'. Which he states are fake copies of a more worthy

original. According to Relph, these places are ‘inauthentic (fake)’. As it would be impossible for one to be an existential insider in Disneyworld, McDonalds or on a mass-produced housing estate. He further argues that significant attachments are not made in these type of places as they don’t allow to stop, linger and create roots. These arguments are common and are described as ‘Americanization’ or ‘McDonaldization’ (Relph, 1976).

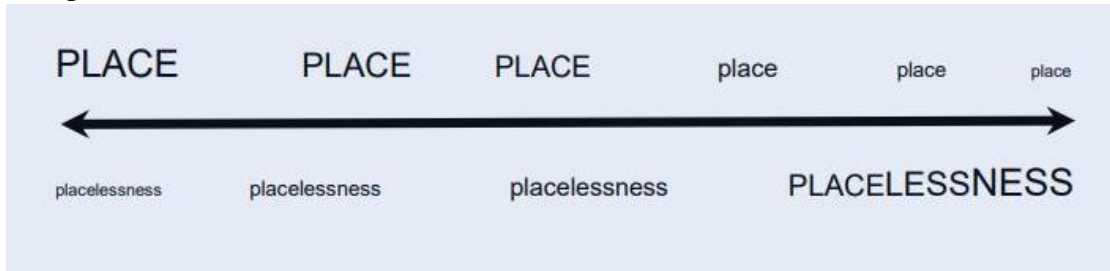


Figure 9: Continuum of place and placelessness [Graphic]
Source: Relph E., Place and Placelessness, 1976

A representation of the continuum of place and placelessness is illustrated above. When qualities of uniqueness are strong, place is dominant; and when standardization prevails placelessness is dominant, but in some circumstances, they both occur everywhere.

Examples for “Placelessness” are given below:



Figure 10: Landscape of Mass Housing scheme in China [Online image]
Source: www.prefabricar.org



Figure 11: Granite City steel mill [Online image]
Source: www.hustlermoneyblog.com



Figure 12: Texas Metropolitan area [Online image]
Source: www.archiv.hn.cz



Figure 13: Cadaqués in Spain [Online image]
Source: www.mediabakery.com



Figure 14: Suburbs of Toronto [Online image]
Source: www.en.wikipedia.org

Given above is a small town called Cadaqués in Spain (figure 13) with the placeless industrial suburbs of Toronto (see figure 14).

It is simplistic to assume that a ‘place’ is good or complete and placelessness is somehow incomplete.

“My understanding is that place and placelessness are bound together in a sort of geographical hold, and that everywhere contains aspects of both.” (Relph, 1976).

Therefore, one can say ‘place’ is specific and local, while placelessness is general and shared. Hence, strategies for avoiding placelessness are to create a place design that is unique, extensive, meaningful, intellectually provoking, regional or local in character. (Relph, 1976)

“A deep Human need exists for association with significant places. If we ignore that need and allow the forces of placelessness to continue unchanged, then the future can only hold an environment in which places simply do not matter.... But one thing at least is clear whether the world we live in has a placeless geography or a geography of significant places, the responsibility for it is ours alone” (Relph, 1976)

1.6.4 Concept of Identity

Places are a significant part of human existence influenced by experiences and intentions and are therefore formed by subjective meanings. Relph describes the concept of identity 'with' a place as the distinct character of a place formed through the physical setting and the unique experiential awareness of humans. However, this nature of identity is reinforced with the concept of identity 'of' a place. That is the collective identity a group of people derive of a place.

1.6.5 Role of a street

“Think of a city and what comes to mind? Its streets. If a city’s streets look interesting, the city looks interesting. If they look dull the city looks dull” (Jacobs J. , 1961).

Norberg-Schulz (1971) describes the street as the basis of experiencing a city. Schulz describes the street as a path filled with symbolic meanings which help humans to build a relationship with the environment. Therefore, the street becomes the most familiar place for people to experience the environment beyond their home.

Jane Jacobs describes the street as the main public spaces or the vital organs where social and commercial activities take place. The street is therefore not just a mode by which one gets from one point to another.

Allan Jacobs states that the magic of the street is what attracts and makes it beautiful and comforting for people to occupy. Great streets should be a desirable place to be, as this will make people pause and encourage participation/interaction with the environment and other people.

Great streets should be physically comfortable, that is against harsh weather conditions; and safe to occupy in relation to vehicular traffic and undesirable activity of other people.

1.6.6 Perceptual Environmental Qualities

Otto Clemente and Reid Ewing developed a key set of attributes that make a street more desirable than another. They are illustrated as follows in figure 15:

Fifty-One Perceptual Qualities of the Built Environment				
adaptability	singularity	naturalness	identifiability	deflection
distinctiveness	clarity	texture	ornateness	interest
intricacy	enclosure	compatibility	upkeep	regularity
richness	meaning	formality	continuity	vividness
ambiguity	spaciousness	novelty	imageability	depth
diversity	coherence	transparency	prospect	intimacy
legibility	expectancy	complementarity	variety	rhythm
sensuousness	mystery	human scale	contrast	
centrality	territoriality	openness	intelligibility	
dominance	comfort	unity	refuge	
linkage	focality	complexity	visibility	

Figure 15: 51 Perceptual Environmental qualities [Graphic]
 Source: Otto Clemente, Reid Ewing, Measuring Urban Design, Metrics for Livable Places, 2013

The Author has chosen five parameters to assess the perceptual quality of the urban environment and are discussed in detail as follows

1.6.6.1 Human scale

In a street human scale refers to the organization of physical elements in relation to the scale and proportions of the human body and also the walking speed of the human.

Physical elements that contribute to human scale are: Building details, trees in a street, texture of the pavement and street furniture

Allan Jacobs (1993) in reference to the work of Hans Blumenfeld, derives dimensions appropriate to human scale in a street. Accordingly, when a person is at a maximum angle of 27 degrees; Street as a place is perceived at the ground level. Therefore in buildings of greater scale, human scale can be incorporated by adding elements of human scale to mitigate an intimidating effect.

	AVERAGE BUILDING HEIGHT	AVERAGE BUILDING WIDTH	STREET WIDTH
MAXIMUM HUMAN SCALE	30'-0"	36'-0"	72'-0"
INTIMATE HUMAN SCALE	21'-0"	24'-0"	48'-0"

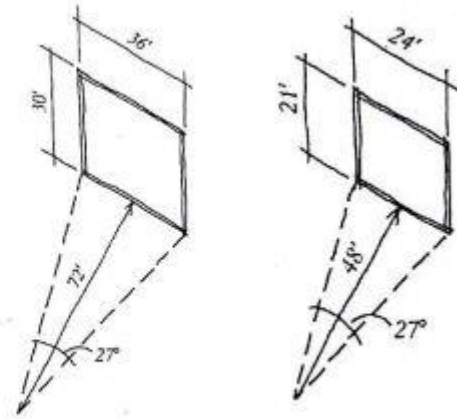


Figure 16: Human scale (left) Intimate scale (right) [Graphic]
Source: Jacobs A., Great Streets, 1993

Elements such as verandas with colonnades, openings on the ground floor, forecourts, and plazas may help to achieve this. Buildings of human scale is seen to further strengthen the sense of imageability of people.

Street trees are another element that can be used to restrain the scale of wide streets and tall buildings; as a tall building or a wide street can be intimidating to pedestrians. Through the presence of a canopy of leaves and branches, it is possible to experience a small space within a larger volume simultaneously. (Ewing & Clemente, 2013, p. 10)

Hedman in (Ewing & Clemente, 2013, p. 10) recommends using small-scale elements that help to moderate the scale of a street or a building. E.g. Clock towers

Signage and its scale in relation to the speed of the observer is an important element to note. Signage perceived when walking and in a vehicle is different to each other. Signage designed for vehicular users may cause a visual discomfort for the pedestrians causing disorientation.

Monumental scale buildings should hold a function with an exceptional value (cultural, traditional or religious). As buildings of monumental scale give a feeling of grandeur, safety, spiritual well-being or timelessness. It further helps to create a sense of awe. However, for a building that holds a regular function, monumentality in scale may intimidate the user.

1.6.6.2 Enclosure

It is the extent to which streets/ public spaces are visually defined by vertical elements such as walls, buildings, trees, etc. A feeling of enclosure occurs when ones line of sight are blocked, such that it makes an outdoor space seem like a room.



Figure 17: Feeling of enclosure in the streets of Pettah [Online image]
Source: www.depositphotos.com

“Enclosure, or the outdoor room, is, perhaps, the most powerful, the most obvious, of all the devices to instil a sense of position, of identity with the surrounding. It embodies the idea of hereness.” (Cullen, 1961, p. 29)

At an urban setting an enclosure is created as follows,

Through the lining of the street with building front facades. They should ideally be unbroken and be roughly the same height. Buildings lined up in this manner are referred to as a street wall.

Therefore-

- The buildings = “walls” of the outdoor room
- The street and sidewalks = “floor”
- Sky = an invisible ceiling (if the buildings are roughly of equal height)

To maintain a comfortable feeling of enclosure:

Alexander et al. in (Ewing & Clemente, 2013, p. 7) states that the total width of a street, should be less than the height of the buildings present.

Allan Jacobs in (Ewing & Clemente, 2013, p. 7) states an ideal proportion of 1:2 should be maintained between building heights to street width. It could also be 1:6 or 3:2

Elements that help create a sense of enclosure:

1. Solid surfaces

2. Trees

In low suburban areas, the mass of a building are a less important factor that defines space, therefore street trees become important. When planted on either side of a street; rows of trees help to humanize the height-to-width ratio. Unlike solid enclosure provided through a building, tree lines are dependent on visual illusion/suggestion. Therefore when trees are closely spaced, a street space will seem enclosed.

Trees define space:

- Horizontally- Through visually enclosing the area or by creating a sense of completion to an open space
- Vertically- Through the creation of an airy ceiling of leaves, branches, etc.

3. Walls, Fences

When appropriately scaled in an urban/suburban setting; walls or fences provide a sense of definition spatially (Henry Arnold in Ewing & Clemente, 2013, pp. 7-8). Kevin Lynch in (Ewing & Clemente, 2013, p. 8) recommends walls and fences that are over six feet tall or very low.

4. Visual Termination Points

Duany believed that by using prominent buildings, monuments, fountains, etc. to close vistas at street ends; helped to achieve a sense of enclosure in all directions. When streets are defined by built forms, a focal point can be introduced at the end so as to maintain a visual linearity in the arrangement. (Ewing & Clemente, 2013, p. 8)

5. Layout of a street network

- A rectilinear grid with continuous streets – This arrangement creates long sight lines, which weakens the sense of enclosure created by buildings or trees present along the street.
- Irregular grids – Encloses a space through the creation of a visual termination point
- Cul-de-sacs – Sense of enclosure created is more than through streets

6. Other

Studies conducted through expert panel by Ewing and Clemente suggest factors such as parking on the street, planted items, and traffic causes a sense of visual enclosure. However, the context (scale of the urban setting) contributes to the required building height to enclosed street space (Ewing & Clemente, 2013, p. 8).

Many urban development guidelines define enclosure quantitatively and qualitatively. The techniques discussed could produce a comfortable feeling for pedestrians and also encourage such pedestrians to continue along the street.

Elements that erode a sense of enclosure:

Breaks in the vertical elements of a street, such as a street wall created by buildings or even a row of trees along a street; can erode a sense of enclosure.

When such breaks in the continuity of vertical elements are occupied by inactive uses; a dead space is created. As an inactive use would not generate human presence or activity, it further erodes a sense of enclosure.

E.g.: large building setbacks, driveways, vacant lands, parking lots

Alexander et al. in (Ewing & Clemente, 2013, p. 8) states “building setbacks from the street, originally invented to protect the public welfare by giving every building light and air, have actually helped greatly to destroy the street as social space.”

1.6.6.3 Transparency

The extent to which the public can see/perceive human activity beyond the edge of a street/other public space.

E.g.: shopping street with display windows



Figure 18: Display windows at shops in Cola di Rienzo, Rome [Online image]
Source: www.prolocoroma.it



Figure 19: Display windows along unknown street in Vienna [Online image]
Source: www.oktalite.com

Physical elements that influence transparency –openings, doors, windows, walls, fences, landscaping.

Other elements such as internal lighting, shadows, and reflections, contribute to the perception of transparency

In addition:

- Elements that add to transparency- signs, courtyards, buildings with specific uses (schools, religious buildings)

- Elements that detract transparency- large building setbacks, arcades, reflective glass
- Elements that destroy transparency- Blank walls, reflective glass buildings

When streets have many entrances, they help one to perceive human activity beyond the street. However, blank walls/garages gives a sense that people are far away. Blank walls can exhibit some degree of transparency if there are overhung trees or bushes present, which help to provide signs of habitation. (Jacobs A. , 1993)

“Trees with high canopies create partially transparent tents, affording awareness of the space beyond while still conferring a sense of enclosure. By contrast, small trees in most urban settings work against transparency” Arnold in (Ewing & Clemente, 2013, p. 12)

Transparency is important at the street level, as the interaction between the indoors and outdoors occurs here. When internal activities are brought out to the sidewalk or “externalized,” it can be considered the best outcome of transparency (Llewelyn–Davies in Ewing & Clemente, 2013).

E.g.: Outdoor dining and outdoor merchandising

Transparency methods stated in design guidelines and development codes are usually limited to window areas stated as a percentage in relation to the ground level facade.

1.6.6.4 Complexity

It is the visual richness of a place which is dependent on the physical environment. Factors that influence the complexity include, number and type of buildings, architectural variety, ornamentation, street furniture, landscape elements, signage and human activity. Complexity can be measured as it is a perceptual quality.

The number of noticeable differences a viewer is exposed to at a time is related to complexity. A person should receive and perceive information at a suitable rate. Sensory deprivation is caused when the information produced is too little; while sensory overload is caused by too much information. (Rapoport, 1990)

In turn, the pace of the observer too has an influence. A high level of complexity is needed for slow-moving pedestrians in order to hold their interest. E.g. - building details, surfaces, signs, people, signs of habitation and changing light patterns and movement. However, an environment of high complexity will be perceived as chaotic by a fast-moving motorist.

The ways that the environment can provide low levels of usable information through the use of elements are:

1. By being too less / similar
2. By being numerous and varied but are too predictable
3. By being numerous and varied but are too unordered to understand

According to Allan Jacobs (1993), when buildings are narrow and varied in arrangement, they increase complexity, while wide buildings lessen the complexity. Allan Jacobs (1993) further states when different surfaces where light can pass through are present, the effect created keeps people engaged.

“Variations on basic patterns must be encouraged in order to prevent a dull sameness. If a particular building or up to three buildings are merely repeated, the result will be boring and mass produced.” Tony Nelessen in (Ewing & Clemente, 2013, p. 14)

“Variation can be incorporated into the building orientation plan or building setback line, allowing for varied building frontage instead of monotonous, straight building frontage. Numerous doors and windows produce complexity as well as transparency” Elshestaway in (Ewing & Clemente, 2013, p. 14)

Other elements that contribute to complexity

- Street furniture- appropriately scaled streetlights, fountains, special paving, appropriate benches, public art, etc... (Jacobs A. , 1993)
- Trees- helps create rich textural detail. With the incooperation of light and shade through trees, transforms material such as asphalt and concrete

- Signage- Adds visual interest by creating public spaces that are inviting and memorable. However, signage can become chaotic /unfriendly (Cullen, 1961, p. 151).
- Activity of people- not only in number but the pace of people
 “ People are attracted to other people. They gather with and move about with others and seek to place themselves near others. New activities begin in the vicinity of events that are already in progress.” (Jacobs A. , 1993, p. 59)
- Pattern of development- integration of land uses, activities, types of housing, transportation methods; adds to complexity. (Gehl in Ewing & Clemente, 2013, p. 15)



Figure 20: Complex street on Mong Kok in Hong Kong [Online Image]
 Source: www.pikist.com

1.6.6.5 Coherence

It is visual order created by consistency and complementarity in scale, character, and the organization of physical elements such as buildings, landscaping, street furniture, paving materials (Ewing & Clemente, 2013, p. 16)

“Buildings on the best streets will get along with each other. They are not the same, but they express respect for one another, most particularly in respect to height and the way they look.” (Jacobs A. , 1993, p. 287)

In the past complex architecture was made coherent by using common materials, handcrafted details, and by adding reflections of human use. However, coherence is not mindless repetition or blandness but a continuing a design in a thematic order. There could be ordered diversity of elements, as without this, a coherent design can become monotonous. (Ewing & Clemente, 2013, p. 18)



*Figure 21: Visual Coherence of Canal street in Amsterdam [Online image]
Source: www.vecteezy.com*

Features in buildings that create visual unity when made repetitive, according to Hedman in (Ewing & Clemente, 2013, p. 17)are:

The silhouettes of buildings, shadow patterns, building scale and mass, setbacks from the street, space kept between buildings , windows/door proportions, location of entryways, materials and finishes, architectural style and landscaping.

1.7 Chapter Summary

This chapter explored the origins of a commercial street and the factors that led to its development. It further looked into the elements present in such streets and how such elements could contribute to the creation of a uniform commercial street. To understand this transformation further ,the basic element of what a street can stand for as a place was explored.

The street as a place was explored by examining the definition of place, along with the factors that influence the sense of identity of a place and those that cause placelessness.

The chapter further examined a few perceptual environmental qualities, that through example showcased how they can be used to transform a street character. Some elements were seen to contribute more to creating a uniform street character while others when manipulated appropriately can also create the same. These changes in turn explained how people perceived elements in a street and thus helped to have an understanding of how to measure the impact of such street transformations.

CHAPTER 02

THEORETICAL FRAMEWORK, STREET CHARACTERS AND THEIR IMPACT ON STREET TRANSFORMATION

This chapter further explores the relationship between commercial activities and street character, components that can be used to identify and measure street character and the impact this transformation could have on the physical surroundings and the people. The methodology used to conduct the study and the limitations imposed are also stated in this chapter.

2.1 Relationship between commercial activities and street character

The approach a shop front will follow will depend on the street and the surrounding built context. Through understanding the local context present, one can highlight underlying features, proportions and even the scale of a street or building. This will create a street of high quality, which as an end product, will enhance the character of the retail areas. When a proposal is well thought out and appropriately executed, a high quality environment is achieved with a great sense of identity. This will benefit the required commercial activity of not only a shop, but all businesses in the area.

2.1.1 Identifying and Measuring Street character

The following characters, in conjunction with parameters discussed in Chapter 01, help to identify and measure street character.

2.1.1.1 Activeness – Dead

Street character or commercial buildings within a street will be active/ feel boring according to its commercial activities. In addition, pedestrian accessibility, their comfort, service availability will also affect street activeness.



Figure 22: Active street in Pettah [Online image]
Source: www.srilankabyish.com

2.1.1.2 Scale

The scale and proportion of buildings, along with the individual style and details, helps to derive the character of a street. It is seen that in a retail oriented street, the shops present tend to have a uniform character. That is, in its materials, details and proportions. This arrangement creates a strong sense of identity; which in turn attracts the public.

Some streets may have small scale buildings which are comforting to the human scale. Medium scale buildings are also comforting to the human scale. However, buildings which are larger in scale gives a sense of exclusivity to the street character of the neighbourhood.



Figure 23: Buildings of Small scale in an unknown street in Beijing [Online image]
Source: www.twitter.com



Figure 24: Buildings of large scale in Times Square in New York City [Online image]
Source: www.businessinsider.com

2.1.1.3 Cosiness

Degree of enclosure creates a sense of cosiness to a space. Factors that help to contribute to this was discussed extensively in Chapter 01 through the views of Cullen, Ewing and Clemente



Figure 25: Cosy street in Paris [Online image]
Source: www.bikefriendlyoc.org

2.1.1.4 Plan –unplanned

Factors that influence this include consistency and complementarity in scale, character, and arrangement of physical elements. Features of buildings that create

visual unity according to Hedman in (Ewing & Clemente, 2013, p. 17) include; mass and scale of buildings, architectural style, location of entrances, silhouettes and shadows of built forms present, spacing between buildings, setbacks, door and window proportions, finishes and landscaping.

Control of these elements will help create a sense of planned or unplanned nature to the streetscape.



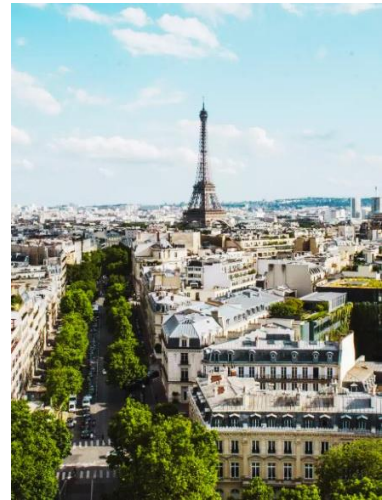
*Figure 26: Planned streets in Amsterdam [Online image]
Source: www.flickr.com*



*Figure 27: Unplanned street in Dharavi, Mumbai, India [Online image]
Source: www.thewire.in*

2.1.1.5 Uniqueness – memorable

The factor of placelessness as termed by Relph creates an unmemorable space. Presence of monotonous physical attributes that can be found in different streetscape at different locations; doesn't lead to the creation of a memorable streetscape. However, when qualities of uniqueness are strong, by the use of variation of the physical attributes as discussed in Chapter 01, a sense of place is created. This becomes memorable to the user.



*Figure 28: Memorable space created by the Eiffel Tower [Photograph]
Source: www.tripsavvy.com*

2.1.2 Impacts of street transformations

2.1.2.1 Physical transformations

Through attributes derived by Otto Clemente and Reid Ewing as discussed in Chapter 01, a street can be transformed to be more desirable than another. Streets are initially designed as a place, even when they are used as a pathway to get one from point A to B. Streets not only connect places but they are the element where everyday life unfolds and allow cities to become more humane. The identity of a street is connected to the city. In dense urbanities, a street is an important space for living as it functions as a living room, a backyard or even a garage.

2.1.2.2 Social transformations

Within certain limits (climatic, economic, and social), it is possible to influence a persons' use of a street. That is, for how long they walk/remain outdoors, activities that can develop as a result of the streetscape, etc... It should be noted that the context of the street is important, as the connections to other functions and activities could determine its use.

Gehl (1987, p.74) states that through a design decision it is possible to influence the activity patterns, create favourable/unfavourable conditions for outdoor activities; and

create lively/lifeless cities. According to Burden et al. (2013: 19), street-scale built environment interventions have been shown to increase physical activity of people by 35–161%. Improved aesthetics, connectivity, continuity of sidewalks and streets, improved policies for road design regulations etc...have been linked with better mental health, an increased sense of belonging, decreased sense of isolation and reduction in crime (Burden et al., 2013: 19).

2.1.3 Impacts due to uniform street characters

When uniform commercial developments are present in a streetscape, there will be impacts on the street character. They are as follows:

2.1.3.1 Positive Impacts

- People can find similar kind of goods/items in a variety of options in one street. This is very convenient as one would not need to travel to numerous locations to find the same kind of item/goods.
- It creates a competitive market place
- Provides the possibility of obtaining all the required supporting/complimentary services for the products/goods under the same commercial boulevard.

2.1.3.2 Negative impacts

- It creates monotonous building facades and functions
- Generation of tasteless spaces or streets that create a lack of interest to people
- Lack of breathing spaces and a public realm due to similar businesses disregarding this factor and only focusing on promoting their space.
- Dependence of street quality character on the commercial retail market.

2.2 Data, Data Collection tools and methods of analysis

2.2.1 Impact level of identified physical characteristics

- Data – Site boundary (defined, loose) / uniformity of form / site location
- Data collection tool – Through observations / site surveys
- Method of analysis – Map / sketches / Graphics

2.2.2 Field study procedure

Physical research was conducted at all three sites by the following ways:

- Direct Observations
- Photographic survey with context study-

The photographic study helped to record physical attributes, illustrate scenarios and document street characters.

- Conducting interviews of users and building owners
- Public survey using a questionnaire

The questions were designed to gain insight into public satisfaction pertaining to each the street character of the area. The questions posed to the building owners and the public are included in the appendices.

2.2.3 Selected cases

Criteria for selection of Case study and the limitations imposed are:

- Located within the Colombo District
- Easily accessible
- Selection of streets which are distinct through their physical character
- Commercial activities of shops at streets selected to be different from one another

Further details on the case studies selected are elaborated in table 01 below

Table 1: Details on Case Studies selected

	Case – 1	Case – 2	Case -3
Name	Sanitary shops and hardware shops from Nugegoda junction to Nawala Junction	Cut piece retail shop on Pamunuwa road.	Art and craft shops and cafes on Strafford Avenue
Location	Nawala	Pamunuwa	Colombo - 05
Characteristics	Linear two-way road with side walks	Linear two-way road with side walks	Linear one-way road with side walks
Present usage	Mixed unorganized shops	unorganized shops	Luxury boutique shops

Source: By Author

2.2.4 Sampling and Data Collection

The Survey that was compiled was answered by the public. Due to precautions to be taken due to the COVID 19 pandemic; the survey was conducted as an online questionnaire.

Table 2: Sample numbers for Survey

Age Group	10-20	20-40	40-60	Above 60
as a %	-	48.9	48.9	2.2
By Sex	Male		Female	
as a %	40		60	

Source: By Author

2.3 Chapter Summary

In this Chapter the relationship between commercial activities and street character were further explored. Components that can be used to identify and measure street character were discussed and the impact a street might have both physically and socially were considered. As the study focuses on uniform commercial street characters, the chapter further explored the positive and negative impacts that this may pose. The criteria used for the selection of case studies, field study procedure and details on the cases selected was also established.

CHAPTER 03

ANALYSIS AND IDENTIFICATION OF STREET CHARACTERS OF UNIFORM COMMERCIAL DEVELOPMENTS

This chapter mainly focuses on the analysis of the three case studies. The analysis provided, helps to further identify the street characters present for uniform commercial developments. Theories explored in the literature review chapter were applied to measure the impact of identified social- spatial characteristics.

3.1 Case Study 01 – Sanitary shops and Hardware shops on Nawala Road (CS1-NR)

3.1.1 Introduction

Nawala is within the Kotte municipality of the Western Province of Sri Lanka; and is located between the commercial capital Colombo and the administrative capital Kotte. The word Nawala means ‘elephant garden’, which indicates that there may have been elephants in this region. Nawala can be described as an upscale residential suburb of Colombo. Its borders include, Nugegoda to the south, Narahenpita to the west and Koswatte to the north. Bordering water bodies include the Diyawanna Oya to the south and east and the Heen Ela to the west.

In the past, the village of Nawala, was mostly inhabited until the 1920’s. Before many people migrated to the suburbs, Nawala comprised of large plant nurseries. A notable feature found within this area was the ammunition dump, of which the bunkers can still be seen in the Nawala cemetery.

After the opening of the economy in 1977, Nawala has transformed from a sleepy suburb to a very popular residential/commercial area.

3.1.2 Reasons for existing street activities

Most of the existing street activities are seen to be developed between the Nugegoda and Nawala junctions. Today these activities have expanded up to Rajagiriya junction.

Mainly a vast number of small shops of sanitary ware is located up to Nawala junction. Thereafter, large scaled multi storied shops were developed as these stretches have more vacant lands. Nawala is currently considered the ceramic capital of Sri Lanka. In the past few years, the number of ceramic stores has increased and continues to do so. However today, Nawala can be considered a cosmopolitan town incorporating all required facilities. By the addition of supermarkets, grocery shops, book shops, restaurants, banks, fuel stations, hardware shops and many upscale retail brands; has transformed Nawala into a landmark town.

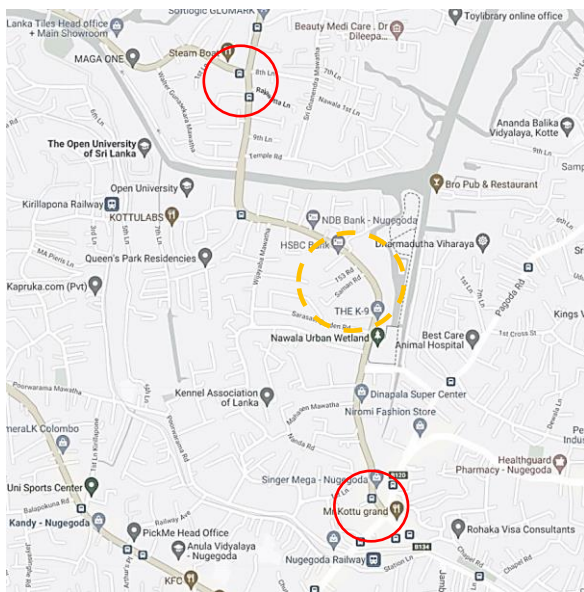


Figure 29: Map of Nawala Road from Nugegoda Junction to Nawala Junction (macro context) [Map]
Source: Google Maps



Figure 30: Map of selected section on Nawala road (micro context) [Map]
Source: Google Maps



Figure 31: Google Map on Nawala Road in 2005 [Map]
Source: Google Maps

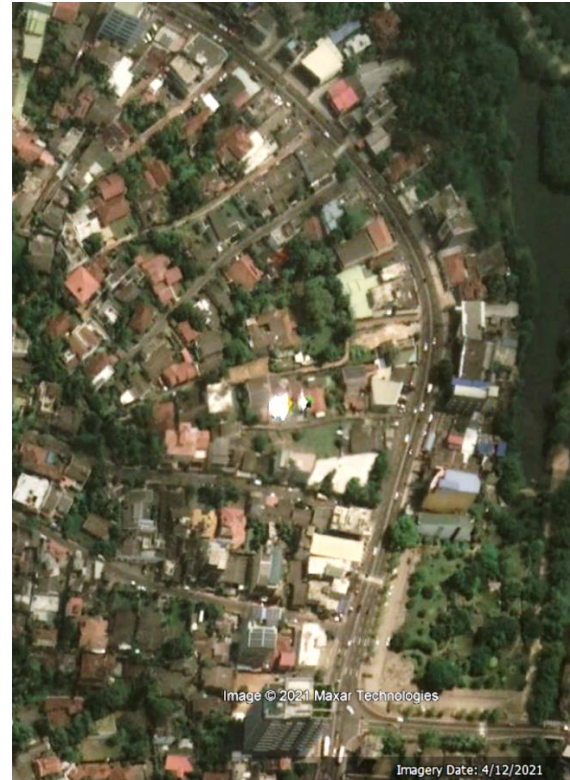


Figure 32: Google Map on Nawala Road in 2021 [Map]
Source: Google Maps

3.1.3 Identification of Uniform Development

The Nugegoda to Nawala junction stretch of development can be identified as a uniform development visually at a glance. Even though this stretch has other commercial functions, it mostly highlights items such as ceramic tiles, sanitary fittings and hardware items.

Table 3: Survey Results- Identifying as uniform development

Statement	SD	D	N	A	SA	Value
	-2	-1	0	+1	+2	
“We can buy everything that I	3	15	9	16	2	
need in this commercial area”	-6	-15	9	16	4	-21

Source: By Author

According to all respondents as seen from table 03 above, the Nawala stretch can be identified as having a character of uniform development, where all the shops are catering to the same function for customers.

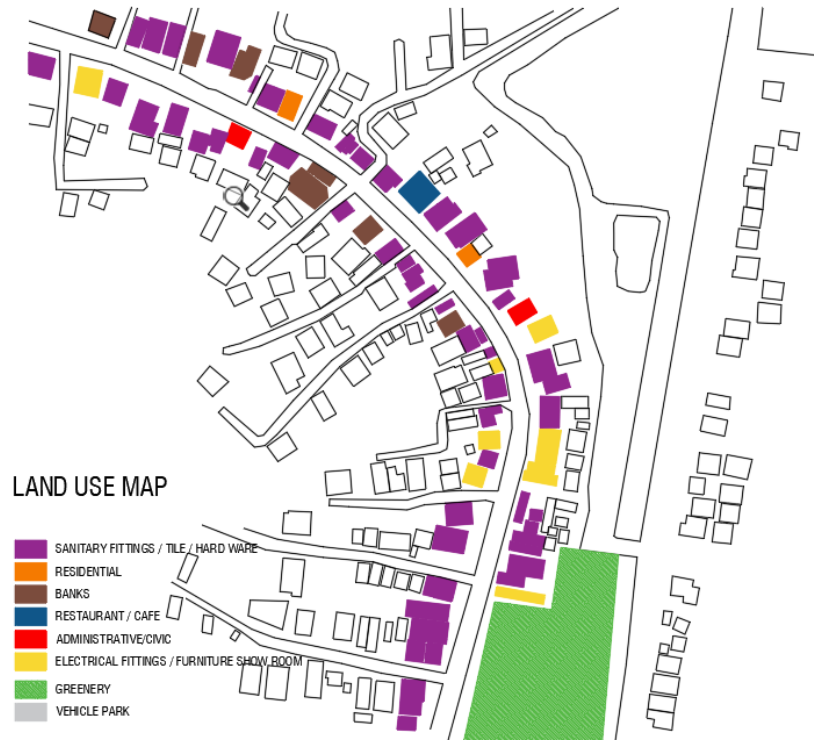


Figure 33: Building Use Map of Nawala Road [Map]
Source: By Author

The building use map above (figure 33), shows that a majority of shops are selling sanitary fittings, tiles, hardware items and light fittings. Only a few buildings are occupied as banks or other civic functions. Since the majority of buildings cater to the same function for the customer, the Nawala stretch can be identified as having a character of uniform commercial development.

3.1.4 Impact level of usage qualities and activeness

A survey was conducted to identify the building facilities, building qualities and the attention provided by building owners/tenants for buildings located along the Nawala road.

a) Building and Infrastructure Facilities – By shop owners

Table 4: Survey Results- Shop owner's statements – building and infrastructure facilities

		Own	On Rent	Other			Value
01	Status of building ownership	13.3%	80%	6.7%			
		Yes	No	Not Enough			Value
02	Satisfied with building facilities	46.7%	6.7%	46.7%			-53.4%
		SA	A	N	D	SD	Value
03	Get attention of municipal council	0%	13.3%	53.3%	33.3%	0%	-33.3%
		SA	A	N	D	SD	Value
04	The Shop has enough parking facility	26.7%	46.7%	6.7%	6.7%	13.3%	+73.4%
		SA	A	N	D	SD	Value
05	The Street is providing enough pedestrian facilities for customers.	0%	13.3%	20%	53.3%	13.3%	-66.6%
		SA	A	N	D	SD	Value
06	Satisfied with the existing shop area	13.3%	33.3%	13.3%	40%	0%	+46.6%

		Open to street	Enclosed shop	Combination of both			Value
07	My shop is open to the street or is an enclosed shop	20%	50.3%	26.7%			

Source: By Author

As seen in the results indicated in table 04 above; majority of the shop ownership is on rent basis (80%) and the tenants are not satisfied with the building facilities present at the moment (-53%). Since the shop owners on rent basis in their respective space, they are not too concerned on the attention provided by the municipal council. However all the buildings' present, have been constructed long time ago, and the shop owners are paying municipal taxes, etc.

Most of the small shops in the area do not provide parking facilities. However, the much larger shops were able to provide parking facilities in front of their premises (see figure 34). Currently, most users park their vehicles in the Nawala urban wetland park (Wali Park) which has been developed recently (see figure 35).



Figure 34: Customers utilizing the Wali Park Car park [Photograph] Source: By Author



Figure 35: Parking facilities provided at shop front space [Photograph] Source: By Author

Vehicle parking on either side of the road is prohibited, but it can be seen that most people are parking on the side of the road.

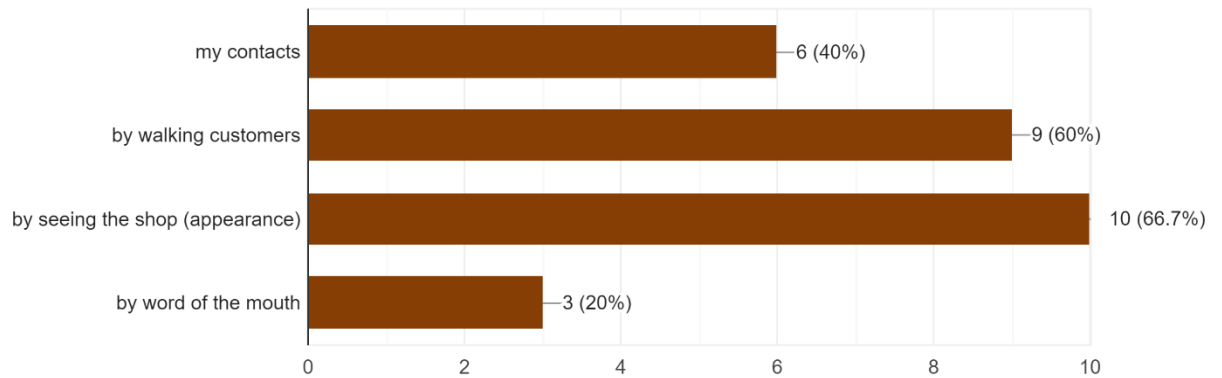


Figure 36: Survey Results- Building Owner's statements – building and infrastructure facilities [Graphic]
Source: By Author

The survey results as illustrated in the graph above (Figure 36), indicates how the shop owners conduct their business along the Nawala road. 66.7% customers have visited the relevant shop by noting the shop from its appearance; and 60% are considered as walk-in customers.

Sidewalks are available on either side of the Nawala road but they are not sufficient for the use of most pedestrians. The average side walk width in the area is 4'-0" - 5'0"; which is insufficient. Most of the smaller sanitary ware shops use the sidewalk to display their products, which is an obstruction to pedestrians.

It was noted that well organized shops spaces that were recently constructed are enclosed shops. Such shop owners target a high end customer base and sell only branded products. These shops are having air condition facilities and artificial lighting to attract customers and their comfort. The shops thus noted are always enclosed. At the same time, the small scale shop owners who sell products with a low price and brand range are open to the street. Air conditioning is not present for such shops.

Since the shops open out to the street, the products are displayed on the side walk (see figure 37). This results in such shops' appearing cheap in quality, and such a quality extends itself on to the street character.

In the study it has been identified that over 50.3% of shop owners of the Nawala road promote an enclosed shop experience (Refer table 04, section 07).



Figure 37: Shop owners displaying products on the side walk
[Photograph]
Source: By Author

b) Customer's activities

Table 5: Survey Results- Customer activities on Nawala road

		SA	A	N	D	SD	Value
01	This street is safe for shopping.	13.3%	40%	26.7%	15.6%	4.4%	+53.3%
		SA	A	N	D	SD	Value
02	This street is easily accessible for shopping – motorist friendly	2.2%	42.2%	26.7%	22.2%	6.7%	+44.4%
		SA	A	N	D	SD	Value
03	This street is easily accessible for shopping – pedestrian friendly	4.4%	60%	8.9%	24.4%	2.2%	+64.4%
		SA	A	N	D	SD	Value
04	Walkability on the street is acceptable	2.2%	46.7%	20%	26.7%	4.4%	+48.9%
		SA	A	N	D	SD	Value
05	I can identify the good sold by looking at shop front	11.1%	68.9%	13.3%	6.7%		+80%
		SA	A	N	D	SD	Value
06	I'm satisfied with facilities in this street (lighting/ shades/sidewalks/ utilities)	2.2%	33.3%	17.8%	37.8%	8.9%	-46.7%

		SA	A	N	D	SD	Value
07	The neighbouring activities (Nature of the shops within the street) are a cause to visit here	8.9%	40%	35.6%	13.3%	2.2%	+48.9%

Source: By Author

Users have accepted the Nawala road as a safe street for shopping activities (53.3% as indicated in table 05). Road edges are not obstructed by barricades and thus people can cross the road from anywhere, which is not safe. On the other hand the street is clearly visible for a long distance without any vegetation or any other disturbance.

Table 05 indicates that accessibility for shopping by motorist is 44.4% and as pedestrians is 64.4%; which indicates that Nawala road can be accessed from public transportation (176 bus route) as well as by private vehicles. Both sides of the sidewalk (with an average width of 4'-5') are not properly maintained by the municipality.

Item no 04 of the survey chart indicated in table 05, states that Nawala road has a walkability value of 48.9%. Customers are not satisfied with the available road facilities such as street lights, ramp, paving, benches etc. The attention to such facilities by the local municipality is also noted to be much less on this regard (46.7% as indicated in table 05)

It is seen that most of the shops located within the Nawala road is a cause to visit the area (as seen from item no. 07- 48.9% in table 05). Shoppers are well aware that if they cannot find the product that they seek in one shop that they can easily find it from another shop in the vicinity. 80% of the public agreed they can see the available products by simply observing the shop façade.

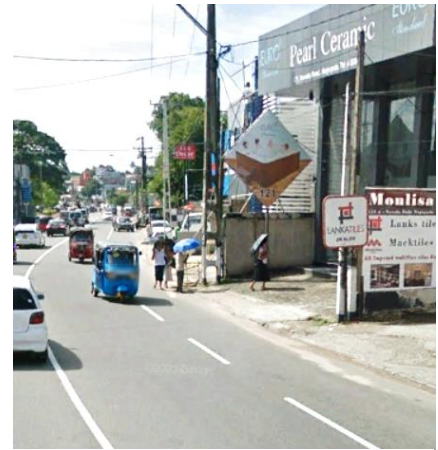


Figure 38: People walking on the road and sidewalk [Photograph]
Source: By Author

Most of these products can be seen due to the transparency of the shops due to the use of glass curtain walls. The signage also helps to fulfil the purpose of indicating the function of the shop.

3.1.5 Impact level of physical characteristics

This section further explores the impact of the physical characteristics of built forms along the Nawala road on its users. The impact of the building scale, usage of materials, colours and existing street vegetation and infrastructure has been analysed. The extent of the study has been illustrated in figure 39 and the existing physical characters have been documented as elevations through photographs as seen in figure 40.

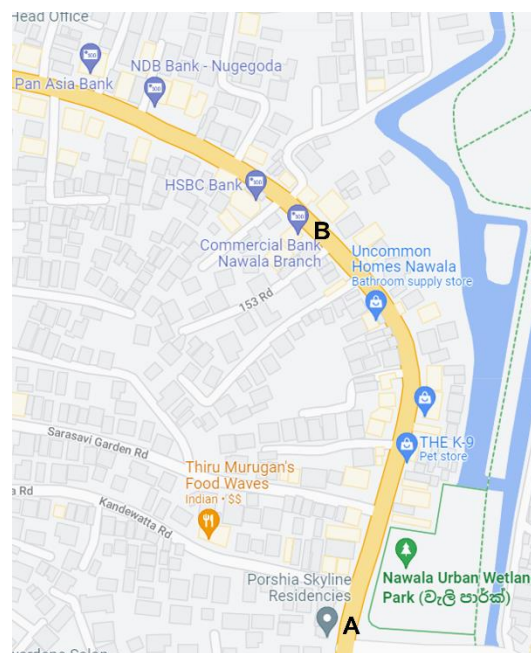


Figure 39: Map showing extent of Study [Map]
Source: Google Maps

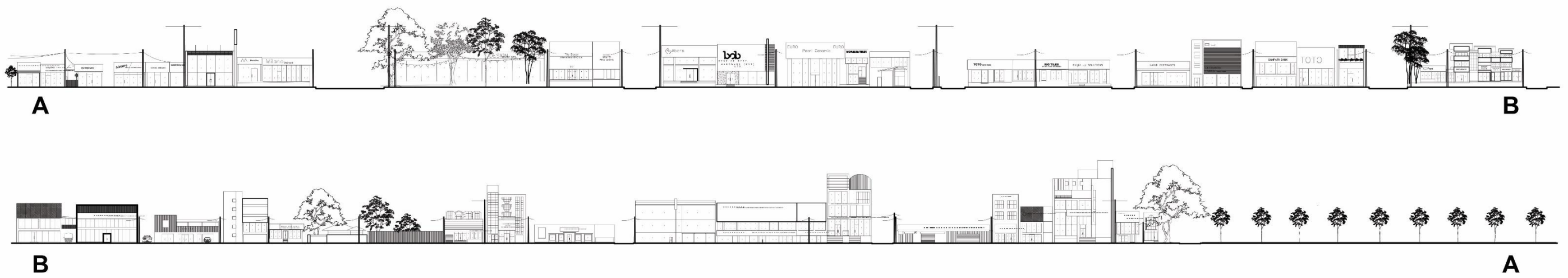


Figure 40: Building front façade on both side of the Nawala road [Graphic]
Source: By Author

Building Scale

Most of the buildings identified in this area are of two or three stories. A few buildings having more than four stories are seen to be recently constructed (Refer figure 41)



Figure 41: Map showing building density [Map]
Source: By Author

Building Setbacks

No setbacks have been kept for single-story buildings. Buildings that are more than a single floor have allocated setbacks / front spaces for their parking requirements (As seen in the Damro show room and two Rocell showrooms buildings- see figure 42). These large buildings are newly established, well-planned building with modern architecture.



Figure 42: Rocell building maintaining building set back [Photograph]
Source: By Author

Even though the Nawala road has an established building line and street line (40 feet from the centre of the road); most of the small scale buildings (refer figure 43) are seen to be very close to the street, which might indicate that they are either unauthorized shops or they have been settled there for a long time.



Figure 43: Small scale shops without proper set back [Photograph]
Source: By Author



Figure 44: Map showing building set back line along Nawala road [Map]
Source: By Author

Building Façade details - Signage, transparency, texture, roof details

All the buildings have a glass front façade, in order to showcase the products in the store. This allows the shops to be transparent to customers who are walking/ passing by. The two Rocell buildings' and the Ranjanas building, have a double height glass façade; which gives a better visual connection with the Nawala road.

The more modern, large scale buildings utilize material such as cladding, which may help give a good impression of the shop. In comparison, the smaller more temporary buildings' in the area have solid painted brick wall finishes (refer figure 45)

It was noted that one cannot see the roof detail of the buildings' around from the street. Even small scale shops have asbestos roofing sheet that is covered with a name board or with aluminium panels in order to portray an appearance of a commercial building.

Since shops of similar products are located next to each other, sign boards are required to distinguish themselves. Some shops are intended to display their product brand name instead of their shop name, since some customers seek for such brands (Eg: American Standard, Grohe). The survey chart below (figure 46) indicates that 57.8% of respondents have visited the shops on Nawala road by the appearance of the shops and by the nature it is advertised.



Figure 45: Map showing building set back line [Map]
Source: By Author

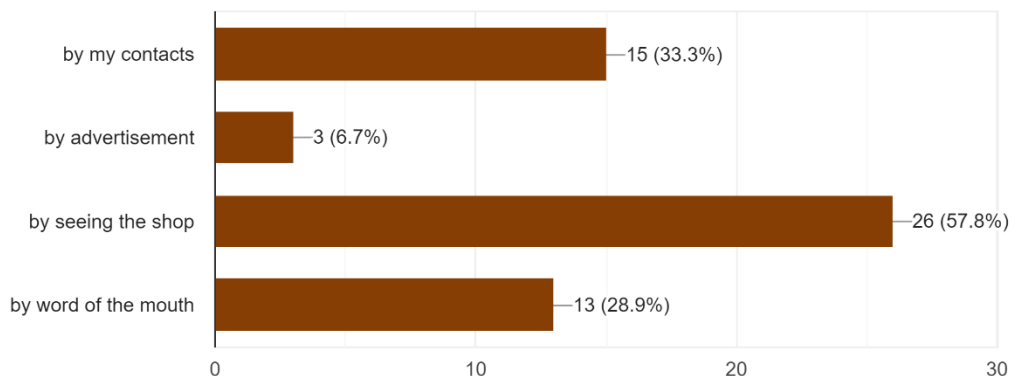


Figure 46: Survey Results- I do shop in Nawala Road by [Graphic]
Source: By Author

Street details - Vegetation, street elements, shadiness, comfort level

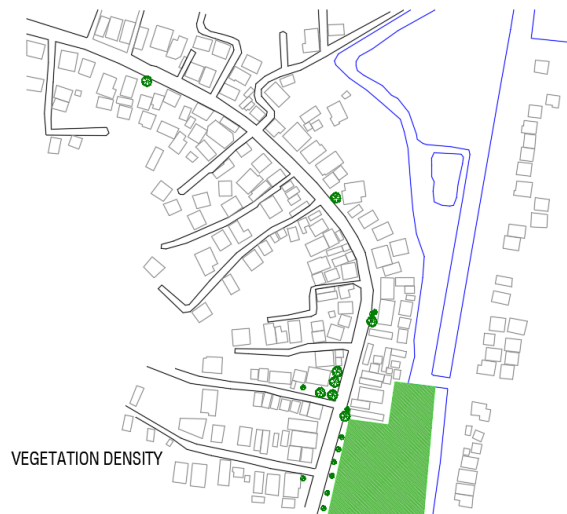


Figure 47: Map showing Street vegetation density / shadiness [Map] Source: By Author



Figure 48: street is not comfortable for users / less shadiness [Map] Source: Google Earth

As per the survey result in table no 05, -46.7% of respondents indicated that they are not satisfied with the comfort level of the Nawala road; as the street activities along are based only on commercial activities. Sparse vegetation is seen along the study area (refer figure 47 and 48). The shop owners in the area are seen to be not too concerned about customer comfort. The type of shop activities found in this area are well established; and thus customers will always return due to the ease of finding their needs.

3.1.6 Identified uniform physical street characteristics

The character of Nawala road is mainly identified as an active street (see figure 49) with people who are looking for all their construction needs during weekdays or the weekend. An unplanned building setup with messy product display can be seen along the road; which can be attributed to non-availability of land and building space.

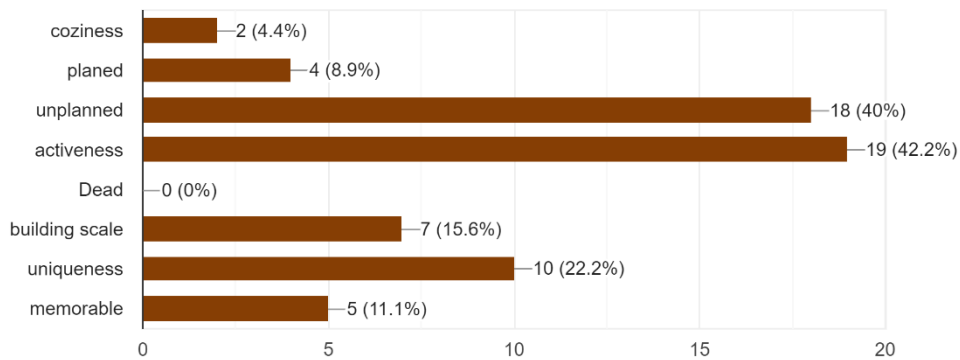


Figure 49: Survey Results- street character [Graphic]
Source: By Author

Most of the shop fronts do not have the required/adequate parking spaces or an appropriate side walk for access to the shops. Even the street is seen as uncomfortable for pedestrians.

The products are visible through the large glass façades of the shop. The dominant feature of transparency as a street character is seen; as this is a required quality for the purpose of window shopping. Even the older building façades in the area are converting their facades for the same purpose. It was also noted that smaller shops in the area are using the shop front space to display their products; which bring about a cheap street character.

3.2 Case Study 02 – Cut piece retail shops on Pamunuwa Road (CS2-PR)

3.2.1 Introduction

The built fabric of Maharagama town has undergone a rapid change during the past decade. The garment sector found in this region has evolved from a small bazaar, to one of the country's most sought after retail and wholesale market. A traditional retail cluster has emerged along Pamunuwa road (B504) with readymade garment and cut piece textile shops, which has become very popular today. The Pamunuwa market expansion can be mainly attributed to the emergence as of garment factories in the vicinity in 1980; which led to such shops expanding in support; which has transformed the regional context.

Pamunuwa Road has an extent of 1 km in length from the junction and contains both wholesale and retails textile shops. As a result, this road is very congested with pedestrians throughout the year. The road even resembles a pedestrian mall during festival seasons such as New Year and Christmas.

Though this area is an informal commercial centre, the daily turnover exceeds Rs.6 - 10 million. The area has informally and rapidly expanded from the town centre towards the Pamunuwa junction. Thus becoming a commercial centre of national importance. The Pamunuwa remnant pieces textile centre has now developed as a wholesale business.



Figure 50: Map of Pamunuwa Road (macro context) [Map]

Source: Google Maps

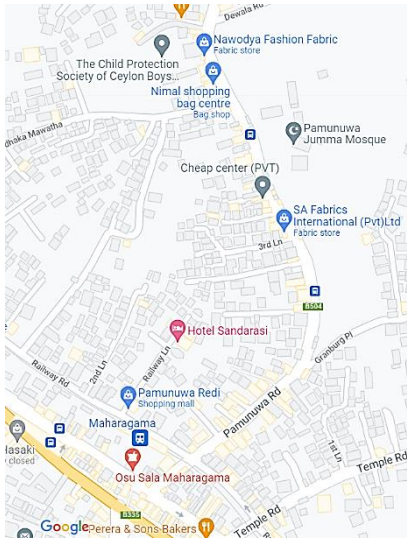


Figure 51: Map of Pamunuwa Road (micro context) [Map]
Source: Google Maps



Figure 52: Pamunuwa Road from high level road [Photograph]
Source: By Author

3.2.2 Reasons for existing street activities

From raw material (for the textile industry) to ready-made garments, Pamunuwa road has attracted people from throughout the island. From persons searching for bargain shops to buy supplies for small/medium-scale clothing and tailoring businesses, to those looking for competitively priced clothing, are finally attracted to Pamunuwa. Many people visit the Pamunuwa area daily. With an array of small and large scale shops; Pamunuwa is packed with people from the early morning till late at night.

The remnant pieces textile vendors operate all over the island. The remnant pieces textile business is a service of national importance; and one of its main centres if located in Maharagama. Such businesses have encroached on the pavements of both sides of the Pamunuwa road and has further extended along the railway line.

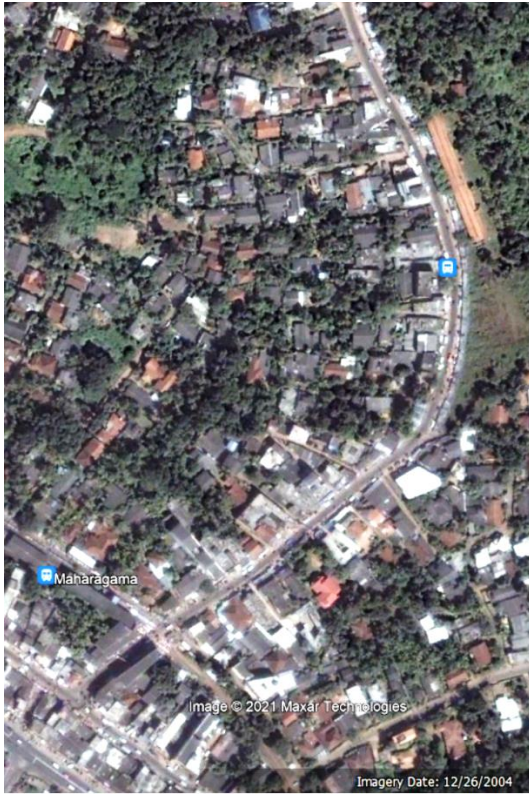


Figure 53: Google Map on Pamunuwa Road in 2004[Map]
Source: Google Maps



Figure 54: Google Map on Pamunuwa Road in 2021 [Map]
Source: Google Maps

3.2.3 Identification of Uniform Development

There is no doubt that Pamunuwa road sells similar kind of products, which is textile related products. Pamunuwa road, unlike the other two case studies, has a majority of textile related commercial activities. One will hardly find other activities such as cafes, banks and other commercial activities within this road.

Table 6: Survey Results- Identifying as uniform development

Statement	SD	D	N	A	SA	Value
	-2	-1	0	+1	+2	
“We can buy everything that I	6.7	40	35.6	17.8	0	
Need in this commercial area”	-13.4	-40	35.6	17.8	0	-53.4

Source: By Author

According to a majority of the respondents as seen from table 06, the Pamunuwa road can easily be identified as having a character of uniform development; where all the shops are catering to the same function for customers. People agreed (-53.4) that they cannot buy anything other than textile products in this area.

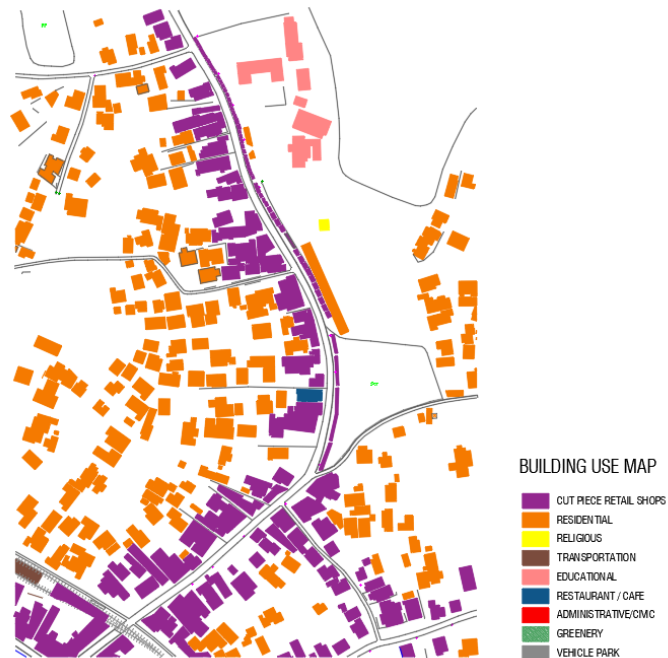


Figure 55: Building Use Map on Pamunuwa Road [Map]
Source: By Author

The building use map shown in figure 55 above, illustrates that almost all the shops are selling ready made garments, textile accessories, and cut pieces. Only a very few buildings are occupied as banks and other civic functions. Since the majority of buildings cater to the same function and activity to the customer, the Pamunuwa road can be identified as having a street character of uniform commercial development.

3.2.4 Impact level of usage qualities and activeness

The cut piece textile business began without a defined shop location or space. People were in a habit of bringing home-made and ready-made garments to Maharagama town early in the morning to sell their products along the road pavement. This business was developed among the people and among sellers in the old High-level road. With the success of this cut piece garment venture, such businesses developed further on Pamunuwa road. Most sellers carried out this business as a part time job. Due to this and the limited physical building space in the area, a definite shop space was not needed for their business. Vendors were comfortable with the pavement spaces present along the Pamunuwa road. Subsequently, some businesses were established as small scale shops near the railway station; where such shop owners received a fair volume of business from commuters.

With the limited space availability near the Pamunuwa junction, the commercial activities further developed along and either side of the road towards the end of the Pamunuwa road. At present, the existing businesses have been successful; and whole sale business ventures have begun with the increase in demand from all over the island. Larger buildings were also seen to be established at the end of the road.

a) Building and Infrastructure Facilities – By shop owners

Table 7: Survey Results- Current users – building & infrastructure facilities

		Own	On Rent	Other			Value
01	Status of building ownership	15%	75%	10%			
		Yes	No	Not Enough			Value
02	Satisfied with building facilities	15%	35%	50%			- 85%
		SA	A	N	D	SD	Value
03	Get attention of municipal council	0%	10%	25%	40%	25%	-65%
		SA	A	N	D	SD	Value
04	Shop has enough parking facilities	0%	10%	5%	35%	50%	- 85%

		SA	A	N	D	SD	Value
05	Street is providing enough pedestrian facilities for customers.	0%	5%	20%	50%	25%	-75%
		SA	A	N	D	SD	Value
06	I'm satisfied with the existing shop area	10%	30%	0%	45%	15%	-60%
		Open to street	Enclosed shop	Combination of both			Value
07	My shop is open to the street or is an enclosed shop	50%	15%	35%			

Source: By Author

Even the survey results in table 07 above show that most vendors are on rent basis (75%). This does not indicate actual results since it is difficult to account for the temporary shop owners in the area. In reality, more than 50% of shops in this area are illegal constructions on road reservations, according to Maharagama Urban council.

The sales outlets in this location can be classified into three main groups.

1. Informal sales outlets are normally under temporary stalls
2. Formal shops (This includes permanent constructions and building complexes)
3. Middle level shopping complex (This includes all established business centres having permanent shops with adequate facilities)

(Maharagama Urban Council, 2001)

Buildings which have been rented out for shops, have facilities at a minimum standard level. -85% of such shop owners are not happy with the existing building facilities as seen in table 07.

Majority of the shops that begin from High-level road are buildings with a stable, permanent structure. Many shop spaces with temporary roof/covers are located along the Railway road; which runs on both sides, perpendicular to Pamunuwa road.

When travelling between the junctions near Railway road and Granburg Place, along the Pamunuwa road, the buildings are seen to be well established. However when travelling along the Pamunuwa road from the junction connecting Granburg Place to the junction that connects with Wanatha road; the left side of the road consists of permanent shop spaces, while the right side of the road consist of temporary/illegal shops, which open out to Pamunuwa road. This development is half a kilometre in length.



Figure 56: Temporary shops on Railway Road
[Photograph]
Source: By Author



Figure 57: Temporary shops on right side of the Pamunuwa Road [Photograph]
Source: By Author

Most businesses on the area tend to deal with customers in an open to street concept. Item no 07 in table 07, indicates that 50% of shops are open to the street and 35% of



Figure 58: Combination of enclosed and open to street commercial activities early in the morning [Photograph]
Source: De Silva, Indika

shops are a combination of being open to the street and an enclosed shop (see figure 58).

Most of the shops do not provide parking facilities in front of their premises due to non-availability of space. Only a very few shops have provided parking facilities. The public engaged in shopping activities in this commercial area, mostly use public transportation such as trains or buses. As Maharagama is centrally located, it is easily accessible from other areas through public transportation. During the study, it was noted that those travelling to Pamunuwa by private vehicles, can park their vehicles in the town centre where the old bus stand is located (between old Avissawella road and High-level road- see figure 59). The Municipal Council has also constructed a new five storied car park building at the beginning of Dehiwala road (see figure 60).



Figure 59: Car parking at old bus stand [Photograph]
Source: By Author



Figure 60: Municipal car park building [Photograph]
Source: By Author

None of the buildings present on this road provide air conditioning facilities due to the nature of the shops/business. - 60% of respondents were not satisfied with the building

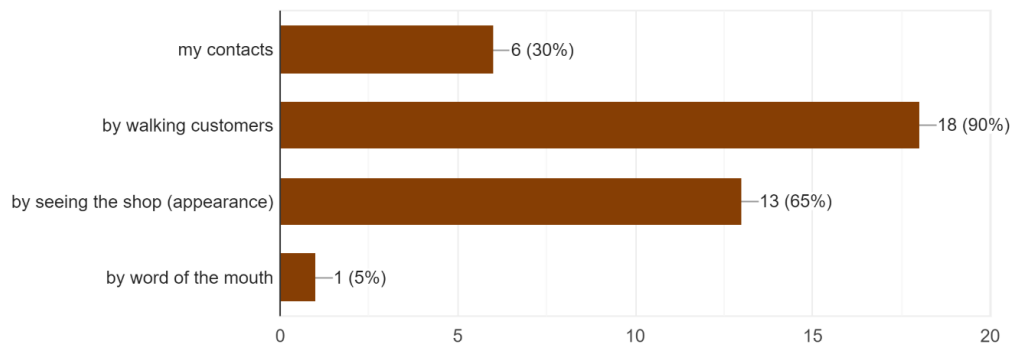


Figure 61: Survey Results- Building Owner's statements – building and infrastructure facilities [Graphic]
Source: By Author

facilities available on the Pamunuwa road (see table 07). Even in more permanent buildings, the available shop area is not sufficient when analysing survey charts.

b) Customer's activities

All the respondents were well aware of Pamunuwa road and its commercial activities. Most of them had visited the Pamunuwa road to purchase textile products.

Table 8: Survey Results- Customer activities on Pamunuwa road

		SA	A	N	D	SD	Value
01	This street safe for shopping.	0%	24.4%	24.4%	40%	11.1%	- 51.1%
		SA	A	N	D	SD	Value
02	This street is easily accessible for shopping – motorist friendly	0%	13.3%	20%	40%	26.7%	- 66.7%
		SA	A	N	D	SD	Value
03	This street is easily accessible for shopping – pedestrian friendly	0%	28.9%	31.1%	26.7%	13.3%	- 40%
		SA	A	N	D	SD	Value
04	Walkability on the street is acceptable	0%	20.0%	24.4%	33.3%	22.2%	- 55.5%
		SA	A	N	D	SD	Value
05	I can identify the goods sold by looking at the shop front	6.7%	68.9%	15.6%	8.9%	0%	+ 75.6%
		SA	A	N	D	SD	Value
06	I'm satisfied with facilities in this street (lighting/ shades/sidewalks/ utilities)	0%	6.7%	26.7%	35.6%	31.1%	- 66.7%
		SA	A	N	D	SD	Value
07	The neighbouring activities (Nature of the shops within the street) are a cause to visit here	4.4%	37.8%	33.3%	20%	4.4%	+ 42.2%

Source: By Author

The survey chart values as seen in table 08, indicates that 51.1% of respondents were not satisfied with the safety of Pamunuwa road due to various reasons. At any given time, the road is congested with people going about their retail needs. As a lot of

thieves are present in this area, congested streets can allow such thieves to easily escape without notice. Some respondents' have commented on the lack of sidewalks in the area; such that the public have to resort to walking on the road. This results in a higher chance of accidents with motor vehicles. Shoppers are also seen to cross the road at many different points.

The street is neither vehicular nor pedestrian friendly. As explained under building infrastructure 3.2.4 a, the Pamunuwa road is very busy and a lack of parking facilities are present. Sidewalks cannot be easily identified. Even if such space is available they are most often taken up by a temporary shop or an illegal shop.

The Pamunuwa road is a two-way road which directs on to the Sri Jayawardhanapura Hospital and the Administrative district. Therefore the usage of the road by motorists are high. -66.7% as indicated in table 08, showcases that such access provided to motorists hinders the commercial activity. Even the degree of accessibility for pedestrians as per respondent results are -40%. While the shops can be accessed by pedestrians, it has been seen that the public are not willing to come by foot. Thus walkability value is seen to be -55.5% as per results tabulated in table 08.

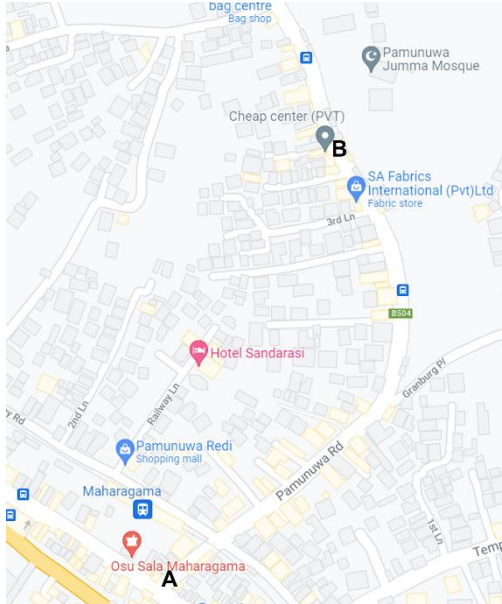


Figure 62: Pamunuwa Road in New Year season [Photograph]
Source: www.sundaytimes.lk

It is seen as acceptable, that most of the shops located within the Pamunuwa road is a cause to visit the area (see item no 07 in table 08- +42.2%). Shoppers can buy any products related to textile garments within the vicinity due to the sheer volume and variety provided due to a uniform commercial development.

Some shop structures can hardly be seen from the road due to the display of textiles; such that there is no need to display a name board. The public can easily identify the products by seeing the shops as evident in survey responses (see item no 05 – of table 08 - +75.6%).

3.2.5 Impact level of physical characteristics



This section explores the impact of the physical characteristics of built forms along the Pamunuwa road on its users. The impact of the building scale, usage of materials, colours and existing street vegetation and infrastructure has been analysed. The extent of the study has been illustrated in figure 63 and the existing physical characters have been documented as elevations through photographs as seen in figure 64.

Figure 63: Map showing extent of Study [Map]
Source: Google Maps

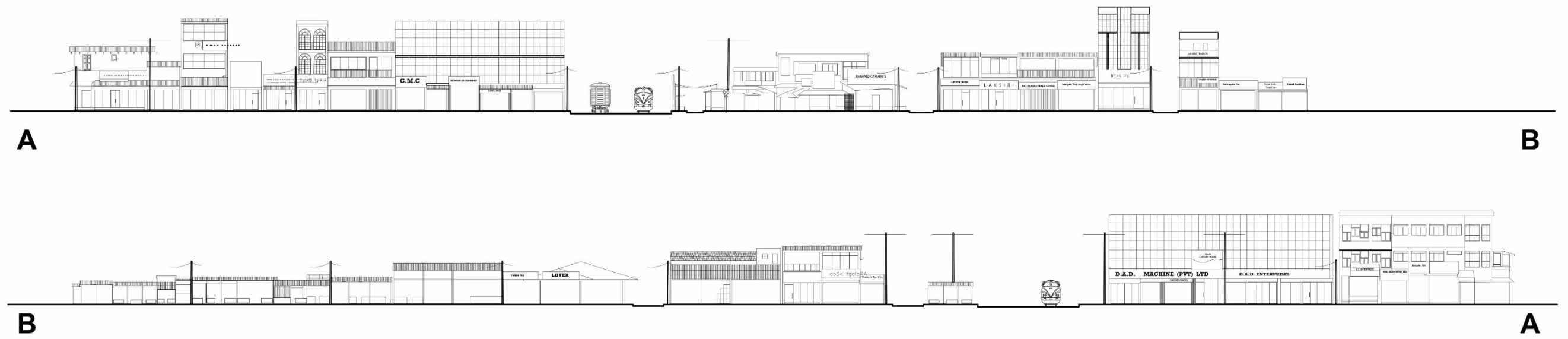


Figure 64: Building front façades on either side of the Pamunuwa road [Graphic]
Source: By Author

Building Scale

Most of the buildings identified in this area are of two or three stories, as seen in the building density map in figure 65. However there are a few buildings that have more than four stories, which have been noted as recent constructions.

Building Setbacks

The map in figure 66 illustrates the building set back from the road. However it was noted that, even though the permanent buildings present along Pamunuwa road have been constructed with adequate setbacks; the shop owners have extended their shop space into the reservation areas with temporary structures. This has been done to obtain more space and to also attract the public. This is evident as seen in survey results tabulated in table 07- item 07. Where 35% of shops along Pamunuwa road were a combination of open and enclosed.



Figure 65: Map showing building density [Map] Source: By Author

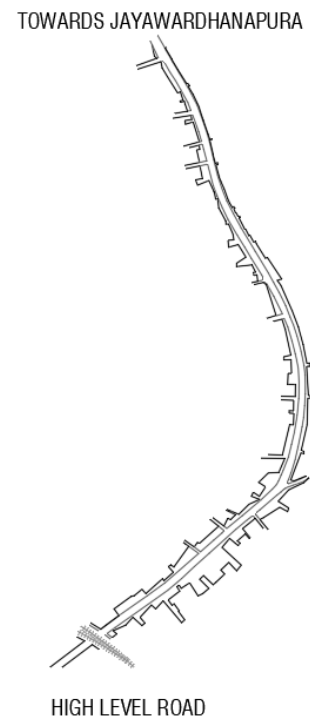


Figure 66: Map showing building set back line [Map] Source: By Author

The remaining sidewalk space, where available on the road, has been secured as shop spaces by unauthorized shop owners (see figure 68). This is disadvantageous to the municipal council as they will not get any revenue.



*Figure 67: Permanent buildings without maintaining building set back [Photograph]
Source: By Author*



*Figure 68: Unauthorized small shops constructed on road sidewalk [Photograph]
Source: By Author*

Building Façade details - Signage, transparency, texture, roof details

It is seen that the shops along Pamunuwa road are difficult to distinguish from one another. The shop facades are covered with products being sold, such as readymade garments and other accessories. The shop owners are seen to be not too concerned about the appearance of their shops. Their main aim is to adequately display their selling product.



*Figure 69: Temporary sheltered shop spaces [Photograph]
Source: By Author*



*Figure 70: Unauthorized Shops [Photograph]
Source: By Author*

All the temporary and unauthorized shops have used timber and steel as material for their shop construction (see figures 69 and 70). These can be seen near the reservation area of the Railway line and near permanent shop areas in the vicinity.

The Buildings are located at the entry point to Pamunuwa road (see figure 71) have been established for a long time and are solid permanent buildings. These buildings consist of three floors and the façades are seen to have been clad recently with glass or aluminium windows for practical reasons. The ground floor of these building have a combination of roller shutter and tempered glass façades. This is present due to security reasons, but this also allows the shop interior to be opened on to the street.



Figure 71: Buildings at the entry point to Pamunuwa road
[Photograph]
Source: By Author

The same architectural features can be seen at the end of Pamunuwa road. The buildings at this end are primarily whole sale outlets (see figure 73). Pedestrians generally do not walk into these commercial establishments unless they are through known contacts. These developments have been established in the recent past and are mostly constructed with modern materials. The common element for this kind of business can be seen as displaying a name board at first floor level, which is readily visible to the public.



Figure 72: Building seen at a midway point along Pamunuwa road [Photograph]
Source: By Author

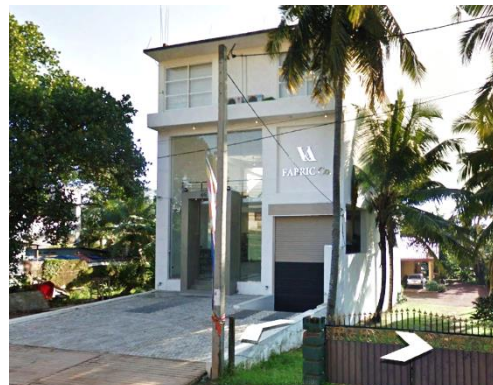


Figure 73: Whole sale Building at the end of Pamunuwa road [Photograph]
Source: Google Earth

As indicated in table 07 -item no 07; 50% of the buildings open on to the street and 35% of the buildings are a combination of both qualities. Majority of the shops intend to showcase all textile product through an open display method; as the public are willing to buy such textiles in a bazaar like atmosphere.

If the shops are enclosed, most people would assume that such shops have expensive textile products. At the same time, even though some tenants have enclosed shop spaces, they also choose to display part of their textiles externally with a designated sales person.

According to figure 74, except for a few glass facade buildings, all other buildings are open to the street due to the nature in which business is conducted along Pamunuwa road.

This is further reiterated by the survey results illustrated below in figure 75; which clearly indicates that 60% of respondents have visited the shops due to the appearance or due to the visibility of the shop.

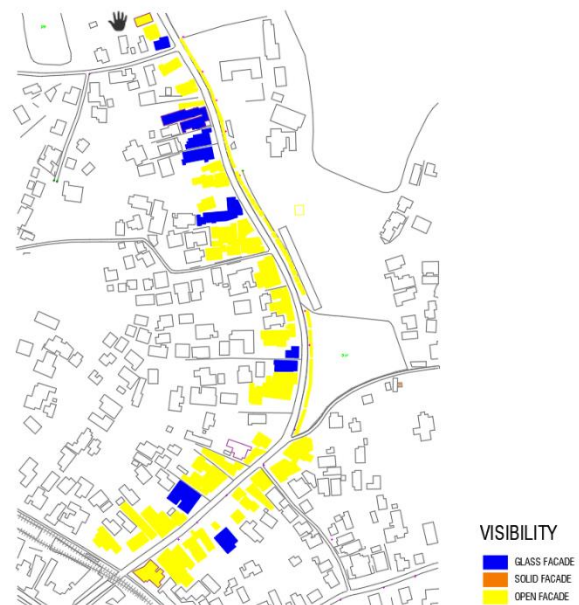


Figure 74: Nature of buildings along Pamunuwa road [Map]
Source: By Author

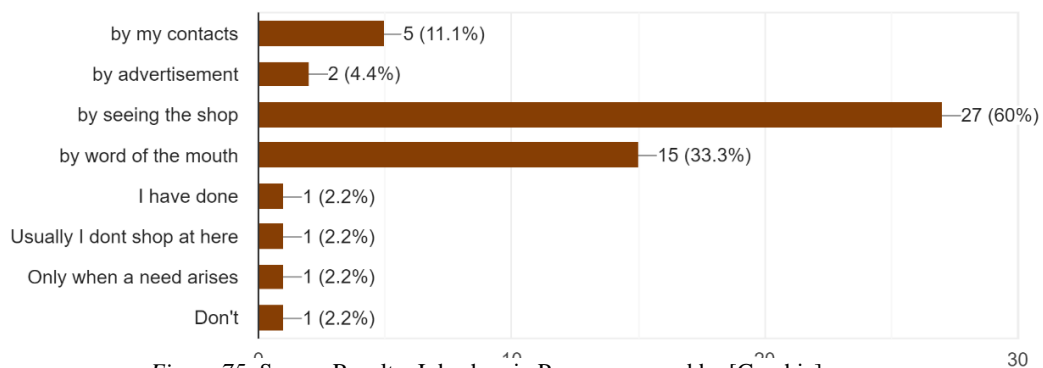


Figure 75: Survey Results- I do shop in Pamunuwa road by [Graphic]
Source: By Author

Street details - Vegetation, street elements, shadiness, comfort level



Figure 76: By roads are covered with shades
[Photograph]
Source: By Author



Figure 77: Street is not comfortable for users / less shadiness [Photograph]
Source: By Author



Figure 78: Map showing Street vegetation density / shadiness [Map]
Source: By Author

As per figure 78, the given map illustrates that the level of shadiness is very low along the Pamunuwa road. Even the survey results tabulated in table 08 - item no. 06 –indicates that 66.7% of respondents are not satisfied with road facilities and road comfort (see nature of roads in figures 76,77)

However, the public are seen to shop along Pamunuwa road due to the ease at which the public can satisfy their textile needs.

3.2.6 Identified uniform physical street characteristics

As per the results of the survey, illustrated in figure 79, Pamunuwa road is a uniform development that has transformed over the years into an unplanned active street; which can be ultimately identified as a road with an unorganized display of shop facades. Many shops are unauthorized and are of a temporary basis. Shop owners are only concerned about having an adequate space for their business; and are not too concerned about the maintenance of the shop or surrounding area. Due to non-availability of shop space and due to many vendors conducting their shops as part time businesses, the pavement space has been primarily used. These vendors sell their readymade garments from early in the morning even before the other more permanent shops open for business. There is a different customer base for such a time slot. Even the street character is seen to thus transform from time to time throughout the day.

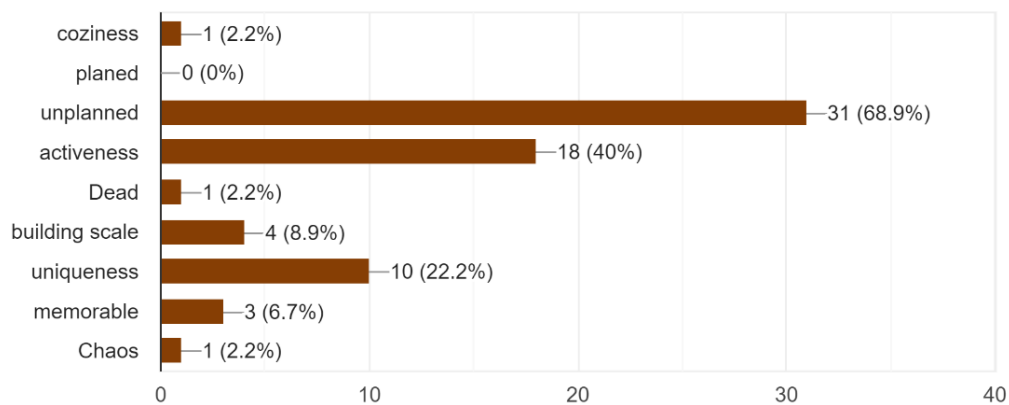


Figure 79: Survey Results- street character [Graphic]
Source: By Author

Pamunuwa road is not adequately comfortable for users; and as discussed previously, it can only be accessed throughout by pedestrians. The shop frontage having an open concept, is useful in this pedestrianized commercial development; where people are seen to shop by touching fabrics and inquiring prices. Therefore the street can be seen as a bazaar type commercial street at present.

3.3 Case Study 03 – Art and craft shops and cafes on Stratford Avenue (CS3-SA)

3.3.1 Introduction

Stratford Avenue formerly called Gandhara Street; connects High level road and Piliyandala Road along with Dehiwala canal in Colombo -06 (see figure 80). Stratford Avenue has a length of 0.6 Kilometres and is identified today as a one way road.

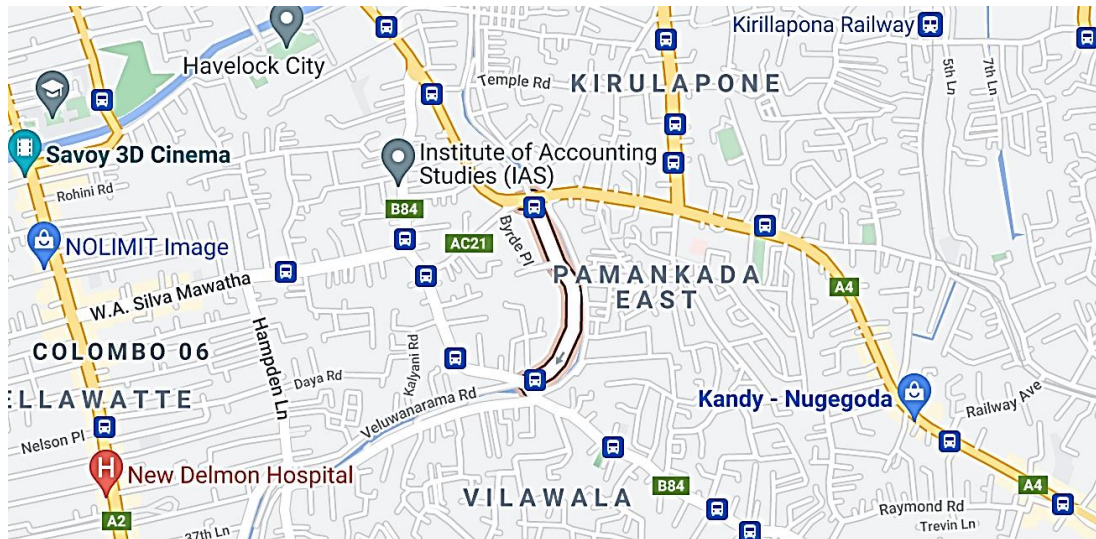


Figure 80: Map of Stratford Avenue (macro context) [Map]
Source: Google Maps

Gandhara Street/ Stratford Avenue has been described as a lifestyle concept. The intension of the street was to cater to the indulgent shopper; who would enjoy browsing a fusion of products through winding stores/streets. Today the street offers a range of products such as antiques, home ware and collector's arts and crafts from across the world, etc.

This street is seen to carry a personalised touch of class; and is said to have been influenced by the proprietor of the Gandhara Store, Dian Gomes.

(Kahandawaarachchi, 2010)

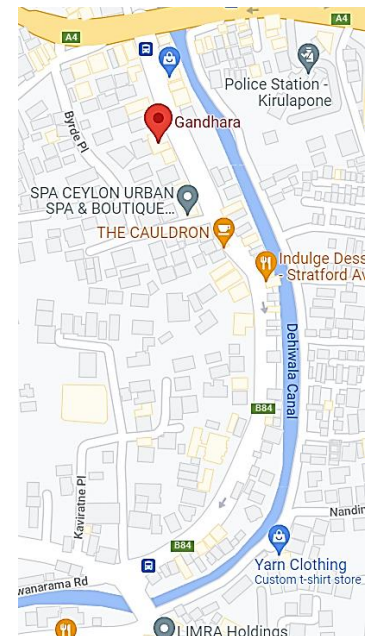


Figure 81: Map of Stratford Avenue and location of Gandhara shop (micro context) [Map]
Source: Google Maps

3.3.2 Reasons for existing street activities



*Figure 82: Gandhara Shop in Stratford Avenue [Photograph]
Source: www.gandarastores.com*

The owner of Gandhara store (established in 2005), Dian Gomes, invited store owners of Hermitage and Treasure House to establish their stores along Stratford Avenue; whose diversity would in turn help to cater to the differential taste of art lovers.

“When you look at art it is such a vast field. You can’t be everything to everybody”
(Gomes in Kahandawaarachchi, 2010)

This concept of including similar stores that would allow the street to flourish and grow has proved successful.

Gomes’s intended to form an art street, as seen in other countries. A space where one can explore and spend time; discovering and purchasing pieces of art and other items. The street was also envisioned by Gomes to be as an art village for local artistes; with the intension of promoting Sri Lankan art globally. (Kahandawaarachchi, 2010)



Figure 83: Stratford Avenue from high level road
[Photograph]
Source: By Author



Figure 84: Google Map on Stratford Avenue in 2004
[Map]
Source: Google Maps

Today, when walking down Stratford Avenue, it is apparent that the ‘Gandhara Street concept’ has expanded beyond the idea of an antique or art store. The street hosts as many as 23 partners, ranging from a variety of services such as designer fashion stores, cafes, salons, spas, music stores and an adventure tourism store. Due to the range of stores present on this street, one can stop in the morning and be occupied till late in the evening. This area is seen to be frequented by young artists, architects, interior decorators and tourists exploring this streets many boutiques. (Kahandawaarachchi, 2010)

Among the illustrious partner stores reinforcing the ‘Gandhara Street concept’ are Michael Wijesuriya, Hermitage, Yoland Collection, Zsa Zsa Gallery, Acushla by Sonali Fernando, Borderlands, Oak Tree, and cafes such as Café Ché and Barista. Dian Gomes also intends to include art galleries that showcase different affordable art work from across the globe. (Kahandawaarachchi, 2010)

3.3.3 Identification of Uniform Development

The story of Stratford Avenue is quite interesting in comparison to other streets mentioned in this study. As discussed, Stratford Avenue is an artificially created street by owner of the Gandhara shop, Dian Gomes. With time, Gomes purchased the neighbouring premises and invited other similar businesses to locate their branches along Stratford Avenue on rent basis. This has led to the uniform development seen in Stratford Avenue.

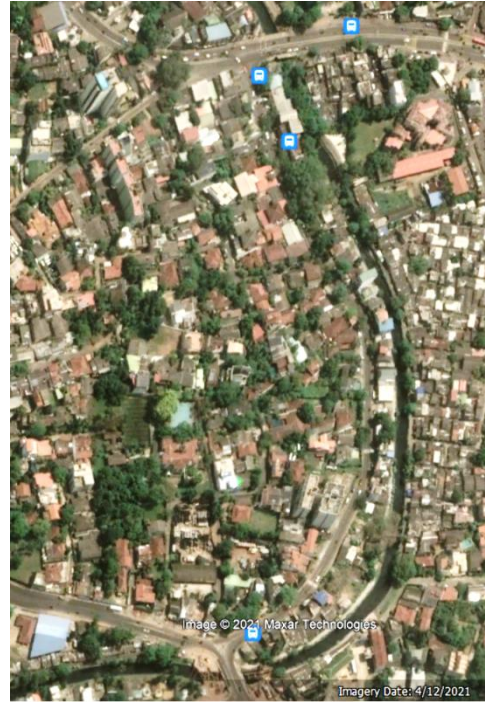


Figure 85: Google Map on Stratford Avenue in 2021 [Map]
Source: Google Maps

Table 9: Survey Results- Identifying as uniform development

Statement	SD	D	N	A	SA	Value
	-2	-1	0	+1	+2	
“We can buy everything that I	4	20	13	8	0	
Need in this commercial area”	-8	-20	13	8	0	-28

Source: By Author



Figure 86: Building Use Map on Stratford Avenue
 [Map]
 Source: By Author

User perceptions show that the Stratford Avenue can be identified as having a character of uniform development, where all the shops are catering to the same function and activities for customers. In Comparison to other case studies, stratford avenue is less in uniform development . The main reason is due to this street and the concept created by the shop Gandhara as described in earlier sections; is still under development. Major developments alone have been witnessd in the last few years. Therefore on can can expect the whole street to develop as a uniform character of an art and crafts street in another few years time. Since the public frequently visit this street, other small shop owners have also started to sell similar products towards to Piliyanadala road.

3.3.4 Impact level of usage qualities and activeness

a) Building & Infrastructure Facilities – By shop owners

Table 10: Survey Results- Shop owner’s statements – building & infrastructure facilities

		Own	On Rent	Other			Value
01	Status of building ownership	8.3%	91.7%	0%			
		Yes	No	Not Enough			Value
02	Satisfied with building facilities	83.3%	0%	16.7%			+83.3%
		SA	A	N	D	SD	Value
03	Get attention of municipal council	0%	8.3%	50%	41.7%	0%	-41.7%
		SA	A	N	D	SD	Value
04	Shop has enough parking facility	50%	50%	0%	0%	0%	+100%
		SA	A	N	D	SD	Value
05	Street is providing enough pedestrian facilities for customers.	33.3%	25%	0%	41.7%	0%	+58.3%
		SA	A	N	D	SD	Value
06	Satisfied with the existing shop area	50%	50%	0%	0%	0%	+100%
		Open to street	Enclosed shop	Combination of both			Value
07	My shop is open to street or enclosed shop	0%	75%	25%			

Source: By Author

Since the majority of the shops in this area are owned by Gandhara, and the rest of the shops are also on rent basis; the percentage value for shops under rent is 91.7%. All the large existing old houses have been converted for commercial purposes. Any available houses of this type are more than sufficient for cafes and art and craft businesses. Therefore, all tenants are seen to be satisfied (+83.3%) with the available spaces they have been provided.



Figure 87: Shops with proper parking facilities
[Photographs]
Source: By Author

Including the Gandhara shop, a majority of the shops have managed to provide even a few parking slots in front of their shops (see figure 87). This is a reason for the high shop rent value as well. As per table 10, 50% of respondents are strongly satisfied with the parking facilities, while other 50% is satisfied with the available parking.

Even though the number of parking slots are low, most of the customers take advantage of the one-way traffic pattern of Stratford Avenue. So, the customer can park on the road and conduct their shopping without disturbing the traffic flow (see figure 88)



Figure 88: Parking on the road and pavement
[Photograph]
Source: By Author

The sidewalks provided for pedestrians is insufficient. Only the shops along the Gandhara store, has a 4'-0" wide sidewalk, which is not demarcated by paving or marking. Therefore, pedestrians can walk without being disturbed by vehicles only in one direction. This is reflected as +58.3% in table 10.

75% of the shops are enclosed and 25% are combination of open to street and enclosed quality (see figure 89). Since most shops are enclosed, air condition facilities are provided for customer comfort.

The customers who visit this area can be classified as high-end and high-end middle class. Therefore, the shops owners strive to treat their customer to the best of their ability. The ambiance of the shops - interior and exterior- is maintained at a higher level, which is important in this area to run a good business.

Shops façades are seen to have large glass façades as well as unique designed windows (see figure 90) to showcase the art and craft or house hold related products being sold within the store.

Figure 91 further reinforces this, as customer (75 %.) are seen to have visited the shop due to its appearance.



Figure 89: Enclosed Shops [Photograph]
Source: By Author



Figure 90: Shop window details [Photograph]
Source: By Author

b) Customer's activities

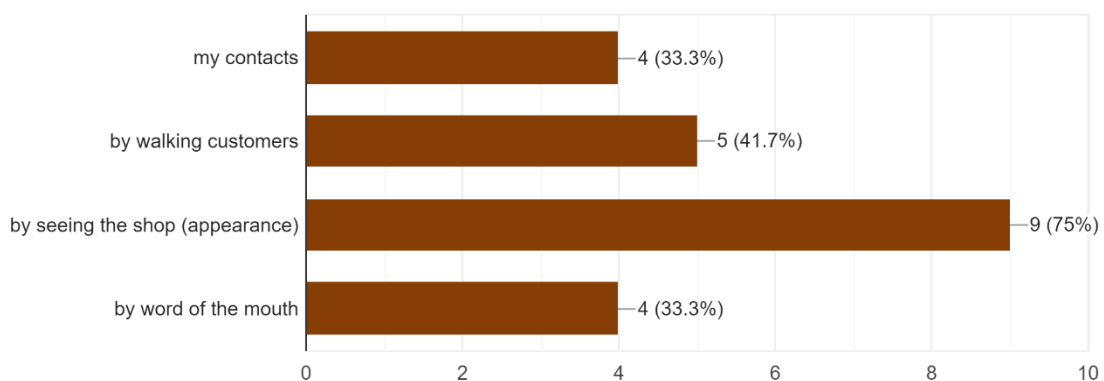


Figure 91: Survey Results- Building Owner's statements – building & infrastructure facilities [Graphic]
Source: By Author

Table 11- Survey Results- Customer activities on Stratford Avenue

		SA	A	N	D	SD	Value
01	This street safe for shopping.	6.7%	55.6%	28.9%	8.9%	0%	+62.3%
		SA	A	N	D	SD	Value
02	This street is easily accessible for shopping – motorist friendly	2.2%	51.1%	31.1%	11.1%	4.4%	+52.3%
		SA	A	N	D	SD	Value
03	This street is easily accessible for shopping – pedestrian friendly	6.7%	57.8%	20%	13.3%	2.2%	+64.5%
		SA	A	N	D	SD	Value
04	Walkability on the street is acceptable	8.9%	42.2%	28.9%	17.8%	2.2%	+51.1%
		SA	A	N	D	SD	Value
05	I can identify the goods sold by looking at the shop front	8.9%	53.3%	26.7%	11.1%	0%	+62.2%
		SA	A	N	D	SD	Value
06	I'm satisfied with facilities in this street (lighting/ shades/sidewalks/ utilities)	2.2%	37.8%	33.3%	24.4%	2.2%	+40%
		SA	A	N	D	SD	Value
07	The neighbouring activities (Nature of the shops within the street) are a cause to visit here	2.2%	51.1%	44.4%	2.2%	0%	+53.3%

Source: By Author

Even though the street has no demarcated sidewalks or proper paving, it is a one way road with three lanes, which is comparatively a wide road; and has a potential of developing sidewalks. There are zebra crossing available along the road at regular intervals. Since most users can park their vehicles in the vicinity of the shops along Stratford Avenue; a level of safety is felt, as reflected by respondents at 62.3% in table 11. The access to shops by motorist from the street is 52.3%, with the availability of parking in front of shop spaces, which is an added attraction to shopping activities.

Stratford Avenue can also be accessed by bus route 135 - Kohuwala to Kalaniya. Even though a bus route is present, the public that uses these routes do not frequent Stratford Avenue, since the products available are not essential for day today needs. Pedestrians use this street to reach two main roads namely High-level road and Colombo – Piliyandala road. Therefore, the pedestrian access value is seen as 64.5% (see table 11).



Figure 92: Bus Stop on Stratford Avenue [Photograph]
Source: By Author

Walkability on the street is seen to have a high value (51.1%). Due to the ambiance of the street and the vegetation on either side, there is a level of comfort for the user. 40% of respondents are satisfied with available street facilities such as street lamps, shades and sidewalks. However, the sidewalks have not been properly maintained on either side of the street. Some large tree roots are also seen to have grown along with sidewalks. Some shop owners have also planted some trees on the sidewalk for the beautification of the shops; which has resulted in reduction of further spaces along sidewalks (see figure 94).



Figure 93: People walking on the road where there is no sidewalk [Photograph]
Source: By Author



Figure 94: sidewalk obstructions to sidewalk [Photograph]
Source: By Author

It is seen that most of the shops located within the Stratford Avenue is a cause to visit the area (as seen from item no. 07- 53.3% in table 11). Shoppers are well aware of the availability of products and services on this street and the ability to spend time in cafes with friends while doing shopping.



Figure 95: Kopi kade cafe [Photograph]
Source: Google Earth

3.3.5 Impact level of physical characteristics

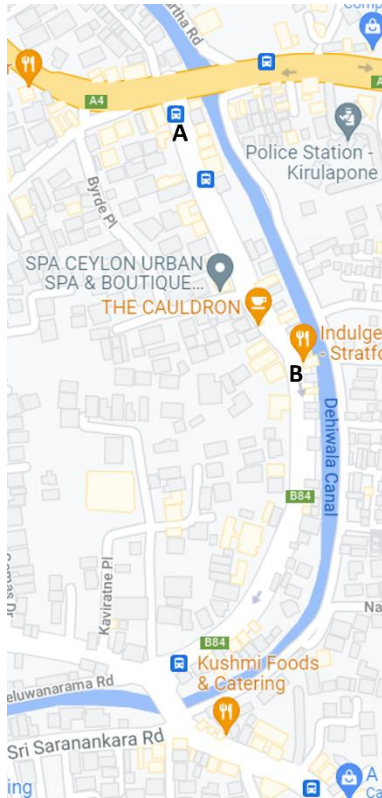


Figure 96: Map showing extent of Study [Map]
Source: Google Maps

This section explores the impact of the physical characteristics of built forms along Stratford Avenue on its users. The impact of the building scale, usage of materials, colours and existing street vegetation and infrastructure has been analysed. The extent of the study has been illustrated in figure 96 and the existing physical characters have been documented as elevations through photographs as seen in figure 97.

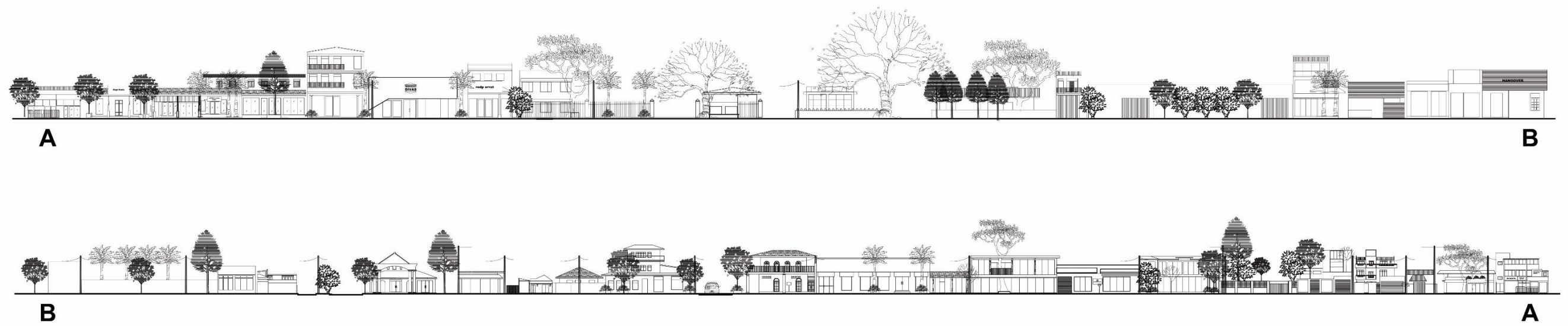


Figure 97: Building front façades along Stratford Avenue [Graphic]
Source: By Author

Building Scale

All the buildings along Stratford Avenue were originally houses of residents. These houses were mostly single to three storied structures. After the conversion of these houses into commercial spaces; the height of the buildings have not been changed. The new owners/tenants have also taken advantage of the existing architecture.

Building Setbacks

When travelling along Stratford Avenue from the High-level road end; the buildings on the right side have maintained 6' - 7' set back from the road edge. After conversion of residential buildings to those with commercial activities; owners/tenants have removed the front boundary wall where possible. Hence, the building are exposed to the road front, which provides an interactive space between the building and the road. In the meantime, the road also has also been widened from time to time. Now the setback has been limited up to 4' -5' after widening of the road.

At the end of Stratford Avenue towards the Piliyandala – Colombo road; the setback are maintained by the owners, since all the buildings in this area is newly constructed.



Figure 98: Map showing building density [Map]
Source: By Author



Figure 99: Map showing building set back line [Map]
Source: By Author

However on the left side of the road, all buildings are seen to come up to the road front (see figure 100), except for a few buildings. This could be due to the influence of changing the once



Figure 100: Left side shops without building set back [Photograph]
Source: By Author



Figure 101: Right side shops maintaining building set back [Photograph]
Source: By Author

Building Façade details - Signage, transparency, texture, roof details

All converted houses were built in the 1980's on Stratford Avenue; which has architectural features such as sun shades, small decorative timber doors and windows, verandahs and four pitched roofs. Since most of the houses in this area has been purchased by the owner of Gandhara; with his understanding, he has modified some of these houses in order to bring the character of an art and craft street. Even though most businesses here on the street are uniform and relate to the concepts of an art and craft street; the tenants have also tried to maintain the same character for their shops irrespective of their function.



Most building front facades with small windows have modified their facades to larger windows; with timber frames instead of aluminium. The colour tone utilized on the buildings on this street are rich in appearance and do not use any vibrant colours. This brings about a level of cosiness to the street. Original roof tiles have been kept as it is and helps to exude a home like feel.

Even the Gandhara store has upgraded their facade from time to time without disrupting the overall appearance (see figures 103,104 for comparison). Use of white for walls has also brought about a rich look to the building itself.

Figure 102: Building Visibility Map
[Map]
Source: By Author



Figure 103: Gandhara Store in 2015[Photograph]
(Source: Google Earth)



Figure 104: Gandhara Store in 2022 [Photograph]
Source: By Author

The signage of the shops (see figure 105) have maintained a standard while having some uniqueness. The signage are not disturbing; and helps to improve the imageability of the street and shop. The impact of these interventions is apparent as seen by the high percentage (51.5%) in figure 106, which indicates that respondents were influenced by the appearance of the shop.



Figure 105: Displaying of Signage board [Photograph]
Source: By Author

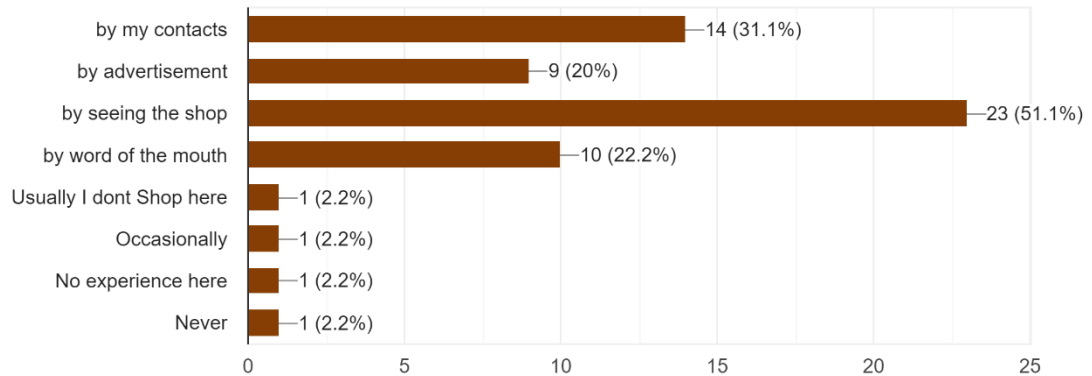


Figure 106: Survey Results- I do shop in Stratford Avenue by [Graphic]
Source: By Author

Street details - Vegetation, street elements, shade, comfort level

As per the survey result in table 11-item no 06; 40% of the respondents indicated that they are very satisfied with the comfort level of Stratford avenue. As per map illustrated in figure; there is a high density of vegetation along Stratford Avenue in comparison to the other two streets in the study. The municipal council has also maintained the street lamps on the road.



Figure 107: Street is comfortable due to shading by vegetation [Photograph]
Source: By Author

Even though the street has no proper sidewalks, it is not uncomfortable to walk on the road which has traffic only in one.



Figure 108: Map that illustrates street vegetation density / shadiness [Map]
Source: By Author

3.3.6 Identified Uniform physical street characteristics

Stratford Avenue is an active street with a collection of eclectic stores; that range from art, living, fashion, food and wellness. It can be described as an ideal horizontal mall nestled among lush greenery. Stratford Avenue is considered as Sri Lanka's first ever art street. At present the art and craft concept is expanding to cafes and other beauty parlours which also blends with customer's needs. The street has potential to further expand and is seen to have been done by people who live at the end of the street; by the establishment of small scale cafes and stores selling household items and landscaping products.

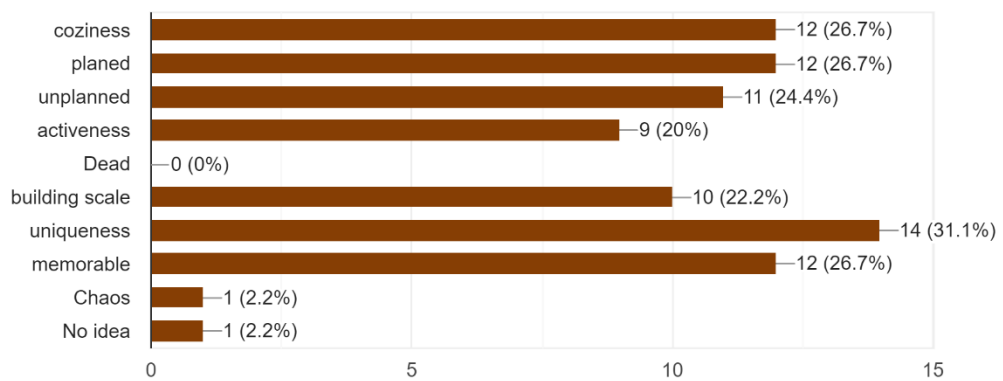


Figure 109: Survey Results- street character [Graphic]
Source: By Author

Considering the survey results in figure 109, a majority of the users have expressed that Stratford Avenue has a character of Uniqueness. The street has also been noted for its coziness, planned nature and memorable characters. This might be attributed to the favourable street components and the architecture of the buildings.

3.4 Comparison of cases

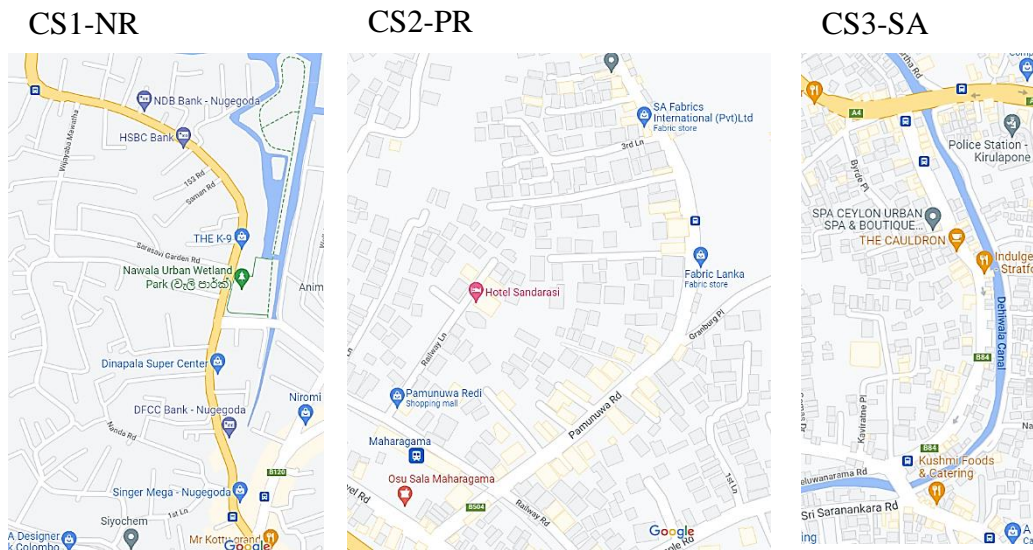


Figure 110: Site area comparison [Map]
Source: Google Maps

Site Area

- CS1-NR Sanitary shops and Hardware Shops on Nawala Road
- CS2-PR Cut piece retail shops on Pamunuwa Road
- CS3-SV Art and craft shops and cafes on Stratford Avenue

When comparing the streets above, the shortest street length is seen on Stratford Avenue (CS3-SA) which is 0.6 Kilometres. Therefore, the same length (0.6 Km) of street has been taken from the other streets in the study as well for equal comparison.

Comparison of overall shop and infrastructure facilities

CS3 -SA has sufficient facilities on a street with uniform development.

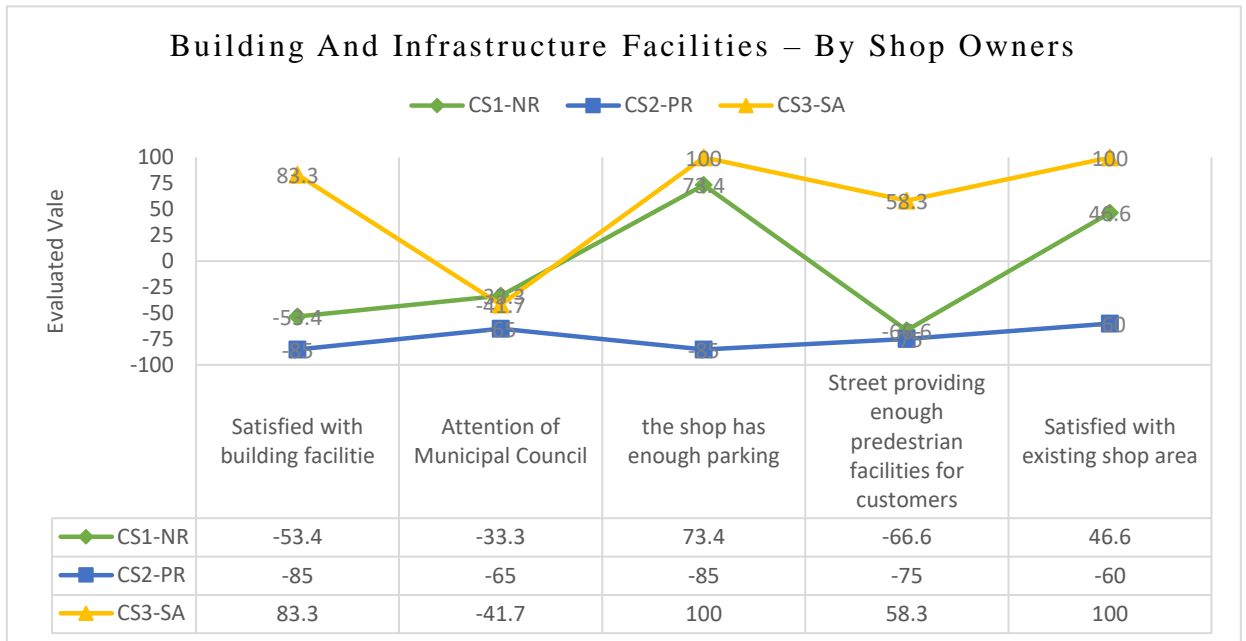


Figure 111: Survey results – Overall Building & Infrastructure facilities (All Cases) [Graphic]
Source: By Author

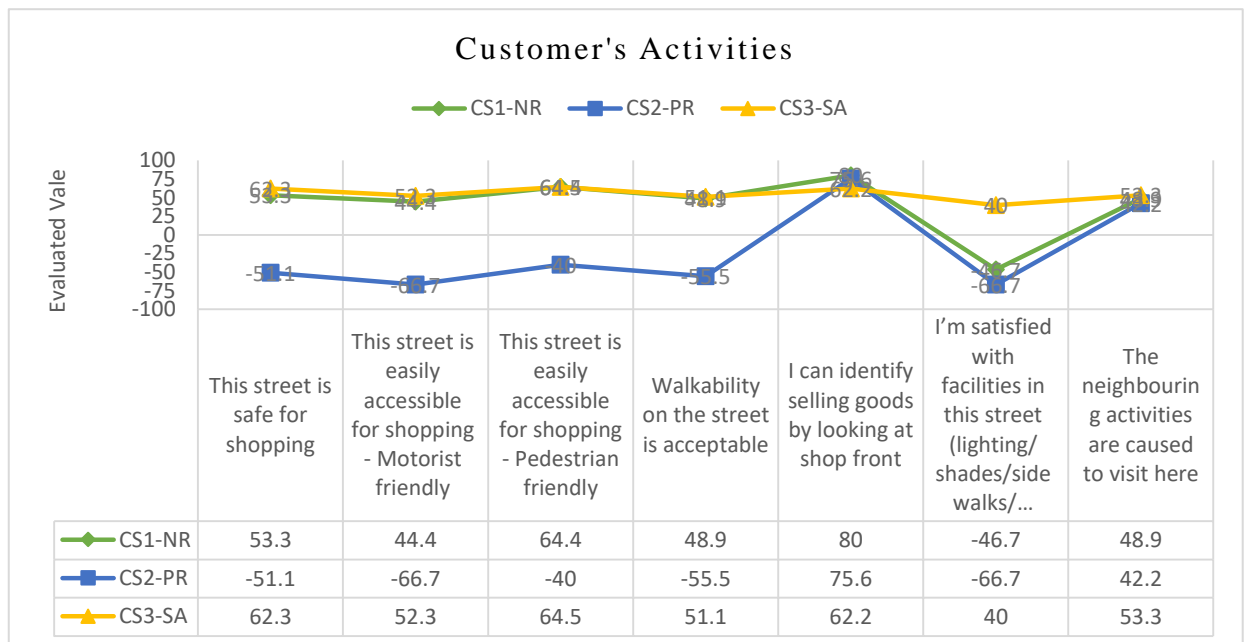
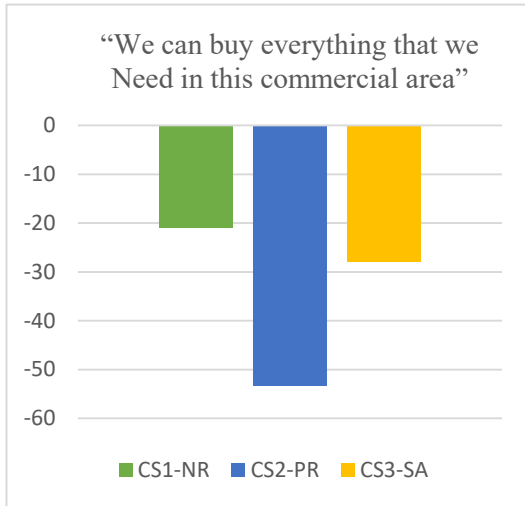


Figure 112: Survey results – Customer Activities (All Cases) [Graphic]
Source: By Author

According to figure 112, CS3-SA has the highest value, while CS2-PR has the lowest value.



All respondents believed that users cannot buy all required products on the selected street. Users can buy only a similar kind of product.

Figure 113: Reason for Uniform Development (All Cases) [Graphic]
Source: By Author

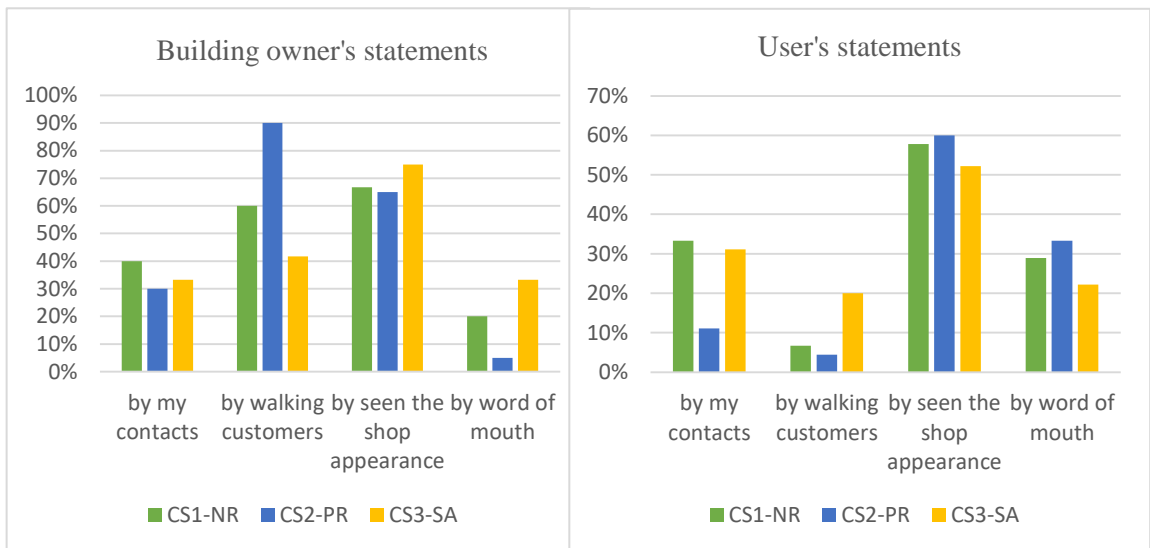


Figure 114: Reason of customer's attraction to the shops – building owners statement (All Cases) - [Graphic]
Source: By Author

Figure 115: Reason of customer's attraction to the shops – Users statement (All Cases) [Graphic]
Source: By Author

As per the opinion of both building owners and users; the highest value has been taken in “by seeing the shop appearance” in the chart. Shop appearance is more important for selling products even in a street with uniform development.

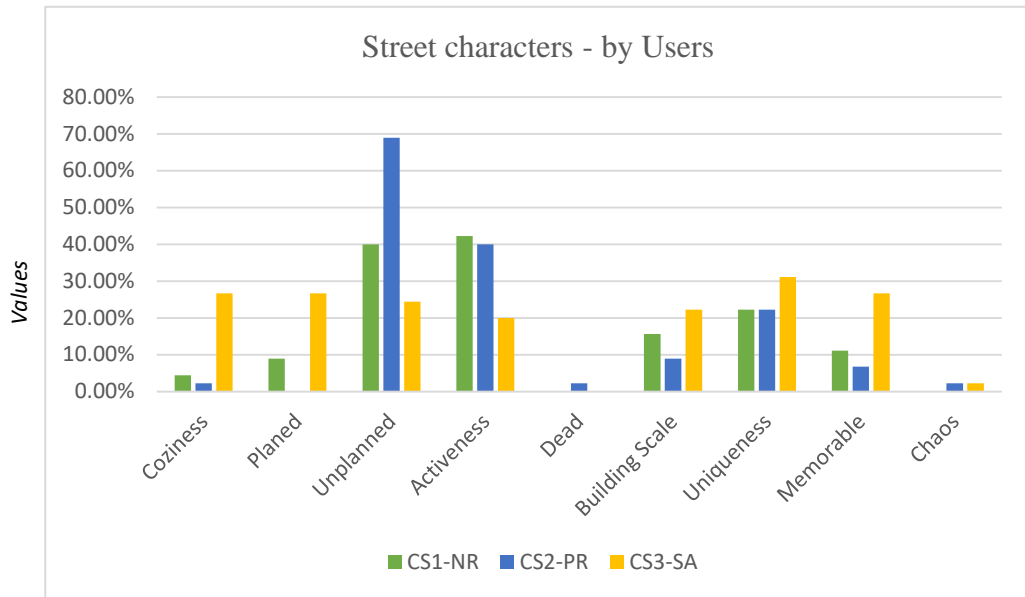


Figure 116: Street Characters (All Cases) [Graphic]
Source: By Author

To identify the street character on each road, one needs to take the higher value scored for each character on each street. The comparison has been illustrated in figure 116.

In CS1-NR; the street character of activeness is the highest, followed by the character unplanned. Hence, Nawala road's (CS1-NR) street character can be identified as having an active, unplanned street character. In CS2-PR the unplanned character has a very high value compared to the other characters. Therefore Pamunuwa road's (CS2-PR) can be identified as having an unplanned street character. In CS3-SA; the street character of uniqueness has a higher value than the other characters. However, the character of memorable is only slightly less than uniqueness. Therefore, Stratford Avenue's (CS3-SA) street character can be identified as unique and memorable.

3.5 Summary / contribution to Street Character

The case studies selected, can be identified in two main categories:

Two-way Street -CS1-NR, CS2-PR

One way Street -CS3-SA

Two-way streets' are the most accessible when compared to one-way streets'. Due to the high accessibility by motorist or pedestrians; CS1-NR, CS2-PR have become a more active street. When the activeness of the road increases, the safety factor is seen to decrease. However CS1-NR has a wider road in comparison to CS2-PR (CS2-PR's Street width is half of CS1-NR). CS1-NR is mostly accessed by motorists while CS2-PR is mostly accessed by pedestrians.

Users driving in two-way roads can easily approach their destination from any direction. Factors such as parking facilities on either side of the road, also depends on road direction. Most of the time, users face difficulties whenever they need to visit a shop on the other side of the road. They may need to either cross the road or they would have to turn from wherever it is possible. In terms of safety, pedestrian safety is higher in a two-way street than a one-way street. In a way, the business activity of a shop will be affected when users experience only one side of a street at a time. As both sides of the street cannot be covered by the user at the same time without obstructions like oncoming traffic; one will not gain an idea of shops located on both sides.

In a one way-street like CS3-SA, users have a clear idea of the shop's appearance seen on both sides of the road. Even the accessibility is better for motorist than pedestrians. Pedestrians having to travel a long distance to cross the road may also affect their activity on the street, and the user may feel unsafe due to vehicular movement. In CS3-SA, the accessibility value for motorists was high. Since the road has low pedestrian activity, the street and its components including shops and street features are memorable.



Figure 117: Park Street Mews in 2015 [Photograph]
Source: By Author

In comparison, the best local example for uniform commercial development on a street is Park Street mews in Colombo -02. Park Street Mews is a street with old warehouse buildings that has been restored for the purpose of a vibrant restaurant and entertainment space.

The space has become a sought after venue to host weddings and events, all in a private street. The sophisticated ambience of the Park Street Mews is favoured by both tourists and locals. The space is iconic, and incorporates a unique combination of contemporary art and chic design. (Park Street Mews, n.d.)

Park street mews is a pedestrian based uniform street due to the presence of similar activities and functions on both sides of a private street. The street is well maintained and has components such as seating, street lamps and shading. The street functions with a selected crowd due to its size and ambience.



Figure 118: Park Street Mews at seasonal days [Photograph]
Source: Google Earth



Figure 119: Park Street Mews at night [Photograph]
Source: Google Earth



Figure 120: Restaurant ambiance [Photograph]
Source: Google Earth



Figure 121: Open cafes to street [Photograph]
Source: Google Earth

The public can come and enjoy the music and food at any time of the day. The pedestrians can access the Mews from the park street side and through the dedicated parking lot located at the rear side.

This street is similar to CS3-SA; as it is memorable, very rich in cosiness and unique. Even though it is small in scale, it facilitates people with a high quality public realm in an urban environment. If this street was not converted as it is at present, and contained shop activities of mixed use, the street would not be sustainable in the long run.

However, it is important to note that in a uniform street there will be a sub culture of activities, which do require a chance

to develop as they may even improve the street character in the long run. This was observed in CS3-SA where initially the street intended to include shops related to arts and crafts, but eventually included a mixed use of shops that complimented the primary desired activity.



Figure 122: Textile market in Bangkok [Photograph]
Source: community.snapwire.co

In CS2-PR people felt difficulty in accessing the area due to vehicle movement and the reduced road width. Since the Pamunuwa road gets crowded with pedestrian activity, it was suggested to create a separate street bazaar for commercial activities, like the textile

market located in Pratunam in Bangkok, Thailand.

In terms of the scale of a shop; small scale shops do hold a distinctive character that helps to create an identity of place (as seen in CS1-PR). While small scale shops seen in CS1-NR did not help to create a favourable street character, it is important to allow such establishments to flourish by providing suitable guidelines.

Ultimately the idea of a street is to create an identity and suitable measures should be maintained and adopted to achieve this.

CONCLUSION

All streets should follow proper guidelines and maintain standard components like providing sufficient sidewalks, road crossings, street lights, to achieve a great street. Relevant authorities have the power to impose guidelines in order to maintain the required street character. For example, the Kandy Municipal Council has such guidelines, in order to maintain the required Kandyan style of architecture along Main Street in Kandy. All respondents of the survey believed that the streets were not sufficiently maintained and attended by authorities. However at present, the Colombo Municipal Council has commenced the refurbishment and maintenance of streets according to the Urban Environmental Street Atmosphere (Galle Face and Slave Island area) with the help of the Urban Development Authority and Road Development Authority.

The study offers insights into how the physical characters of a street contribute to design qualities of an urban area. The street character can vary by street to street and country to country. The street character can also be generated as a uniform commercial development with its own urban qualities, where different user categories will fulfil their needs.

Streets are an omnipresent public space which serve an array of functions. A Street can be considered a record that helps establish and define the historical context of a city. The research conducted attempts to review physical components and their contribution to street character in relation to the selected case studies. The study explored existing theories through a literature review, by exploring physical components of a street and its importance. As the study progressed it was possible to identify physical components that predominantly influenced the character of a street.

Physical attributes such as buildings, landscape and street pattern proved to be important components, as revealed through this study. These components help generate attractiveness, permeability, visibility, legibility, human scale and safety. Soft and hard landscape elements further help to produce a distinct quality. Ultimately these components facilitates social interactions, creates a comfortable atmosphere and

highlights the character of the street and ultimately the town. These characters further help to generate the required symbolism needed to form the appropriate historical and cultural context, which ultimately creates and preserves the identity of a place.

It can be concluded that the Street is a physical embodiment of the public realm which facilitates the interaction between the human population and the architectural realm.

REFERENCES

- Anderson, C. (2012). *Evolution of a Retail Streetscape: DP Architects on Orchard Road*. Victoria: Images Publishing.
- Canter, D. (1977). *The psychology of place*. London: The Architectural Press.
- Corbusier, L. (n.d.). *Archispeaking*. Retrieved from Word Press:
<https://bgommartin.wordpress.com/2015/11/14/definition-of-uniformity/>
- Cox, H. (1968). The Restoration of a Sense of Place . In *Ekistics 25* (pp. 422-425).
- Cullen, G. (1961). *The Concise Townscape*. London: Reed Educational and Professional Publishing.
- Darin, M. (1998). The Study of Urban Form in France. *Urban Morphology*, 63-76.
- Donat, J. (1967). *World Architecture: Place & Environment*. London: Studio Vista.
- Ewing, R., & Clemente, O. (2013). *Measuring Urban Design- Metrics for Livable Places*. Washington : Island Press.
- Gelareh Sadeghi, B. L. (2019). *Urban Morphology: Comparative Study of Different Schools of Thought*. Wuhan: Scientific Research Publishing Inc.
- Greenfield Labs and Gehl. (n.d.). *Good Street form*. Retrieved from Our Living streets: <http://www.ourlivingstreets.com/good-streets#:~:text=As%20such%2C%20they%20hold%20all,Embrace%20the%20opportunities%20this%20brings.&text=Streets%20make%20up%20most%20of,fosters%20community%20connection%20and%20contribution.>
- Halpenny, E. A. (2010). Pro-Environmental Behaviours and Park Visitors: The Effect of Place Attachment. *Journal of Environmental Psychology*, 30 (4) , 409-21.
- Jacobs, A. (1993). *Great Streets*. Cambridge: MIT Press.
- Jacobs, J. (1961). *The death and life of great American cities*. New York: Vintage books.
- Kahandawaarachchi, T. (2010, June). *Something For Everyone:a Walk Down Gandhara Street*. Retrieved from Explore Sri Lanka :
<http://exploresrilanka.lk/2010/06/something-for-everyone/>
- Khan, L. (n.d.). *The Street*. Retrieved from Placemakerlabs:
<https://www.placemakerlabs.com/posts/1008782>

- Larkham, P. J. (1998). *Typological Process and Design Theory*. (A. Petruccioli, Ed.) Cambridge: Aga Khan Program for Islamic Architecture.
- Levy, A. (1999). *Urban Morphology and the problem of the modern urban fabric: some question for research*. Marne: Universty of Paris.
- Lynch, K. (1960). *The Image of the City*. Cambridge: Joint Center for Urban Studies.
- Lyndol, D. (1962). Towards Making Places. In *Landscape* (pp. 31-41).
- Madanipour, A. (2001). *Design of Urban Space: An Inquiry into a Socio-Spatial Process*. Tehran: Pardazeshvabarnamerizi Shahri.
- Maharagama Urban Council. (2001). *Maharagama Urban Council Regulation* (Vol. 1). Maharagama.
- Mehanna, W. A.-H. (2019). Urban renewal for traditional commercial streets at the historical centers of cities. *Alexandria Engineering Journal*, 58(4), 1127-1143.
- Mirmoghtadaee, M. (2006, September). A Proposed Method for the Analysis of Urban Character. *Journal of Environmental Studies*, 32, 129-140. Retrieved from www.sid.ir/en/journal/ViewPaper.aspx?id=62181
- Moudon, A. V. (1998). In *Typological Process and Design Theory*. (A. Petruccioli, Ed.) Cambridge: Aga Khan Program for Islamic Architecture.
- National Heritage Board . (2002). *Singapore's 100 Historic Places*. New York: Archipelago Press.
- Norberg-Schulz, C. (1971). *Existence, space and archicecture*. Lodon: Studio Vista.
- Pandiraratna, B. (1963). A Critical Review of Plans for the Development of Colombo and Some Trends in Planning. *Ceylon Journal of Historical and Social*.
- Panerai, P. C. (2004). *Urban Forms: The Death and Life of the Urban Block*. Oxford: Oxford: Architectural Press.
- Park Street Mews. (n.d.). *Park Street Mews*. Retrieved February 01, 2022, from Park Street Mews: www.parkstreetmews.com
- Rapoport, A. (1990). *Systems of activities and systems of settings. Domestic architecture and the use of space* .
- Relph, E. (1976). *Place and Placelessness*. London: Pion Limited.
- Seamon, D., & Sowers, J. (2008). Key Texts in Human Geography. In R. K. P. Hubbard, *Key Texts in Human Geography* (pp. 43-51). London: Sage.
- Tuan, Y. (1997). *Space and Place*. Minneapolis: The University of Minnesota Press.

Appendix A

Uniform Commercial Development on a Street and its impact on the Street Character

This survey is conducted in order to investigate on uniform commercial development on a street and its impact in the transformation (reshaping) of the street character; as a study for the postgraduate dissertation for the Faculty of Architecture of the University of Moratuwa.

***Required**

Questionnaire – Shop Owners

1. Shop no *

2. Do you own the shop or are you on rent? *

Mark only one oval

Own

Rent

Other

3. Are you happy with the building facilities? *

Mark only one oval

Yes

No

Not Enough

4. Do you get attention from the Municipal council for the shop? *

Mark only one oval

- Strongly disagree (SD)
- Disagree (D)
- Neutral (N)
- Agree (A)
- Strongly agree (SA)

5. Does your shop have enough parking facilities for customers? *

Mark only one oval

- Strongly disagree (SD)
- Disagree (D)
- Neutral (N)
- Agree (A)
- Strongly agree (SA)

6. This street provides enough pedestrian facilities for customers (sidewalk spaces/street lamps/shadiness) *

Mark only one oval

- Strongly disagree (SD)
- Disagree (D)
- Neutral (N)
- Agree (A)
- Strongly agree (SA)

7. I'm satisfied with the existing shop area. *

Mark only one oval

- Strongly disagree (SD)
- Disagree (D)
- Neutral (N)
- Agree (A)
- Strongly agree (SA)

8. My shop is open to the street or is an enclosed shop *

Mark only one oval

- Open to the street
- Shop is enclosed
- The shop is a combination of both

9. How do customers identify the shop by? *

Tick all that apply

- My contacts
- By walk in customers
- By seeing the shop (appearance)
- By word of mouth

10. Thank you for your response

Appendix B

Uniform Commercial Development on a Street and its impact on the Street Character

This survey is conducted in order to investigate on uniform commercial development on a street and its impact in the transformation (reshaping) of the street character; as a study for the postgraduate dissertation for the Faculty of Architecture of the University of Moratuwa.

***Required**

Questionnaire – Street User / Shoppers

1. Gender *

Mark only one oval

Male

Female

2. Age (yrs.) *

Mark only one oval

Less than 20

20-40

40-60

Above 60

3. Email *

4. Is this street safe for shopping? *

Mark only one oval

- Strongly disagree (SD)
- Disagree (D)
- Neutral (N)
- Agree (A)
- Strongly agree (SA)

5. This street is easily accessible for shopping (Motorist friendly) *

Mark only one oval

- Strongly disagree (SD)
- Disagree (D)
- Neutral (N)
- Agree (A)
- Strongly agree (SA)

6. This street is easily accessible for shopping (Pedestrian friendly) *

Mark only one oval

- Strongly disagree (SD)
- Disagree (D)
- Neutral (N)
- Agree (A)
- Strongly agree (SA)

7. Walkability on the street is acceptable. *

Mark only one oval

- Strongly disagree (SD)
- Disagree (D)
- Neutral (N)
- Agree (A)
- Strongly agree (SA)

8. By looking at the shop front, I can identify the goods sold *

Mark only one oval

- Strongly disagree (SD)
- Disagree (D)
- Neutral (N)
- Agree (A)
- Strongly agree (SA)

9. I'm satisfied with the facilities in this street (Lighting/ Shades/sidewalks/utilities)*

Mark only one oval

- Strongly disagree (SD)
- Disagree (D)
- Neutral (N)
- Agree (A)
- Strongly agree (SA)

10. The neighbouring activities (nature of the shops within the street) are a cause to visit here *

Mark only one oval

- Strongly disagree (SD)
- Disagree (D)
- Neutral (N)
- Agree (A)
- Strongly agree (SA)

11. I can buy everything that I want in this commercial area. (Any Goods) *

Mark only one oval

- Strongly disagree (SD)
- Disagree (D)
- Neutral (N)
- Agree (A)
- Strongly agree (SA)

12. I do shop in this area. *

Tick all that apply

- By my contacts
- By advertisement
- By seeing the shop
- By word of mouth
- Other:

13. What are the street characters of this street? *

Tick all that apply

- Cosiness
 - Planned
 - Unplanned
 - Activeness
 - Dead
 - Building scale
 - Uniqueness
 - Memorable
 - Other
-