

NEW URBANISM PRINCIPLES INTERVENTION WITH CPTED CONCEPT IN  
OPEN, GUARDED NEIGHBORHOODS AND GATED COMMUNITY

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## DEDICATION

This thesis is dedicated to:

*This thesis is wholeheartedly dedicated to my beloved parents (DR. Salah Abdulaziz & Rasheeda Othman) and my sisters (Noon Salah, Marwa Salah & Mariam Salah), who have been my source of inspiration and gave me strength when I thought of giving up, who kept providing their moral, spiritual, emotional and finance support.*

*To my close friends, Zuher Ahmad, Hossam Samy, Mahmoud Ahmad, Mutaz Shafeeq, Ahmad Qosaybati, Muhannad Haj Ali, Abdelrahman Taha, Noran Samy & all my friends who always gives their undivided attention and continuous assistance despite of their busy life, I wouldn't have made it without your support and encouragement you guys taught me that goodness comes from heart and dedication.*

*to my supportive supervisor TPR DR. Siti Hajar Binti Misnan, your patience, attitude and guidance have influenced me to work hard as much as I can. I would love to give you a special appreciation for believing in me.*

*“ education is the most powerful weapon which you can use to change the world”*

*Nelson Mandela*

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## **ABSTRACT**

with emergence of new urbanism concept in 1970s, the planning pattern has changed dramatically which support the principles has been proposed by congress of new urbanism. Crime rate in developing neighbourhoods has significantly increase which make residents under danger of robbery. The aim of thesis is to examine new urbanism principles incorporated with CPTED concept toward open, guarded neighbourhood and gated community in Johor Bahru, Malaysia. The three objectives under identifying new urbanism characteristics incorporated with crime prevention through environmental design. Second objective, examine new urbanism principles and CPTED concept. Third objective, proposing conceptual comparison between open, guarded neighbourhood and gated community in term of new urbanism principles and CPTED concept in Johor Bahru. However, the research has contribution on neighbourhood development in term of walkability, connectivity, mixed-use building and quality of architecture which enlighten urban developers and planners toward neighbourhood development. Thus, observation method and google map data were used in this study to gain accurate information gathering while the usage of analysis was underpinned on AHP analysis, sensitive analysis, frequency analysis and connectivity street analysis graph. Afterwards, the various results were shown in three neighbourhoods in term of walkability, connectivity, mixed-use building and quality of architecture interact with CPTED concept that Taman University appear positive result of walking mode and mixed-use building but negative result in term of connectivity and quality of architecture in safety and quality. Moreover, Opal Mutiara Mas showed strong result in term of safety that related to walkability and quality of architecture but lack of mixed-use building principles. Furthermore, the seed Sutera highlight impressive result in term of connectivity, quality of architecture and walkability in term of safety and quality but missing of mixed-use building in term of public amenities which was obvious from the comparison between three neighbourhoods. The comparison between open, guarded and gated neighbourhood will open eyes on applying CPTED concept and new urbanism theory in development process that can contribute in integration planning.

## ABSTRAK

Dengan kemunculan konsep urbanisme baru pada tahun 1970 an, corak perancangan telah berubah secara mendadak yang menyokong prinsip-prinsip yang telah dicadangkan oleh kongres urbanisme baru. Kadar jenayah dalam kejiranan telah meningkat dengan ketara yang menyebabkan penduduk didedahkan dengan radar yang bahaya dalam rompakan. Tujuan tesis ini adalah untuk mengkaji prinsip urbanisme baharu yang digabungkan dengan konsep CPTED kearah kejiranan terbuka, berkawal dan gerbang komuniti di Johor Bahru Malaysia. Tiga objektif di bawah mengenal pasti ciri-ciri urbanisme baharu yang digabungkan pencegahan jenayah melalui reka bentuk alam sekitar. Objektif kedua, mengkaji prinsip urbanisme baharu dan konsep CPTED. Objektif ketiga, mencadangkan perbandingan konsep antara kejiranan terbuka dan gerbang komuniti dari segi prinsip urbanisme baharu dan konsep CPTED di Johor Bahru. Walau bagaimanapun, penyelidikan ini memberi sumbangan terhadap pembangunan kejiranan dari segi penjalan kaki, ketersambungan, bangunan campuran guna dan kualiti seni bina yang menyedarkan pemaju dan perancang bandar ke arah kejiranan. Oleh itu,kaedah pemerhatian dan data peta google digunakan dalam kajian ini untuk mendapatkan pengumpulan maklumat yang tepat manakala penggunaan analisis disokong dari analisis AHP, analisis sensitif, analisis frekuensi dan graf analisis ketersambungan jalan. Selepas itu, pelbagai keputusan telah ditunjukkan di tiga Kawasan kejiranan dari segi penjalan kaki, ketersambungan, bangunan campuran guna dan kualiti seni bina berkaitan dengan konsep CPTED bahawa Taman Universiti dilihat mempunyai hasil yang positif daripada mod penjalan dan bangunan guna bercampur tetapi hasil negatif telah didapati dari segi ketersambungan dan kualiti seni bina dari segi keselamatan dan kualiti. Justeru itu, Opal Mutiara Mas menunjukkan hasil yang kukuh dari segi keselamatan yang berkaitan dengan penjalan kaki dan kualiti seni bina tetapi kekurangan prinsip bangunan bercampur. Selain itu, Seed Sutera menyerlahkan hasil yang mengagumkan dari segi ketersambungan, kualiti seni bina dan penjalan kaki dari segi keselamatan dan kualiti tetapi bangunan bercampur dari segi kemudahan awam yang jelas daripada perbandingan antara tiga kejiranan. Perbandingan antara kejiranan terbuka, berkawal dan berpagar akan membuka peluang dalam mengaplikasikan konsep CPTED dan teori urbanisme baharu dalam proses pembangunan yang boleh menyumbang dalam perancangan integrasi.

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## **LIST OF ABBREVIATIONS**

CPTED - crime prevention through environmental design

GN - Guarded neighbourhoods

GC - Gated Community

VGA - Visual Graph Analysis

# CHAPTER 1

## INTRODUCTION

### 1.1 Background of the study

Covid-19 pandemic has brought attention to the reliability needs of transport movement, accessibility, safe, housing and environment. The poor of planning and urban management convey to a huge disconnection between provision of residential and commercial concentration with infrastructure which leads to insufficient network of streets. The idea of guarded neighbourhood and gated community have become a dramatically important policy and planning issues in developing and developed countries. Afterward, gated community and guarded neighbourhood concept is based on normative judgement which might have a behavioural and evidence base. The concept is grown to be sees as advantages and disadvantages in quality of life and stability (Hanif *et al.*, 2015). The concern about urban crime has been noticeable for several years according to UN-Habitat in 2007, the practitioners and researcher sought various of ways to tackle crime and reduce it. The idea of CPTED was intrigued to design city safely and more liveable without any fears. However, CPTED discussed as an integrative perceptive to deter criminal behaviour through environmental design. In other words, CPTED is known as ‘the proper design and effective use of the built environment which can lead to a reduction in the fear of crime and the incidence of crime, and to an improvement in the quality of life’ by Crowe (2000). Crimes issues in neighbourhood is the elements that might influence on feeling of crime fear.

Referring to sustainable development goal, that only half of people in cities live within 500 metres walking distance to schools, shops, library transport system, etc. moreover, one thousand meters live within the same buildings that have mentioned. In 2019, data showed 610 cities in 95 countries that continues response of pandemic in cities require to boost options for safety, accessibility, sustainability and reliability of

housing and streets layout (SDG 11). With emergence of new urbanism concept in 1970s, it promotes mixed-use, high-density residential developments in walkability of neighbourhoods close to employment, public transport and amenities and generally promotes the use of grid street layout compared to the cul-de-sac (Morrow-jones *et al.*, 2004). The planners wanted the city to be redeveloped until Jane Jacob contradict by appearing that gradual redevelopment could lead to healthy safe neighbourhood. Charter assigned 27 principals but nine of them can be applied to districts, corridors and neighbourhood. Additionally, those principals have been set by the congress of new urbanism (2000). However, many countries have applied the concept of crime prevention through environmental design (CPTED) such as south and north America, UK and European countries which boost the safety in planning as tool to make crime reduction in utmost. Moreover, the reduction of crime fears also contributed in the rejuvenation of blighted areas (Evidence and Action, 2005).

## 1.2 Problem Statement

However, Due to urbanization increases in Johor Bahru, walking is considered as influence mode for urban transport. Focusing on urban walkability put concern about cities and neighbourhoods in future because of fuel availability, congestion, air pollution and other environmental factors that could lead to dissatisfaction among residents. With emergence of covid-19, Malaysia government have forced a total lockdown MCO 1, 2 and 3 which has significant impact of economy 37.7% of shops force to close while 40% of them faced financial difficulties in meeting expenses. In the other words, export production trend showed the significant lost from GDP measurement (Taylor university news, 2021).

In sequence, crime rate also increased in many cities in Malaysia but Johor Bahru showed controversial occurrence from thief, burgherly, drugs etc. which reported with 256.6 in 2019 while drug addiction report of 2371 cases due of lockdown and running out from reality of covid-19 situation figure 1.1. This leads to lack of safety which makes people unsafe and insecure in term of crime. In 1970, crime prevention through

environmental design has attached into criminology science partly. Moreover, broken windows thesis of Kelling and Wilson (Gault and Silver, 2008) encourage a remarkable importance of preserving the built environment as part of physical indicators to intervene social interaction, social control by reducing fear of crime. CPTED review in 2005 which found that there a significant evidence into planning design by crime prevention strategy effectiveness (Prevention *et al.*, 2005).

Gated community problems can be viewed in various perspectives from social, physical and legal perspective. Newburn (2001) hint at that the latest growth of global trends in the use of gates and guards in dwelling areas confront a market for this kind of security measurement. However, Concentration in crime prevention strategies through four principles of new urbanism which are walkability, connectivity, quality of architecture and mixed-use building in open, guarded neighbourhood and gated community which considered as an argument that could reduce the number of crime cases and boost quality in Johor Bahru neighbourhoods.

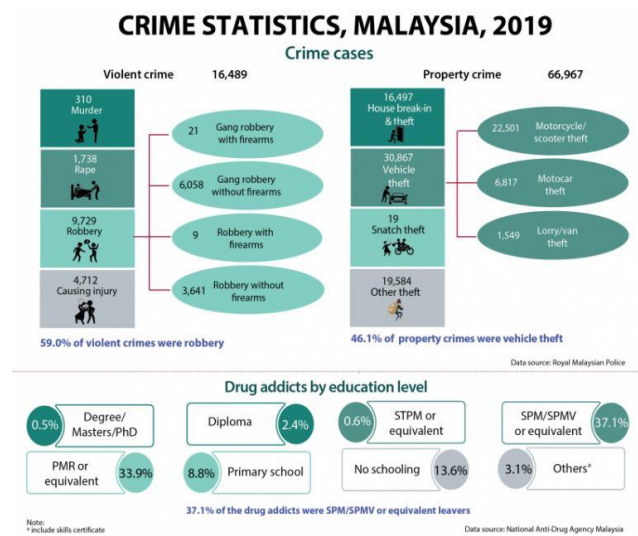


Figure 1.1 Crime Statistic Malaysia

### 1.3 Research Gap

Several studies showed strong connection between CPTED and new urbanism principles toward township design. Moreover, guarded neighbourhood and gated community was put into rules and implementation under Malaysian government and local residents association to be more convenient and liveable neighbourhoods (Hanif *et al.*, 2015) while Open neighbourhood is referring to Clarence Perry under concept of neighbourhood unit which appeared from intellectual and social attitude of society in 1900s. Perry articulate a diagrammatic planning model for residential development. Furthermore, one study have conducted in new urbanism principles toward local context of Malaysia planning (Alias *et al.*, 2011) which found most significant principals that used are quality of life, walkability, connectivity, quality of architecture, mix-use building in order while green transportation was the last principles that got attention from urban planners.

Referring to crime minimization, the opportunity for the crime event, a concept called Crime Prevention through Environmental Design (CPTED) was appeared in 1970s by architect Oscar Newman and criminologist C. Ray Jeffery who continue the term of CPTED (Hedayati *et al.*, 2016). Furthermore, the argument of residential which boost the design of crime that effect crime prevention approach. Australian planning commission found the good design in safety which make it guidelines to safety design strategies and concept (Evidence and Action, 2005). few studies examined new urbanism principles in neighbourhoods whereas other studies examined CPTED concept. However, the intervention between new urbanism principles and CPTED concept in open neighbourhood, guarded and gated community have few studies that conducted in Johor Bahru, Malaysia.

<b>Titles</b>	<b>Author</b>	<b>Finding</b>
Gated and guarded communities in Malaysia	(Hanif <i>et al.</i> , 2015)	This paper presents the findings of a study that looked at examples of gated community schemes implemented by a local resident's association.
Differences of street connectivity between old and new zone in Malaysian small town.	(Saiful and Wan, 2014)	After street connectivity analysis by using UCL depth map showed that old and new zone in small town have diversity of results in junction, pedestrian movement and interaction.
Local walkability index: assessing built environment influence on walking.	(Reisi <i>et al.</i> , 2019)	Comparing between safety, quality, attractiveness of six roads had been chosen in Iran which showed that safety have high priorities weight to put into consideration following with quality then attractiveness
New Urbanism and township developments in Malaysia	(Alias <i>et al.</i> , 2011)	During questionnaire on urban planners of Malaysia saw that finding about most significant principles are influence town planner are quality of life, connectivity, sustainability and quality of architecture in order.
What Makes a Façade Beautiful?	(Hanif <i>et al.</i> , 2015)	Identifying the quality of architecture that related to residential building exterior beauty by elaborate the main sample of building quality.
How to build a community. New Urbanism and its critics	(Łucka, 2018)	During questionnaire on urban planners of Malaysia saw that finding about most significant principles are influence town planner is quality of life, connectivity, sustainability and quality of architecture in order.
Examining the effects of crime prevention through environmental design (CPTED) on Residential Burglary	(Hedayati <i>et al.</i> , 2016)	The structural model results showed a supportive finding in the literature of CPTED association in term of high and low victimization
Planning and urban design standards	(Steiner and Butler, 2006)	Describe the standards of safety, walkability, quality of architecture and mix-use diversity in housing. The findings show the essential factors

		that must be implemented into planning process for urban planners and urban designers.
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Table 1.1 Various Reviewed Research to Derive the Research Gap

In the explanation of figure 1.2 research gap, walkability is defined as mode of travel which considered as important elements for new urbanism concept with attached with connectivity. Moreover, connectivity is multiple nodes are connected to another node which articulate the assistance of walkability. Therefore, mixed-used building is a way of development could lead to fruitful social interaction, job creation and residents' settlement. Quality of architecture focuses in beauty of residential building from exterior façade with safety and quality. However, crime prevention through environmental design was interacted with three concept while is excluded from the study which is territorial reinforcement. Thus, defensible space focused in chance of surveillance which cover widen barriers while natural access reducing crime chances by denying access to crime target. Moreover, natural surveillance makes the outsider be seen and observed easily. The gap is intervention between four new urbanism principles and CPTED concept was the gap of this research by applying it in open neighbourhood, gated community and guarded neighbourhood which is less studies has been conducted in Johor Bahru in term of this idea.

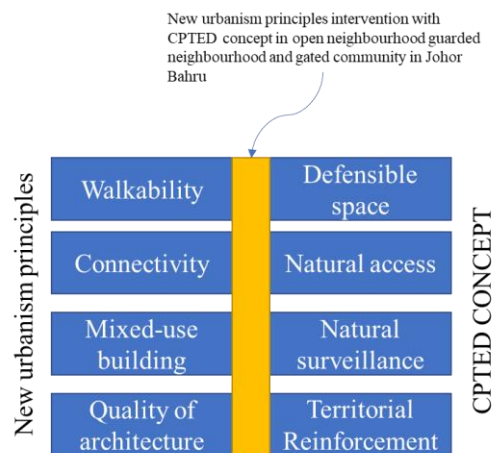


Figure 1.2 The Research Gap infographic illustration

#### 1.4 **Aim**

The aim is to examine new urbanism principles incorporated with CPTED concept toward open, guarded neighbourhood and gated community in Johor Bahru, Malaysia.

#### 1.5 **Research question**

1. What are new urbanism characteristics incorporated with crime prevention through environmental design concept?
2. How new urbanism principles and CPTED concept can applied in open, guarded neighbourhood and gated community in Johor Bahru?
3. What are the differences between three neighbourhood that have been chosen in this study in term of new urbanism principles and CPTED concept?

#### 1.6 **Objectives**

1. To identify new urbanism characteristics incorporated with crime prevention through environmental design.
2. To examine new urbanism principles and CPTED concept toward open, guarded neighbourhood and gated community in Johor Bahru.
3. To propose conceptual comparison between open, guarded neighbourhood and gated community in term of new urbanism principles and CPTED concept in Johor Bahru.



## 1.7 **Scope of Study**

The scope of study is targeting:

1. Focus on Johor Bahru neighbourhoods toward new urbanism principles interfering with CPTED strategies.
2. Focus on comparison between open neighbourhood, guarded neighbourhood and gated community.
3. The location of neighbourhoods is in Johor Bahru, Malaysia.

## 1.8 **Limitation**

The researcher had encountered difficulties during data collection in covid-19 period time which forced locked down which prohibit to visit sites for more clarification. The examining of whole new urbanism principles and CPTED concept was a biggest challenging to have significant deliverable which focusing in all principles and concept considered a hard challenge to achieve. Moreover, the time limitation from February 2021 to February 2022 could not allow to examine all new urbanism principles in term of open, guarded neighbourhood and gated community.

## 1.1 **Significant of study**

This study can contribute in spreading awareness to developers and scholars in term of new urbanism principals and crime prevention through environmental design in open neighbourhood, gated neighbourhood and guarded neighbourhood. Johor Bahru is considered as one of future cities in Malaysia based on national plan and economic plan which by applying safety concept could help people feel safe and comfort more. Moreover, the application of walkability, connectivity, mixed-used building and quality of architecture could gain benefits to residents by rise up liveability within three types of neighbourhoods and help urban planners to apply more sufficient principals that could lead to development of neighbourhoods.

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