

# URBAN MORPHOLOGY AND CRIME PATTERNS IN URBAN AREAS: A REVIEW OF THE LITERATURE

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Received: 24 August 2021

Accepted: 7 October 2021

Published: 31 March 2022

## ABSTRACT

*The emerging research on urban morphology provide sufficient explorations that result in a better understanding of crime areas and fear of crime in cities. Despite the effort so far, the existing literature on morphology of crime areas and pattern of crime presents different perspectives to the study of crime and spaces, reflecting the varied field of urban morphological research. There is a need to understand these perspectives in view of their directions and inherent limitations for effective understanding of crime pattern and urban morphogenesis in cities. The focus of the paper is on the understanding of different perspectives in the study of crime pattern and urban morphology in setting up an effective mechanism for crime prevention and control. Twenty (20) paper articles and six (6) theses published between 2010 - 2021 were selected based on the Environmental criminological research perspectives from the field of Geography, Urban Planning, Urban Design, Landscape Architecture and Architecture; and systematically reviewed based on their characteristics and then classified according to their relevance to environmental criminology for analysis and drawing of inferences. The findings indicated that, there is inadequate empirical research on the influence of urban morphology on crime pattern in cities. Therefore, the paper recommends for further research to focus on exploring the various links between elements of urban morphology and spatial distribution of crime in areas, and the explanations that could provide for effective crime prevention and control in cities.*



**Keywords:** *Built environment, Crime pattern, Environmental criminology, Urban morphology*

## INTRODUCTION

The greatest challenges facing the world in the 21st century are poverty, inequality, insecurity and climate change. With more than half of the world's population living in urban areas, the reality of the 21st century is that these issues will have a strong impact on cities as they are becoming the magnet of hope for the people. Several studies indicated that, the battle against these mutually reinforcing situations shall be won or lost in cities (UN-habitat, 2019a & 2020; Yunusa, 2011).

Urban crime threatens the quality of life, human rights, social and economic stability and sustainable development in cities around the world. This is especially true in developing countries that have high poverty rates and many informal settlements and this is manifested in the form of organized crime, banditry and property crimes. The poor are the worst affected by urban crime and violence, regardless of their geographical location (UN Habitat, 2019b). Other studies further attested to the fact that usually, areas of the city that are most blighted by violence also happen to be the poorest, unfortunately (Alemika & Chukuma (2012); Assiagio, 2017; Bernasco & Block, 2009; Umar et al., 2015b; Winton, 2004).

Different conceptions of crime in design practice, sociology, environmental psychology, and criminology indicated an extensive articulation of crime in relation to the built environment and urban form in the city. Five decades of different studies on urban crime, crime prevention through environmental design, and fear of crime indicated an implicit and gradual movement from deterministic to possibilistic propositions in exploring the relationships between urban crime and environmental design both in theory and practice (Carr, 2020; Cozens et al., 2019, & Umar et al., 2018). In this way, various dimensions of crime prevention in both theory and practice can be categorized into morphological, social, functional, and perceptual dimensions. While the social and perceptual dimensions of crime phenomenon have been widely addressed in criminology,

environmental psychology, and sociology disciplines in terms of fear of crime, sense of community, people participation, demographic profiling, socio-economic attributes, risk, and victimization. The morphological and functional dimensions of urban crime have been relatively less explored comprehensively as a complex combination of urban forms and functions in relation to social and perceptual outcomes (Eck & Weisburd, 1995; Wuschke, 2016, & 2018). Moreover, considering the complexity of the city as a combinational network of multi-scalar activities and emergence, the issue of urban crime needs to be explored in relation to various scales and dimensions of the city and urban environments.

Considering the large body of knowledge and research on the issue of crime in relation to the built environment in terms of spatial structure, demographic status, urban morphology, sociocultural and economic condition, it is probable to conceive an evolutionary process in which different approaches and trends advocate for a comprehensive articulation of the complex relation between crime and the city (Cozens, 2007; Perkins et.al, 2009; Salau & Lawanson, 2010; Silva & Li, 2020). Despite the fact that crime is one of the critical problems of cities worldwide, most of the previous studies have been conducted in sociology, criminology, and psychology in order to either explore the sociocultural and economic predictors of crime, whether in sociocultural context or individuals, or evaluate the proposed theories or propositions (Cozens, 2011). However, although the studies have gradually extended the crime discourse over the hedge of narrow-minded determinism that was implicitly embedded with the early trends of environmental research on the issue of crime, they have relatively ignored or reduced the “complexity of the city problems” (Jacobs, 1961; Jones & Fanek, 1997; Lamy & Madanipour, 2006; Hedayati et al., 2020) into crime statistics while abstracting crime from its urban context. However, whilst planners and designers need to adopt theories and propositions in relation to spatiality and sociality domains in order to forecast the social outcomes of their spatial amendments in the built environment, the efficiency of these propositions remains ambiguous while societies are paying the price and the challenge is overwhelmingly critical when “design-level” theories are needed for interventions (Hillier & Sahbaz, 2008; Ojo & Ojewale, 2019; Umar et al., 2020). Thus, conducting a theoretical review, the paper established the limitations of the previous research perspectives on crime and urban environment towards achieving effective crime prevention through

environmental design. The objective is to identify the way forward and the need to further explore urban morphology for understanding the pattern of crime and criminal activities in cities as the basis for drawing up a Planning and Design framework for developing crime resilient cities.

## **METHODS AND MATERIALS**

### **Literature Search**

This paper focused on the role of urban morphology in understanding crime pattern. It also attempted to review the influence of such findings in shaping crime prevention frameworks in cities. The research objectives were addressed by conducting a comprehensive systematic review of most recent literature that examines the influence of built environmental elements in understanding crime pattern in urban areas. A systematic and extensive search was conducted in several electronic databases, which include articles published from 2010 to 2021 as suggested in the PRISMA statement (Moher et.al., 2009). The literature search was conducted between August, 2019 to January, 2021; using the major databases, including Web of Science, Scopus, ScienceDirect and Sci-hub. The search keywords used include: ‘environmental criminology’, ‘urban morphology’, ‘Design out crime’, ‘crime pattern’, ‘crime and urban form’ and ‘crime prevention through environmental design’.

### **Literature Review Criteria**

In the course of selecting publications to be included in the review and subsequent analysis, no geographical limit was set against inclusion or exclusion of materials, but rather adopted a worldwide domain. The selection process was conducted in two stages. The titles and abstracts were assessed, and then the whole text of selected articles were reviewed. A definition of inclusion criteria was conducted prior to the extensive search. The inclusion criteria for articles used include:

- published between 2010-2021,
- published in peer-reviewed journals and unpublished Thesis written in English,
- highly cited,

- relevancy to the objectives of the study,
- outcomes related to Sociological, Psychological and Economic aspects of crime were excluded,
- interconnection analysis and ability to answer research questions.

Our search identified 106,097 records. After the title screening process, approximately 312 articles were found to be appropriate. Consequently, further screening was carried out based on the content of the abstract, whereby 55 records were selected based on their appropriateness to the study focus. Finally, 20 records were selected for detailed content analysis. Unpublished thesis was also used, six (6) theses were purposively selected and analysed; the findings have been presented in the discussion.

## **LITERATURE REVIEW: CONCEPTS AND THEORIES EXPLAINING CRIME PATTERN IN URBAN AREAS**

### **Concept of Urban Morphology**

Before identifying urban morphology and urban form, it would be useful to look into the origin of the words. As stated in various dictionaries, morphology is constituted from the Latin words *morphe* (form) and *logos* (description); therefore, morphology is concisely the description of form. The Oxford English Dictionary defines morphology as the particular shape, form, or external structure of an organism, or landform. It is also described as the history of variation in form. Form is characterised as the general system of arrangement, whereas figure is defined by lines and angles. Ching (1996) defines form as a three-dimensional mass, which also concerns figure and shape; it is the external outline, internal structure, and the unity of the whole.

Urban morphology is defined as “the organized body of knowledge” and “integral part of urban geography”; it relates forms to their socio-economic context and historical development (Krieger, 2006; Psarra, 2012 & Whitehand, 1987). Urban morphology is about shapes, forms, spaces and places; it is also associated with the nature and scale of physical places and the connections between them. It can be both descriptive and classificatory. It also focuses on the question of “how and why settlements took the shape

they did” which includes analytical element of morphogenesis (Kalimapur, 2016). It is the study of the city as a human habitat (Moudon, 1997). Despite multiple definitions, briefly, urban morphology means the structure or the study of urban form (Kropf, 2005; Larkham, 2005; Whitehand, 2005).

Urban morphology was firstly defined in the geography literature. Geography deals with the morphological processes of settlements; and the main pioneers of this discipline are Conzen, Kropf, Larkham and Whitehand (Conzen, 1960; Kropf, 2001; Larkham, 2005; & Whitehand, 1987). Secondly, architecture tackles the typological processes of the subject and here we can mention Lefebvre, Malfroy, Moudon and Psarra as the forerunners (Lefebvre, 1994; Malfroy, 1986; Moudon, 1998; Psarra, 1997). Thirdly, philosophy, which tackles the philosophical processes within urban morphology, differs from the other disciplines in that it questions more the social issue of space. The key proponents of this approach are Harvey, Foucault, Lefebvre and Harvey (Madanipour, 1996). Fourth, urban design deals with the public space network, space and place issues, and (Krieger, 2006; Lynch, 1960 & 1981; Jacob, 1961) and many others can be mentioned here. Finally, by the late twentieth century, in terms of science, Geographical Information Systems GIS, Space Syntax by Hillier and his colleagues (1970s), and other mathematical models by (Alexander, 1977; Salingeros, 2000; Van Nes & Yamu, 2021) can be cited as recent quantitative approaches to the analysis of urban morphology (Case, 2019; Cozens, 2019; Sima & Zhang, 2009).

In addition, urban form is described as the basic element that gives character to cities. Urban form is composed of buildings, streets, squares, roads, and all the elements that make up the city. It is the outcome of a process that is formed by specific determining forces i.e., Geographical and Man-made factors (Alkim, 2006; Hipp et. al., 2018 & Larkham, 2005).

Therefore, urban morphology is related to the history of the city, spatial relations, social relations, economic relations, culture, traditions, various factors shaping that form, and its rural/urban landscape. It is about the people, institutions, regulations, and management. Therefore, it is an important phenomenon and an analytic tool, which helps cities to understand their development processes, and the characteristics of each element in the city.

## **Crime and Crime typology**

A crime is defined as any act that is contrary to legal code or laws (Brantingham, 2015). In other words, crime and legality are social constructs that are fluid and change over time (Tibbetts, 2019). There are many different types of crimes, from crimes against persons to victimless crimes and violent crimes to white collar crimes. The study of crime and deviance is a large subfield within sociology, with much attention paid to who commits which types of crimes and the reason for the crime (Crossman, 2021). There are many different crimes, and what exactly constitutes a crime may vary from state to state. In general, crimes may be categorized into four broad categories (Cozens et al., 2019). The other categories are: cyber-crimes, white-collar crimes, organized crimes, sex crimes, hate crimes, property crimes (muggings, burglary, larceny-theft, motor vehicle theft and arson).

## **Crime and Urban Form**

Exploration of crime and place is a rapidly evolving area of research in the 21st century. Some of the early works in the 1970s examined topological structure of neighborhoods, identifying a way to measure the permeability of edges of the neighborhood, allowing crime committed by non-residents to drift away from the usual location along major streets into roads toward the centers of neighborhoods (Brantingham & Brantingham, 1993c). For decades, research focus on the understanding of crime and the urban environment, particularly how people live in and interact with the landscape (buildings, people, roads, and activities) that surrounds them. It advances understanding of crime within the urban landscape (Brantingham & Brantingham, 1995). Crime changes with urban development patterns. Opportunities for criminal activity emerge, disappear, or move as geography changes across the urban landscape (Weisburd et al., 2012). Patterns emerge, dissipate, or persist; but crimes are far more predictable by place of occurrence than by a particular offender (Umar et al., 2020).

Jacob's book *The Death and Life of Great American Cities* (1961) was the first contemporary piece to show how an active street life could considerably reduce opportunities for crime. This was followed by Jeffery's book *Crime Prevention through Environmental Design* (1971 & 1977). Jeffery considered a broad array of environmental factors that influence

offenders, including the physical environment (urban form and design), the legal environment (reinforcing rules and regulations), the economic environment and social structures and social organization. The work stimulated researchers such as the Brantingham, Felson and Clarke, as well as professionals such as planners, geographers, sociologists, psychologists and architects to study crime in relation to environmental factors (Cozens et al., 2019).

Criminal events are inseparable from the environments in which they occur. The origins, pathways, and destinations of individuals are shaped by their physical surroundings. In urban environments, in particular, the built physical form of the city encourages (and often restricts) movement along specific, planned pathways, which connect the origin and destination points such as; residences, workplaces, schools, shopping and entertainment areas, to name a few (Abdul & Md Sakip, 2017; Boivin & D'Elia, 2017; Boivin & Felson, 2017; Frank et al. 2013). As urban structure shapes patterns of movement, so too does it shape patterns of criminal activity (Bowers, 2010; Boivin & D'Elia, 2017; Brantingham et.al. 2015; Johnson & Wuschke, 2007; Wuschke 2016; Wuschke & Bryan, 2018; Silva & li, 2020). Changes to the built urban environments, such as urban development, growth, decline or gentrification, are designed to shift the movement within and use of urban spaces; as such, these processes may have considerable impact on the distribution of criminal activity.

## **Theories Explaining Crime Pattern in Urban Areas**

Studies in environmental criminology have also indicated that there is a strong relationship between the patterns of crime in a city and the urban form. In 1978, Paul and Patricia Brantingham studied how crime locations scatter themselves into specific patterns in relation to the variables that govern growth of cities. Older cities with concentric zonal forms have crime-locations concentrated towards the dense core of the city. The cities with mosaic patterns that are relatively newer seemed to have a scattered pattern of crime spots. The patterns of roads in a city also have a relation with the patterns of crime because the roads determine the accessibility to potential crime spots in a city. Cities built on gridiron patterns are known to have higher crime rates when compared to cities with naturally developed street layouts (Brantingham & Brantingham, 2008; Silva & Li, 2020).

Several theories have emerged over time to provide a comprehensive understanding on the inter play between crime and the environment. Table 1 has provided a summary of these theories and their fundamental assumptions and inherent limitations as observed by researchers.

**Table 1. Theories Explaining Crime Pattern in Urban Areas**

Theories	Author (s)	Assumptions	Emerging criticisms
Opportunity Theory	Clarke, 1983; Wortly, 2008, 2010	The theory proposes that urban crime analysts should search for concentrations of offence targets and reduce the chances of re-offending. The basic assumptions here is that more opportunities lead to more crime, easier opportunities attract more offenders and shape the lifestyle of crime within urban settings.	The theory attracts its own criticisms. It was considered counterproductive as it does not alter the disposition of criminals to continue offending and was also criticized on the grounds that it led to crime displacement across areas.
Social Disorganisation	(Park & burgess, 1928; Park et. al., 1969; Shaw & Mckay, 1942)	The effects of location and location specific characteristics of fragile communities such as poverty, ethnic heterogeneity, and weakened social stability influence the perpetuation of crime.	The theory has been criticized by environmental criminologist for being purely offender focused approach to investigating the occurrence of crime while ignoring the influence of built environment on crime - criminal events.
Rational Choice Theory	(Cornish & Clarke, 1986; 2008)	The theory assumes that criminals think exactly the same way as non-criminals. That crime perpetrators within urban settings intentionally choose to commit offence largely because they feel it would be more rewarding for them than non-criminal behaviour. The theory also, places greater emphasis on the influence of purposive behaviour in the risk-reward calculation of offenders.	The theory placed emphasis on impulsive behaviours of offenders in committing crime. Several critics argue that impulsive emotions can have significant effects on the predisposition to commit crime. Other criticisms of the theory show that other extenuating factors may influence offenders and that they may not always act rationally.
Routine Activity Theory	(Cohen & Felson, 1979; Eck, 1995; Felson, 1995; Felson & Clark, 1998; Felson, 2008)	The theory suggests that the organization of repetitive activities in urban settings creates opportunities for crime. The assumption here is that crime occurs when there is an offender who is motivated enough to commit a crime; presence of a target against which the motivated offender can strike; absence of a capable guardian and a place which provide opportunity for the crime.	The theory over time has attracted a number of criticisms. This includes the assumptions that: the offender has to be motivated; it contradicts the assumptions of other criminological theories such as crime pattern theory which focus on the spreading of crime.
Crime Pattern Theory	(Brantingham & Brantingham, 1993, 1995, 2008; Eck & Weisburd, 1994)	The underlying premise for the crime pattern theory is that crimes do not happen randomly or uniformly in time, urban space, across social groups and during daily or lifetime routines. Similarly, there are those offenders who repeatedly commit crimes within urban settings and there are targets (persons and places) that repeatedly fall victim to such crimes.	Although the theory has been popularized within the domain of environmental criminology, it still faces some criticisms. The underlying assumptions that are used to create the routine activities triangle comprising Nodes, Paths, and Edges focus largely on the behaviours of criminals and victims which can change from time to time.

Crime Prevention Through Environmental Design (CPTED)	(Cozens & Love, 2015; Jeffery,1971; Newman, 1972; Moffat, 1983)	The central assumptions made by CPTED is that the built environment represents an important underlying determinant of crime. The idea here is that an efficient and effective utilization of the physical environment helps to reduce crime. "There are no criminals...only environmental circumstances that result in criminal behaviour. Given the proper environmental structure, anyone will be a criminal or a non-criminal" (Jeffery, 1977, p.177).	CPTED has attracted a range of criticisms from criminologists. CPTED proposes environmental design methods such as target hardening and restrictions and control of access; some of these methods actually create urban fortresses which further entrench urban segregation. Another criticism of CPTED is that it also led to the displacement of crime.
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Source: Author

The criminality of place is most often connected to the level of activity, ease of access, the presence of juveniles, and the presence of easy targets or victims. The sense of place is temporal by nature. People may feel fear in a dark parking lot at night, but completely safe in the same parking lot during the daytime. In essence, criminal places as well as criminal activities have a temporal dimension in accordance with environmental criminology (Meena, 2016; Md Sakip et al., 2019 & Perry, 2017).

Crime and urban form research have also explored potential offender decision making by arguing that crime is associated with offender awareness of space that led to decisions about target attractiveness. Crimes occur where and when the immediate environment makes the offender feel that a crime can be committed with reasonable safety and ease. Conversely, victim decision making can affect crime patterns. Victims’ choices about where to work, shop, or play affect their chances of coming in contact with offenders (Cozens, 2019 & Kim, 2018).

## FINDINGS AND DISCUSSIONS

### Perspectives of Research on Urban Morphology and Crime Pattern

It is clear that research on Environmental Criminology has largely focused on the relationship between patterns of crime and urban form and has gained considerable attention in the last four to five decades (Carr, 2020; Cozens, 2007; Meena, 2016 & Song et.al. 2016). Advances are evident

from theoretical perspectives, pointing at best approach to view and better understanding of crime events, management, prevention and control, and in terms of methodologies in conducting empirical research to test the validity of such theories. This trend has addressed a lot of pressing questions with some fascinating explanations as to why, where, when and how crimes occur. As new findings continue to emerge prompting new sets of questions, much research is still needed to provide more answers (Azande, 2015; Mihinjac & Saville, 2019; Umar et al., 2018; Zubairu, 2016).

It is important, however, to note that contributions to this field of research have been approached from different disciplinary perspectives, such as Geography, Urban Planning, Urban Design and Architecture which will help to explore the interaction of crime with space through the morphological analysis of places (Groff & Lockwood, 2014; Kamalipour et al., 2014; Perry, M.A., 2017). However, Table 2 indicated that, even within these professional disciplines there are numerous variations in context in terms of research focus.

**Table 2. Perspectives of Research on Urban Morphology and Crime Pattern**

Perspectives of Researches	Author(s)	Discussions	Limitations of the studies
Geographical	(Ahmed, 2010; Ackerman & Murray, 2004; Adel et al., 2016; Arthur, 1994; Appiahene-Gyamfi, 1999; Emamanuel et.al, 2015; Hillier & Shu, 2000; Isin, 2012; Ratcliffe, 2012; Rengert & Brain, 2009; Song, et al., 2013a. Umar, 2016, Umar et Al., 2020)	Urban form and pattern of crime largely focus on exploring the spatial pattern of crime in spaces over a period of time, with emphasis on macro scale of analysis for the understanding of the social and spatial environmental elements that could provide explanations of crime for effective crime prevention and control.	The studies are limited to the exploration of crime pattern over space and understanding of the influence of spatial forms at neighbourhood level of analysis, ignoring the role of social indices such as poverty level, education and land use mix in explaining crime events and pattern across areas of the city.
Urban Planning	(Cozens et al., 2020; Hillier, 2008; Heidarzadeh, 2014; Kim et al., 2017; Kim & Hipp, 2019; Lopez & Nes, 2007; Ojo & Ojewale, 2019; Salau & Lawanson, 2010; Satiawan et al., 2018; Summers & Johnson, 2017; Wuschke, 2016; Zubairu, 2017).	Urban form and pattern of crime research largely dwell on the impact of planning decisions on urban transformation with respect to land use change dynamics, social and physical infrastructures and safety and insecurity in cities. The focus here is on how these decisions explain crime events and distribution over space and how possible it is to plan for crime prevention and control in cities.	The studies mostly focused on micro to macro spatial design conditions which are relevant to spatial design intervention, spatial designer and spatial design prevention policy making. These explanations are limited in terms of scale of analysis to district levels without consideration to the wider city network of crime flow.

Urban design	(Abdul et al., 2017; Arabi et al., 2020; Armitage, 2004; Azande, 2015; Beavon et al., 1994; Bowers, 2013; Crowe, 2000; Curman et al., 2015; Dwidinita et al., 2018; Frank et al., 2013; Groff, 2014; Groff & McCord, 2012; Jeffery, 1992; Kinney et al., 2008; Lin, 2010; McCord & Ratcliffe, 2009; Newman, 1996)	Urban form and crime studies largely deals with the public space network, space and place issues with respect to crime prevention through urban design. The focus of urban design studies on morphology of space and pattern of crime is to reduce the opportunities for crime through alteration of situational factors or modification of physical settings at which a crime event is likely to occur, i.e., Crime prevention through Environmental Design.	These studies consider only the physical elements at the buildings and streets level (micro scale), without making reference to the social fabrics of the places of crime events. The studies are limited to the physical fabrics of the places in terms of target hardening, surveillance and image of the areas, ignoring the influence of macro form elements such as connectivity to other areas and land use dynamics of the city.
Architectural	(Bafna, 2012; Carr, 2020; Lefebvre, 1994; Legeby, 2009; Marcus, 2007; Marzbali et al., 2015, 2016, 2017, 2018, 2019a & 2019b; Meena, 2016; Milinjac & Saville, 2019; Psarra, 2009; Siti & Abdullah, 2012)	Urban morphology and pattern of crime studies focus on typological process of buildings and opportunities they present to crime events in terms of attraction, prevention or control. The research concern here is on how building design and construction as well as organised open spaces attract crime or deter crime in areas in order to create a better design of buildings and spaces for crime prevention and control.	Most of these studies evaluated the role of Crime prevention through environmental design (CPTED) models in understanding the crime pattern, fear of crime and victimization across areas. The studies largely looked into the CPTED suitability and applicability in crime prevention while under plying the model's adaptability to different urban forms.

Sources: Authors.

### Limitations of research on Urban morphology and Crime pattern

The review of several literature on the relationship between built environmental features and crime pattern and distribution in cities has established the availability of extensive research work had been carried out. Most of these studies were done for the purpose of understanding urban crime occurrences in relation to built environmental characteristics, and what possible implications it has on the future of urban planning and design strategies for cities. Moreover, most studies adopted different elements for consideration in the analysis from which explanations were drawn. For instance; Lynch (1960) and Jacobs (1961) have identified the critical role of urban planning in explaining urban crime, violence and juvenile as well as a profession that provides a viable opportunity and environment for prevention, management and control of deviance in urban areas (Brantingham & Brantingham, 1995). Since then, the study of crime has become a research interest to several urban researchers (Adel et al., 2016; Azande & Gyuse, 2017; Cozens et. al., 2019; Felson and Boivin, 2015; Hashim et.al., 2018; Kalimapour et.al., 2014; Kim, 2018 & Umar et al., 2020). Most of these studies examined crime in the context of urban

morphology and drawn an understanding on the explanation of crime events and pattern in urban areas. However, these studies vary in the context of morphological analysis and approaches adopted. According to (Abdullah et al., 2018; Carr, 2020; Cozens, 2011; Kumar & Borbor, 2018; Mazbali et al., 2016 & Nangia et al., 2019); the built environmental features provide opportunities for crime generation, attraction and detraction across space. Therefore, morphological research with the aim of establishing the effect of built form on crime pattern should consider the basic fundamental elements of urban morphology i.e., form, resolution and time (Brantingham et al., 2009; Case, 2019; Godwin & Stasko, 2017; Hodgkinson & Andresen, 2019). This will enable the drawing up of an effective understanding on the potential effects of urban form on crime pattern and distribution across cities.

In summary, a number of common themes emerged from the body of previous research on exploring crime within the context of built urban form. Though, consistencies exist across a number of urban areas, key environmental features can have different associations with various crime activities and varied spatial patterns across urban environments. Some have categorized crime activities and spatial patterns at the same spatial scale, while others have different crime activities with common spatial patterns and different spatial scales. However, while such findings have clear potential value to Planners, Urban designers, Landscape Architects, Architects and policy makers alike, there is still inadequate understanding of the influence of urban morphology on crime pattern in our cities as established in the previous studies. This is so because of the absence of an existing study that explored adequately the morphology of urban spaces and crime pattern in the context of form (planned and unplanned), scale (Micro, Meso and Macro) and time (histo-morphology). Therefore, the paper has identified these as the missing link in the existing body of literature with respect to the study of crime and urban environment. Hence, the paper recommends that future research should consider this as their focus of in-depth study, with the aim of providing a better understanding of emerging urban crime activities and its spatial pattern as influenced by the prevailing urban form in place for effective crime prevention and management in our towns and cities.

## CONCLUSION

Urban crime has largely been addressed with different approaches to the conception of crime and its main initiatives. However, the growing body of knowledge in the studies of urban crime refers to the social and spatiality aspects of the problem in the cities worldwide. While different approaches to the study of crime do exist as identified in the paper, it is possible to denote that urban crime pattern cannot be thoroughly explored in the absence of social constructs and spatial features of spaces in the context of form, scale and time. Furthermore, the issue of urban crime is multidimensional. That is why any desire for planning and designing a safe place in cities should incorporate functional and morphological analysis of the urban environment. Therefore, there is a need for further research to focus on providing an explanation on the relationship between morphological character of spaces and the pattern of crime in places within the context of urban environment. This is with the view of actualizing the Sustainable Development Goals (SDGs) and mainstreaming the mandates of the New urban Agenda towards realizing the safe city and crime resiliency in our towns and cities.

## ACKNOWLEDGEMENT

The authors would like to thank Universiti Sains Malaysia for funding this research under Research University Grant (RUI), grant number 1001/PPBGN/8016111.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

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