

Tasks and opportunities of urban design to ensure the formation and preservation of safe cities regarding street criminality

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According to Edward Glaeser (2012), cities deal with many challenges in becoming liveable spaces. Criminality is one of those challenges, and urban design is one component of many that can impact the safety of cities. This paper presents the relationship between street crime and urban design, based on a literature review in this field of research. The paper is guided by the question how urban design, as our field of study, can contribute to forming and preserving safe cities regarding street criminality.

Urban design elements can affect human behaviour, thus it appears they can be applied to shape peaceful and attractive neighbourhoods, or even to prevent crime. In this paper, urban design refers to physical design elements, their effect always having to be considered on the level of the whole city. Crime likewise has no universal definition, since it depends on the context, for example, country, time and subjective sense. Therefore, a definition of street crime is developed after giving an overview of common strategies for defining and measuring crime.

Further, the CPTED approach will be examined as one of the leading methods to prevent crime. To give a practical insight, Birmingham, a city in Great Britain burdened by high crime rates, is chosen as a case study. The City Council of Birmingham recently published new strategies regarding the city's comprehensive development. One of those strategic paper's main goals is reducing crime. Within this context, the investigation of this paper shows which of the presented urban design principles can be identified to lower the crime rate in Birmingham.

1 Introduction

The present paper is initially based on the book of Edward Glaeser (2012), referring to Chapter 4 "*How were the tenements tamed?*" (Glaeser, 2012, pp. 93). Glaeser believes that cities are innovation hubs and, therefore, essential for society's economic success. People take advantage of each other and the spatial proximity to spread ideas. However, to maintain those advantages, city governments must help the cities' tenements by organising and financing critical infrastructures like sewage systems and fresh-water supply.

For that, city administration and politics need a firm hand and enough control over their territory. Edward Glaeser states that for the same reason, urban proximity enables the spread of ideas, it also enables the spread of diseases and crime, including corruption, which are some of the main challenges of cities.

Cities need well-functioning social spaces. Otherwise, people sacrifice liberty in search of safety and the advantages of cities are cut off (pp. 106).

Glaeser (2012, pp.110) describes recent strategies to tackle crime in the United States against the backdrop of the 1960s, when governments hoped to reduce crime by solving the poverty problem through creating jobs. This approach turned out to be too simplistic, as creating jobs alone did not have the effects hoped (pp. 110). In this context, Glaeser describes the three main strategies to fight criminality in the USA nowadays (Glaeser, 2012, pp. 110-112):

- **arresting more people and enhancing penalties**
 - **show more police presence**
 - **gain and use more information**
- a. gain information through technology like programs with artificial intelligence to support police and identify offenders
 - b. gain information through building long-term trust between police and inhabitants

Referring to this Glaeser (2012, p. 111) also mentions the following: “I cannot say whether the costs to those prisoners and their communities is outweighed by the benefits of increased public safety, but I fervently hope that we can find less painful means of reducing crime in the future”.

This paper is motivated by this threat of imbalance between measures and effects and because there need to be more options besides arresting more people and investing in police presence. It questions how urban design, as our field of study, can contribute to forming and preserving safe cities regarding street criminality.

This paper presents the relationship between street crime and urban design, based on a literature review in this field of research. It is divided into three main sections. The first section gives an overview over important concepts and definitions – a definition of urban design, a definition of “street crime” and a discussion on how street crime is measured. The second section sheds light on the relationship between street crime and urban design. It serves as a basis for the last section: 6. Birmingham – Great Britain – A case study, which is followed by a short conclusion.

2 Definition of urban design

Urban design is not a precisely defined term. It contains various components for different people depending on their context and access to the term. This is why an individual definition and delimitation of the term is obligatory within a work that refers to it. Cozzolino (p. 38ff, 2020) differentiates the understandings of the term based on dimension (tangible or intangible), scale (local or supra-local), interest (public or private) and process (governance and regulations). For example, it can be distinguished which (design) elements are part of urban design and which are not. Urban design can, for example, reflect social and societal values in public space design from a creative

or practical-technical point of view. Other definitions refer to the fact that socially constructed space is also part of urban design. It can subsume the establishment of rules and communication structures (governance), virtues and values of life, ways of acting and how those influence social coexistence and quality of life (Cuthbert, p. 21, 2006).

With a focus on physical components, urban design is also seen as a discipline that combines design elements so that a coherent overall picture emerges that fulfils public and private interests. It should be emphasised that regardless of the type and manner of urban design, design activity always pursues a goal. The sum of the objectives met with urban design influence the functioning and, thus, in a certain sense, the success of cities (cf. Cozzolino, 2020).

In this paper, the term urban design refers to the activity of producing and changing the built environment through physical design elements. However, the study focuses on physical design elements, which influence people's behaviour in a given area. The public interest is at the forefront of the objective here, as this paper focuses on the relationship between crime and urban design. The public goal of ensuring a safe coexistence for all residents in the city is to be strengthened by implementing specific urban design elements. At the same time, however, the personal need for safety of individuals is also affected by most urban design elements implemented in the city. In this context, urban design is an instrument that shapes urban space so that people can identify with their environment and develop it further.

In defining the scale, our understanding of Urban Design refers to the entire city or city districts and is thus located on a supra-local level. The understanding that Urban Design is only relevant for the local scale, with a focus on the design of individual squares, streets or parks, is deliberately avoided since otherwise crime within a city could merely be spatially displaced, simply by the definition of urban design itself. All measures must therefore be considered on a city-wide level.

Urban design, in this understanding, is purpose-bound with clear intentions that are to be fulfilled by the implementation and thus has a direct and immediate effect on the behaviour and feelings of people. It is not about influencing behaviour in public space on a normative level by means of non-material aspects of urban design, like new or renewed rules or laws.

In summary, this paper builds on the understanding that urban design refers to the built environment and does not consider city districts in isolation but in a coherent way. It is about actively shaping and changing the physical environment of cities while considering different interests and positions, as well as societal and social values.

3 What is "street crime"?

Whether a crime is considered a crime or not depends on many different factors. These include the society or country in which one is located, but also the time in which one lives (cf. Britannica, 2022). Accordingly, it is difficult to find a general definition of crime. One can define crimes based on laws, but crimes also exist without laws. Crime is to be understood as a social construct (cf. Newburn, 2017; Przemieniecki, 2017). Efforts by the United Nations Office on Drugs and Crime to create a unified framework to record and compare crime on a global scale resulted in the report: The International Classification of Crime for Statistical Purposes (ICCS) (cf. Bisogno et al., 2015). The general definition of crime within the report is as follows: *"crime is considered by the ICCS to be the punishable contravention or violation of the limits on human behavior as imposed by national criminal legislation."* (ibid., p. 11).

The classification of crimes into different categories is a next step to compare crime occurrences. Crimes are often classified in relation to their severity, which can be determined by the punishment (cf. Britannica, 2022). However, crimes can also be subdivided according to the impact on the victim, by motive, or qualitative aspects of the act, such as the distinction between drug offences, theft, piracy, bribery, etc. (cf. Bisogno et al., 2015). The ICCS distinguishes 11 different categories from *"Acts leading to death or intending to cause death"*, to *"Acts against the natural environment"* (Ibid., p. 14).

Any kind of classification of criminal acts can be further differentiated in order to identify certain patterns. For example, it can be interesting to distinguish with regard to certain crime weapons, time of day or location (cf. ibid.). When defining street crime, one can narrow it down by type of location - public access. An example of this is the classification of street crime as made by the Cologne Police Headquarters (cf. Polizeipräsidium Köln, 2021). Crimes which occur in publicly accessible spaces are included, as well as crimes which have their place of origin within publicly accessible spaces, such as burglaries (cf. Bureau of Justice Statistics, 2022). The very comprehensive police crime statistics on the street crime of North Rhine-Westphalia, Land (2018) is like the classification made in Cologne and will serve as a basis for the present paper. The listed offences include, among others:

- Property damage
- Theft
- breach of the peace
- Unauthorised use of cars, mopeds, bicycles, etc.
- bodily harm
- Robbery and mugging
- Sexual harassment
- Agitation of public nuisance
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4 How can and is (street) crime measured? – an overview

The ways in which crime is measured can be subsumed under two main approaches. On the one hand, the methods of data collection by the police and on the other hand, the collection of data through surveys (cf. Newburn, 2017). The latter method includes the victim survey as well as the perpetrator survey. All methods have their advantages and disadvantages, with police crime statistics (PCS) probably reflecting actual crime rates the worst (cf. ibid.). The actual crime rate is not decisive for either fear of crime or perceived safety (cf. Hinkle 2015). Accordingly, any urban design must not confuse those two different issues.

In the case of the PCS, the actual crime rate is overstated, since suspected cases that later turn out to be invalid are also included in the statistics (cf. Beclin, 2005). In contrast to the statistics of the judiciary, however, the PCS statistics include cases which are otherwise not included, for example, due to divisional settlement or non-conviction. The biggest problem of the PCS is the dark field of reported crimes. The light field describes all the offences that come to the attention of the authorities. The dark field comprises crimes that are not recorded. The difference between the dark and light fields is not constant - the rise or fall in crime rates may also be due to a shift between the light and dark fields (cf. ibid.; Newburn 2017). Similarly, increased police initiatives regarding certain crimes may lead to an increase in crime rates of offences that fall within those crimes being in focus (cf. Britannica, 2022). Research, which is based on official complaint statistics is weakened in its argumentation by these points of critique and insecurity of facts.

Collecting crime rates via surveys has the great advantage of statistics including unreported crime and criminal acts not recorded or followed up by the police (cf. Newburn, 2017). They also provide information on how criminal acts are perceived by the respective victims rather than how they are interpreted by the police. In difference to PCS, victim surveys can illuminate in greater detail the picture that prevails of crimes committed. On the negative side, certain groups of society such as the homeless or incarcerated and sometimes people under a certain age are often excluded. That is so because the surveys are mostly based on household interviews (cf. Maguire, 2012). There is also the problem that specific criminal acts are not included. On the one hand, victimless acts such as drug possession, and on the other hand, criminal acts, which are often associated with shame or feelings of powerlessness, such as sexual assault (cf. ibid.).

The survey method creates an overall more accurate picture of the actual amount of crimes committed and is thus more useful to use as a basis for planning. Nevertheless, its shortcomings must be considered if urban design is to be based on it.

5 Relationship between street crime and urban design

The question of the relationship between street criminality and urban design is vast and complex, which can animate many different answers. We will start with a brief introduction into the development of academic research and the foundational theories of the interrelation of crime and urban design, which is needed to understand better the following examples of recent studies, all concerning the relationship between urban design and forms of criminality falling into our understanding of street criminality. The first study tries to analyse the influence of tree canopy density on crime rates. The second study concerns the relationship between alcohol outlets and violent crimes in Cape Town. The third study presented here discusses their findings regarding the problem of displacement of crime through urban design measures, while the last, most recent study will be used to round up the discussion and once again stress the complex relationship between urban design and street criminality.

The academic study of crime in relation to urban areas started already in 1920 by proponents of the Chicago School, finding that certain areas are more prone to crime than others. Arising from this observation is whether such areas attract criminals or bring criminals as posed within the social disorganisation theory put forward by Clifford Shaw and Henry McKay (1942). Jane Jacobs brought significant developments in the relationship between crime and urban design in 1961 with her theory that cities become safer places if there are more eyes on the streets (cf. Sohn, 2016). Her theory argues for surveillance by everyday people, which will be attracted to use the city by mixed land use and open and permeable spaces. Another important theory is that of Newman (1972), named defensible spaces, which also promotes surveillance but in contrast to Jane Jacobs in low-density, residential-dominated areas with restricted access for strangers. Both theories lay the groundwork for theories such as the broken window theory or the Crime Prevention Through Environmental Design theory (CPTED), with the latter used as a principle to design urban spaces quite often (cf. Monchuk et al., 2018; He et al., 2022). They are applied even though they often only displace criminal activity to different areas, and mainly based on findings based on (multiple) linear regression models checking for correlation, not to mention the criminal data they use, which is often official data from police reports, with all the above-mentioned problems following (cf. Sohn, 2016; Piroozfar et al., 2016).

Since CPTED is used quite often as a principle to design urban spaces, but especially because of its use in the later discussed urban redevelopment plans in Birmingham, a short explanation of the design principles will follow. *"CPTED refers to the proper design and effective use of the built environment for reducing the fear and the inci-*

dence of crime" (Sohn, 2016, p. 86). It is built on four principles, which are key to modifying the built environment:

- **Territoriality** – delineating public from private space to create a sense of ownership and make it easier to identify intruders.
- **Natural surveillance** – Increasing the possibility of observing the area through good landscaping and the placement of windows and lightning.
- **Active support** – Provide space for safe outdoor activities so that people are outdoors more often, leading to public surveillance.
- **Access control** – Fences, doors, landscaping, etc., should help to deny possible offenders access and heighten a sense of risk in the potential victims.

A good first example is the study by Troy et al. (2012), which tries to relate tree canopy density to crime rates. Official criminal data from police reports in Baltimore County and the city were used to conduct this analysis. The results showed that an increase in tree cover by 10% decreases reported crimes by 12% overall. The study cannot explain parcels of land where the effect is the opposite. The authors controlled for socioeconomic and demographic variables such as average income, housing tenure, race, population density, housing age and housing type, as most studies do, still leaving them with a high R² value suggesting *"that there is some genuine relationship between trees and crime"* (cf. Troy et al., 2012) while admitting that it might be at least partially due to omitted variables.

A very interesting study in their set-up by Matzopoulos et al. (2020), Urban upgrading and levels of interpersonal violence in Cape Town, South Africa: *The violence prevention through urban upgrading programme* concluded that living near an area where measures to redesign the city after the concept of CPTED were applied, results in a 34% drop of exposure to interpersonal violence. Over the time of 3 years, they collected and processed 3625 surveys from geo-located households within the research area. The study focused on three different determinants for interpersonal violence: access to alcohol, area-level deprivation and social cohesion, finding that all three are strongly and statistically relevant related to interpersonal violence. Using surveys for self-reported crime is time-consuming and expensive, but it can yield more accurate results (cf. Matzopoulos et al., 2020).

The study *Crime prevention in urban spaces through environmental design: A critical UK perspective* by Piroozfar et al. (2019), concerns itself with the question of how effective the intervention principles of CPTED, in the restructuring of Brixton Town Center (BTC), London, were. This study used mixed methods comprising police crime data of the area under observation in relation to police crime data for adjacent neighbourhoods and the countries of Wales and England compared over time, as well as questionnaire

surveys and semi-structured interviews aiming at how the public perceived the changes¹. The measures introduced by the city and completed in 2010 encompassed lighting, CCTV cameras, railings, and planting new trees. The study found that even though the general trend for crimes in Wales and England was rising, there was a decline in BTC after the implementation. There was also no displacement of criminal activity to neighbouring districts (cf. Piroozfar et al., 2019). Again, this does not necessarily mean a causal relationship between urban design measures and crime rates. It just signifies a correlation.

The final study presented will be used to reflect the aforementioned studies and deployed methods critically. He et al. (2022) conducted a *Multiscale analysis of the influence of street-built environments on crime occurrence using street-view images*. They found that the relationship between different urban design features in relation to each other and crime is much more complex than findings from studies such as the one by Troy et al. (2012), which tries to relate tree cover density to crime rates. He et al. used official criminal records by the police and a geographically weighted regression model to understand better the spatial scale of influence for different urban design features on crime occurrence. The crimes included in the study are petit and grand larceny, petit and grand larceny of motor vehicles, burglary, violent crime including assault and related offences, as well as robbery and felony assault. The crimes were subsumed into two main groups, larceny and violent crimes, subdivided by day-time and night-time occurrence. The help of street-view images and machine learning mechanisms to quantify the pictures helped overcome the issue of insufficient fine-grained quantitative data of the built environment. The use of a multi-scaled model pays credit to the fact that urban design features, which correlate with crime occurrences, do so at various spatial scales. The study furthermore differentiates the influence of urban design features between night and day. The place of study was Manhattan, New York, which was divided into three functional regions: uptown, midtown and downtown.

There are many interesting findings of the study, one of which is the relation of greenery to crime occurrence. Greenery is negatively related to crime in midtown and downtown and shows the most considerable inhibitory effect of all design features. However, greenery has an inverse impact on uptown, where the central park is located, and even more so at night. In light of those findings, greenery has to be viewed as a feature that can serve as a hiding place and something that obstructs peoples' views but also as an inhibitor of crime, depending on context and distribution. Furthermore, greenery's influence on crime is on a small scale, letting us conclude that criminal behaviour is sensitive to changes in greenery (cf. He et al., 2022).

¹ Which is not so much our point of interest, for which we will not go into detail on that

Another good example showing the complexity of how environmental features correlate with crime occurrence is street lighting. Streetlight exhibits a negative correlation with night-time crime in uptown, where socioeconomic conditions are higher than in downtown and midtown, where there is a positive correlation between streetlights and night-time crime. Streetlight furthermore shows a multiscale effect. Its influence on larceny crime is on a very big scale, whereas it is on a small scale for violent crime. This indicates that violent crime is more sensitive to street lighting than larceny. The influence scale of street lighting is also smaller at night than at day (cf. He et al., 2022).

Overall, the study shows that urban design features are heterogenous in their correlation with crime types and functional regions. Therefore, it cannot be concluded that the increased or decreased use of certain urban design features can restrain crime. This, as well as the previously described studies, try to give a better and more detailed understanding of the correlation between urban design features and crime. Even though there are limitations to their findings due to insufficient crime data and factors, which cannot be incorporated into the study design, they can help city administrators, urban designers or the police with the deployment of resources to prevent or at least displace crime. Police patrolling can be guided by the findings of the study by He et al. (2022).

6 Birmingham – Great Britain – A case study

As the following figures 1 and 2 show, Birmingham is one of the hotspots regarding crime in Great Britain. Analysing violent crime rates against persons per 1000 inhabitants within large cities in England and Wales reveals a severe increase in violence in the last couple of years. In particular, knife crime is a significant problem in Birmingham.

Henceforth we would like to take a further look at the characteristics of Birmingham and its current strategies to improve the lives and life chances of people and communities across the city.

Birmingham has about 1.15 million inhabitants, with the shares of females and males being approximately balanced (cf. Birmingham City Council, 2021). The forecast shows a positive population growth rate and predicts the city to reach 1.3 million inhabitants by 2039. The spatial demographic analysis shows that 50% of all children and juveniles between the age of zero to seventeen live in areas falling within the city's 10% most deprived areas. Overall, 41% of Birmingham's citizens live in the 10% most deprived areas (cf. Birmingham City Council, 2023). The programme Think Family aims to help improve the life chances of families at risk. There are 7.635 families in Bir-

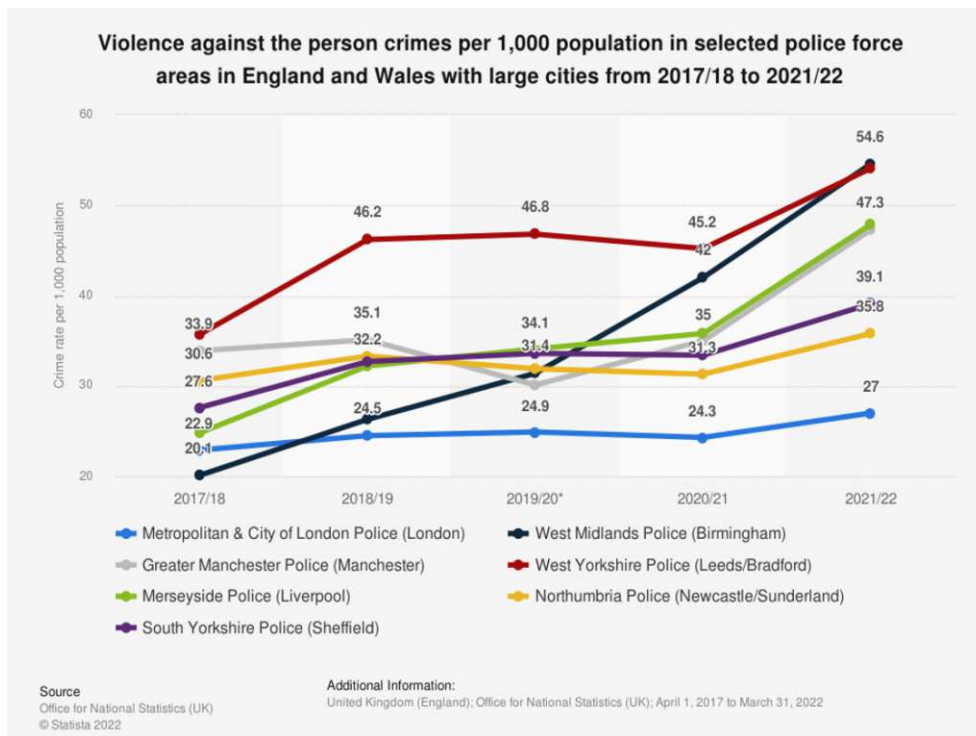


Figure 1: Crime rate per 1.000 population in selected police force areas in England and Wales with large cities from 2015/16 to 2021/22; Source: Statista 2022

irmingham which are part of the program and about 4.000 further families which would have the necessity to be on that program. However, 30% of those families deal with serious problems regarding crime and antisocial behaviour. Correlating with the affront mentioned qualities of crime are the statistics regarding causes of early death in Birmingham. Alcoholic liver diseases are at third place behind coronary heart disease and lung cancer. Even other heart diseases and chronic obstructive pulmonary diseases, which are normally higher on the list, are on a lower rank, exemplifying the alarming state within Birmingham regarding citizens' health.

The investigation of the Waste Management Performance Team (2017) claims that the cleanliness of streets and greenspaces changed for the worse and that the targets of the former city strategy are far from the actual situation, which impairs the appearance of public space. Even though Birmingham has many parks (571), the city is ranked 172 out of 206 cities regarding access to sport, outdoor activities, and recreation areas. Ranking cities of England and Wales for the happiest places to live in reveals a similar picture, with Birmingham ranking at 161 out of 206 cities.

Urban Design in Birmingham:

To tackle the current and future challenges, the city council commenced a new strategy in 2021 and accordingly published the new city's strategic paper Birmingham at the heart of levelling-up (cf. Birmingham City Council, 2021). This strategic paper, of course, comprises a lot of

different topics and measures to improve public services, renew local centres, enhance connectivity and (digital) infrastructure as well as transportation, create jobs, challenge discrimination and improve green open spaces to obtain a long term sustainable and healthy city.

Concerning urban design, the main visions and objectives relate to housing, infrastructure, connectivity, and living environment (ibid., p. 24). The goal is to provide affordable, high-quality accommodation, improve access to high-quality and well-connected green infrastructure and increase the proportion of residents benefitting from the high-quality environment such as green open spaces. In the context of crime reduction, the focus lies on the most deprived areas of Birmingham, which deal with high crime rates, poverty and high social inequality. As described in chapter 4, the cause of crime is multifactorial and urban design is only one component of many to prevent crime. Reducing crime and the fear of crime (ibid., p. 27) is one of the main goals for East Birmingham, where the new strategy will be tested and, if necessary, improved. It is imperative that urban design and planning consider different interests, positions and various social values. To meet this, the Birmingham City Council empowers different communities through participatory processes on different levels of conceptualisation and planning (ibid., p. 28).

One of the four strategies to tackle crime within the CPTED strategy is to support and enhance human activity in areas of concern. More activity in public spaces also enhances natural surveillance (Sohn, 2016, p. 89). The Birmingham City Council aims to increase local skill levels

Knife crime is not confined to London

Knife crimes per 10,000 people in England and Wales

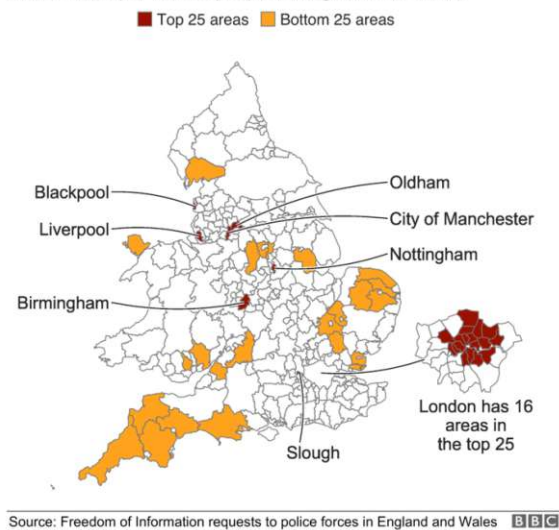


Figure 2: Hotspots of knife crime in England and Wales;
Source: BBC News 2019

through new training hubs in deprived areas and support local small and medium enterprises. Further investments in infrastructure for walking and cycling, as well as green and blue infrastructure, should lead to more activity in public spaces (ibid., p. 87). As Sohn (ibid., p. 89) states, the increase in commercial development within neighbourhoods can lead to more activity and reduce crime through natural surveillance. The same principle applies when people are stimulated to go for walks, practice outdoor sports or ride a bicycle to go from A to B. Increasing and stimulating active transportation and movement within the city is desirable from the perspective of physical health and increases safety in public spaces. Urban design aims to develop attractive public spaces (indoor and especially outdoor), where people like to meet and have conversations in a positive context and atmosphere.

Another target group within the neighbourhood network scheme are children. It is very important to build an environment where the needs of children and juveniles are met (Birmingham City Council, 2021, p. 28). Relating to the CPTED strategy of territoriality, creating a sense of ownership helps in crime prevention because people protect spaces conceived as belonging to them and respect territories conceived as belonging to other people. Furthermore, well-defined spaces and correspondingly well-defined user groups enable people to identify intruders and potential offenders (Sohn, 2016, p. 87).

Concerning the development and improvement of neighbourhoods, the 3Bs Neighbourhood Plan: Towards a Garden Suburb (Beeches, Booths and Barr) is another important instrument of the City Council of Birmingham (2020a). The plan is structured like a catalogue with many aspects of urban design covered and direct spatial references. It helps planners prioritise measures and focuses

on green infrastructure. The 3Bs Neighbourhood Plan was developed in close collaboration with citizens and, more importantly, is implemented together with citizens as far as possible. Each measure is described by its issue, its impact on the character of the respective area, other consequences, neighbourhood plan response and neighbourhood objective & policy response. For example, large (deteriorated) industrial sheds along the roads create hard boundaries, block views, and do not reflect a suburban character. The neighbourhood plan responds with a need for a policy framework in order to deal with those sheds and develop the affected street (ibid., p.11).

The following list gives an insight into the extent of this plan and its attention to detail: planting trees, supporting the appearance of local shopping areas, bringing waterways which are running underground to the surface where possible, protecting and enhancing community buildings, identifying and preserving valuable historic buildings, implementing different kinds of routes which are attractive for active mobility (Master plan at p. 18), improving parks from an ecological point of view and install various types of facilities (sport, quality space for relax etc.), making room for allotments to grow vegetables (local green spaces), unseal surfaces where possible, create soft boundaries to structure the view, greening of streets, open small and oppressive passages, improving biodiversity, etc.

Hundreds of measures are accompanied by comprehensive masterplans and photographs for each topic. Every measure is located and described in detail.

Another guiding document in the context of urban design and preservation of a safe city regarding street criminality in Birmingham is the Bordesley Park Area Action Plan (2020b). Bordesley park is located in one of the most troubled areas of Birmingham, with the area around it being of very poor quality. At the same time, this area is located near the city centre and very well connected to high-level transport infrastructure. The plan aims to benefit from these opportunities and develop sustainable growth in terms of economic activity, housing and community infrastructure together with the citizens. The strategy to gain a safe and secure environment is based on natural surveillance and people's activity (ibid. p. 19). The redesigning of the area should enhance the appeal of outdoor activities and walking as well as implementing urban design elements that work toward accessible, safe, and observable spaces, which promote positive social interaction.

Overall, the extent of recent strategies and plans by the City Council of Birmingham to tackle the city's challenges is impressive. We recommend having a deeper delve into the strategies and plans for a more detailed account of the city's endeavours. From our point of view, it is very positive that no matter which topics and dimensions are addressed, the whole city and all its inhabitants are always considered. The strategies contain various measures in

order to help citizens within deprived areas without pushing them or problems within the area away to other areas.

7 The role of spatial and urban planning regarding the formation and preservation of safe cities concerning street crime

The role of spatial and urban planning in forming and preserving safe cities is very complex. It is very complex even if urban design is limited to built elements of the physical environment and crime to the sub-category of street crime, as done within this paper.

Urban design poses the challenges of actively shaping and changing the physical environment of cities while considering different interests and positions, as well as societal and social values (cf. Cozzolino, 2020). In its pursuit of a safe city, urban design does not consider city districts in isolation but in a coherent way. Crime, similar to urban design, has no universal definition. Its definition depends on different contexts, such as time in history, country and subjective perception of crimes by individuals (cf. Newburn, 2017). Another difficulty concerning (street) crime is its measurement and even more so the measurement of street crime in correlation with urban design elements: crime data never represents the actual number of crimes committed; different variables overlap and influence each other irregularly, while many other variables influencing crime can often not be included into the study design (cf.

He et. al., 2022). Due to the above-mentioned concerns regarding urban design in relation to street crime, a conclusion that the increased or decreased use of certain urban design features prevent crime and increases a city's safety, cannot be made.

Nevertheless, planning is perceived and understood as proactive and a way to shape future and society. Therefore, planning principles, such as Crime prevention through environmental design (CPTED) are frequently applied, as in the case of Birmingham City. In response to a severe increase in violence within the last couple of years, the City Council of Birmingham passed multiple master plans and planning directives in which CPTED strategies to reduce street crime can be identified.

We firstly conclude that urban design alone has little impact on preserving and forming safe cities concerning street crime, as crime is influenced by an incredible number of factors apart from urban design. Secondly, urban design's impact on a city's safety is diminished by its heterogeneous effects which are very hard to account for and plan with. Nevertheless, it certainly does have an effect, least that it contributes to a certain extent to people's well-being and sense of security in the street space.

Acknowledgements

This paper was written as part of the Master course "Spatial development strategies" at TU Wien and supervised by Prof. Michael Getzner and Assistant Prof. Anna-Theresa Renner.

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