Geography of Crime and Its Relation to Location: The City of Balıkesir (Turkey)

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Abstract. A person cannot continue his/her own life without security which is one of the basic needs of the human being, for not only personal security but also the security of the persons' living environment is of extreme importance. We can talk about the habitability and sustainability of the urban environment so long as the people may, in time and in place, freely select all their activities, such as their residence, work, education, shopping and entertainment options. On the other hand, it is well known that crime in the cities that create insecurity is directly related to urban areas and urban utilization. In the realization of an act of crime, the fact that the victim and the concepts of place are as much impactful as the convict indicates that the place where the crime is committed is, at least, as responsible as the person who commits the crime. Based on this fact, in this article, we shall attempt at identifying the reasons related to place by examining the relation between the factors that bring the crime into being and the urban utilization in the City of Balıkesir. Thus, in the fight against crime, the prevention of crime and/or its avoidance, which is not the duty and under the authority of only the law enforcement agency, the attention and also that of other disciplines (Sociology and Criminology) is invited to be focused on the effectiveness of urban planning.

1. The Interrelation between Urbanization and Crime

Crime is a universal, general phenomenon. Crime has existed ever since the earliest periods in history, and it will continue to exist in the future. A society without crime is nothing but a utopia. As long as there are social discrepancies and incompatibilities brought about by living as a community, crime will always exist. Another characteristic of crime is that it is relative. Acts that constitute crime embody multifaceted variables based on time and place [1]. The concept of urbanization does not always impact societies positively. During this process, institutions, such as the family and religion, which serve to keep the society together, may experience disintegration. In addition, the process of urbanization may not always suggest employment of individuals. Along with all of these structural negativities, smaller-scale elements that may adversely affect individuals, such as individuals not adapting to the city and the existence of subcultures and the ease with which these cultures may be interacted, lead to the association of urbanization with crime.

As acts of crime function almost like a barometer during periods of social transformation, crime rates and types become important signifiers for these periods. While violent crimes signify the problems experiences in the process of adapting to the city, crimes targeting property attests to the imbalance in the distribution of income brought about by the modern city life [2].

1.1. Urban Space and the Geography of Crime

The intensification of crime in some certain urban spaces may be caused by various reasons. While certain workplaces are regarded by robbers as alluring, housing zones of specific characteristics are convenient for theft [3]. Hence crime and criminality are directly interrelated with urban environment. Crime rates are higher in larger cities. Densely populated cities make control difficult, thereby providing the grounds for crime. In crowded cities, there are many people who fit the victim profile. Therefore, the act of crime does not necessitate an extra effort. Where control is inadequate, the victim will find him/herself within the act itself. The reasons why the acts of crime are more frequent in larger cities are as follows:

- There is plenty of money made through crime activity in urban space
- Urban space provides the grounds for criminally-inclined individuals to come forward.
- The probability of getting caught is low.
- The security forces, equipment- and staff-wise, fall short both in quality and in quantity.

High number of people from the upper-income class in urban space causes the criminal to gain a lot after the act. This implies that economic difficulties, the major reason why an individual steers towards crime, may be solved through a shortcut. It has been observed that in some parts of the city crime rates are higher and crimes are more frequent than at other locations, and criminologists argue that this is not coincidental, but based on social, cultural, and economic equilibriums.

All theoreticians agree on the idea that the physical and social structure of space may enable crime, block its development or provide its expansion in that space. To illustrate, according to Brantingham [4], the distribution of criminal activities in their locations of origin are not geographically coincidental. For this reason, there exists a spatial relation among criminals, the urban space where crime is committed, the criminal's goals (victims themselves or their property), and the time of the crime. Moreover, while some targets are alluring and attractive for those who commit crime, some environmental elements make the actualization of crime easier for the perpetrator [4, 5]. Similarly, weak urban designs in residential and public spaces provide the environment in which crimes can be committed, and the cases of vandalism and graffiti resulting from the lack of surveillance and supervision at these locations increase the fear of crime in the society. As such, spots that lack natural (informal) surveillance called the neighbourhood watch, and formal surveillance through camera systems and security services – especially spaces that are inadequately lit at later hours, deserted, rundown buildings and their environs – become ideal for drug dealers, usurpers, and criminals who target both individuals and property. In like manner, places with uncontrolled entrance and exit procedures, city centres that are densely crowded and uncontrolled within the day, axial points of transportation, and outdoor spaces away from surveillance and supervision are more easily accessible spaces to commit crimes when compared to other urban spaces [6, 7].

1.2. Characteristics of Urban Space that Orient Crime and Criminal Behaviour

In mapping out the geography of crime, it is necessary to put forth the characteristics of urban space that orient crime and to identify the effects of these characteristics on criminal behaviour. According to the theoreticians on this issue, because urbanites, including criminals, develop a conception of urban spaces they routinely utilize in their everyday lives, how people comprehend space and how space creates different conceptions, especially the physical qualities, is important in the selection of criminal targets [6, 8, 9]. In line with this approach, to understand the reason why crimes are committed more frequently in urban space, one has to carry out detailed analyses and start by identifying the locations, within the larger city, where crimes are more common [10] (Clarke, Eck, 2005). In the related literature, this definition brings together characteristics of various urban spaces that facilitate crime and certain groups, and categorizes them as 'spaces that produce crime,' 'spaces that attract crime,' and 'spaces that ease the formation of crime', [4].

Spaces that produce crime are where constant activity is, where chaos and population are dense, and where, due to their physical qualities and user profile, development of crime is rendered inevitable. These locations are usually avoided within the city, and they are defined as places of dissociation not only socially but also spatially. They may negatively impact both their locations and the settlements in their environs [4].

Spaces that attract crime are urban locations that attract both the crime and all the criminals within the city to those locations, thereby providing the context for the crime to take place there. Such urban spaces are usually the axial points, city centres or commercial centres [4].

Spaces that ease the formation of crime are those that facilitate crime [4]. Such spaces are where there are few or no behavioural rules.

To observe urban crimes from a distance and to evaluate the crime location through the perspective of the criminal are methods that can be used in solving almost every crime. The former is defined as the "opportunist behaviour," and the second "intentional behaviour." These behavioural patterns of the criminal coincide, at the same time, with the categories of spaces that produce crime, spaces that attract crime, and spaces that ease the formation of crime [4]. As such, opportunist behaviour is defined as the criminal evaluating the appropriateness of the space and its present conditions for the actualization of the crime while he/she is wandering by any part of the city. Since the location for the crime is not predetermined in this type of behaviour, most such crimes are acts of urban vandalism, graffiti, or minor offenses among crimes against individuals and/or property. Hence opportunist behaviour is observed at spaces that ease the formation of crime due to lack of any form of surveillance.

A criminal who commits crime through *intentional behaviour*, on the other hand, determines the location for the crime beforehand. The chosen location is either the one preferred by the criminal, an urban location where he/she committed crime several times before, or the one with a good time to commit a crime [11, 12].

2. The Interrelation of Crime Geography and Space for the City of Balıkesir; The Methodology for the Study
This relation between crime and space is defined in criminology as criminality districts, also known as crime geography. This approach may be summarized as 'identifying the distribution of crime over space by applying the method of mapping, observing, analysing, and examining if the characteristics of the criminal's environment leads him/her to commit crime, and, as such, pointing out the correlation between a specific location's criminality and the elements of that location, thereby studying criminality' [1].

In accordance with the approach(es) based on the social construction of space, in other words, regarding social relations as the fundamental element of space, social process and space inevitably affect one another. The aim of this study is to analyse the crime/space interrelation, the distribution of criminal acts over urban space in the city of analysis, the physical/spatial factors in effect, and the use of urban territory for these crimes, and comparing and contrasting the specified locations. With this orientation, the data base for this study – public order crimes for which environmental factors have been effective – has been quantified at the neighbourhood scale through the data obtained from the Balıkesir Directorate of Security, and a crime map has been drawn. Utilizing this map as a tool, an analysis of spatial crime intensification has been conducted. To put it differently, factors such as the spatial distribution of crimes in a given time period, the types of crime, victims, and security forces have been identified, and crime geography has been defined according to the types of crime in urban
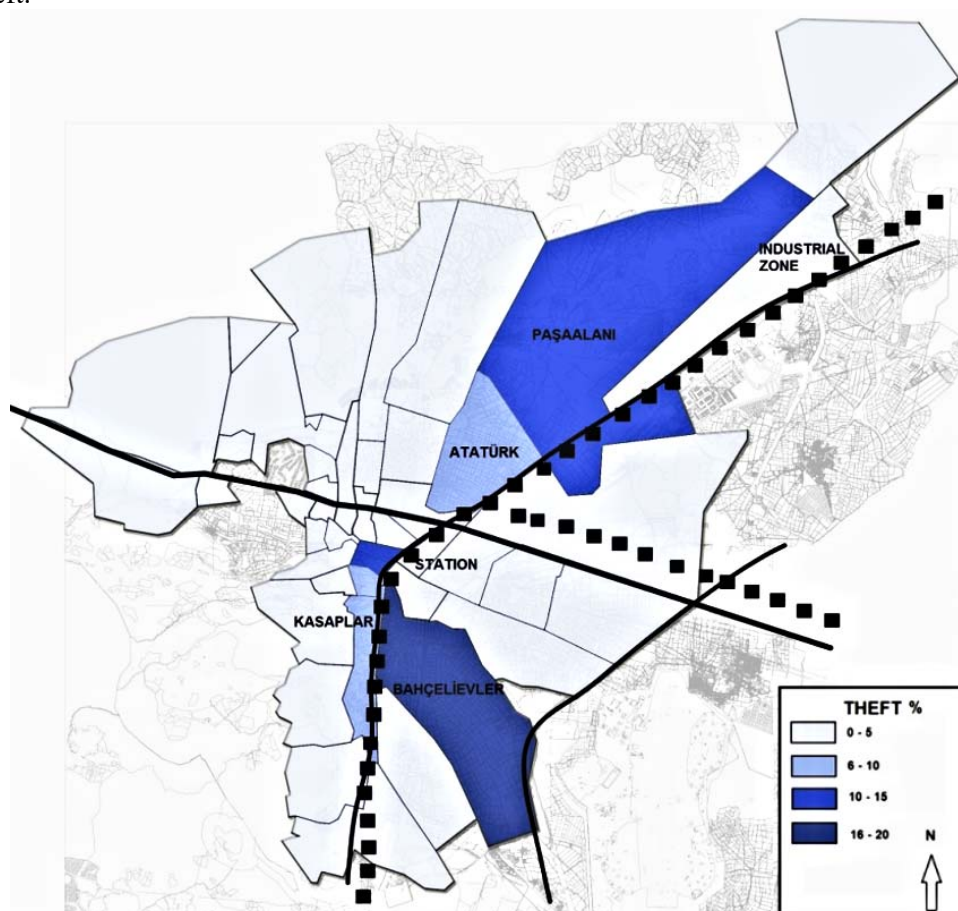
space. Locations with intensified crime have been compared with the utilization of territory to set forth the factors that lead to crime. Through the matrix formulated, intervention methods and tools based on crime types in these districts have been suggested.

2.1. The Spatial Distribution of Theft in the Central District of Balıkesir

In mapping out the crime geography for the central district of Balıkesir, data from the years 2012 to 2014 have been used. Urban crimes, in relation to crime types on the neighbourhood scale and urban geography, have been determined, and crimes of theft, extortion, and harassment have been taken into consideration. As the data, from the Balıkesir Directorate of Security pertaining to the years 2012 to 2014, indicate the most common crime type in the central district is theft. Theft has its categories of stealing from homes, from workplaces, from cars, and car thefts.

Articles 141 and 142 of the Turkish Criminal Law, numbered 5237, define theft as 'taking a movable property belonging to someone else from its location without the consent of the owner, for the purpose of one's own or someone else's benefit.' Theft is one of the crimes committed against property.

When cases of theft reported to Balıkesir Police Headquarters are analysed, there were 959 cases of crime in 2012, and 1123 in 2013, recording an average increase of 20 %. The foremost among the reasons for this is that Balıkesir is a central county and as such, it is in the position of the densest in relation to both the population and the housing and commercial functions. Moreover, the fact that residential areas take as much space as commercial functions in the central county suggests that potential criminals benefit from the chaos and concentration of the county, thereby tending towards acts of theft.

Map 1. Theft Crime Map of Balıkesir Central District Neighbourhoods

Based on crime data of 2012 to 2014, 15 – 20 % of the acts of theft are recorded in the neighbourhoods of Bahçelievler and Paşaalanı. Since the housing complexes situated in this area appeal to high-income groups and these neighbourhoods are located on the east-west transportation axes in the city center, residences within these neighbourhoods are primarily selected for the purpose of theft.

On the other hand, commercial functions of the train station and its environs develop around a significant transportation axis that appeals to the whole city, and residences are located alongside workplaces which are inactive at night (doctors' offices, hairdressers, florists, insurance companies, galleries, and the like). This results in these residences, located alongside spaces not far from the commercial axis active at almost all hours of the day and unused at night, becoming more appealing for theft. This condition seems to validate the necessity for mixed use suggested for city security by Jacobs [13], Wekerle and Whitzman [14], Greene and Greene [15] and Robinson [16]. It is observed that stealing from residences is frequent in the Paşaalanı neighbourhood near the small-scale industrial site (Map 1). The disorderly/crooked residential areas at this location render stealing from residences easy. This is of a supporting nature to Wilson and Kelling's [5] "Broken Window" theory according to which a crime becoming widespread at one location spreads in time to nearby settlements, and the crime that remains unattended becomes widespread at the same location. The most significant reason for this are, as Friedman [17] points out, the dense and disorderly buildings in settlements brought about by rapid urbanization.

In addition, auto theft, as an example to the types of crime committed in the study area, results from criminals choosing locations based on the characteristics of the urban space where cars are available. Criminals stealing cars do so for the purpose of taking to pieces the stolen cars and making money selling those parts separately, making certain changes on the stolen cars (such as on the registration number or the colour) to personally use them, using the vehicles in other planned crimes or simply for pleasure, or using them temporarily and dumping them afterwards.

Auto theft throughout Balıkesir is committed for the purpose of using the vehicles in other crimes (theft, stealing by snatching) rather than of selling the parts. Considering the fact that in Bahçelievler and Paşaalanı neighbourhoods there are not any expensive and luxurious cars owned, auto theft is conducted for the aim of using the vehicles in other theft crimes or as run-away vehicles.

It is recorded that in the study area, which includes the city centre and its environs, workplaces that are deprived of both technical systems and surveillance (formal and informal surveillance systems) are broken into. This attests to the idea that crime spreads in the physical space to its surroundings and that criminals usually choose the same locations for the same kind of crimes [5, 12] and to what Brantingham [4] emphasizes by suggesting that urban spaces attracting crime are widespread in the specified location.

On another note, it can be argued that the reason for the high rate of stealing from workplaces in the city centre (Map 1) is that this is where shopping malls, office blocks, and offices are located and where residential areas are scarce. This signifies the high number of spaces that ease the formation of crime, suggested by Brantingham [4]. Especially at locations which are commercially busy, cases of vandalism surfacing at many urban spaces where surveillance systems do not function or iron shutters used in providing security create fear of crime among those who use the space and imply the space to be insecure [18].
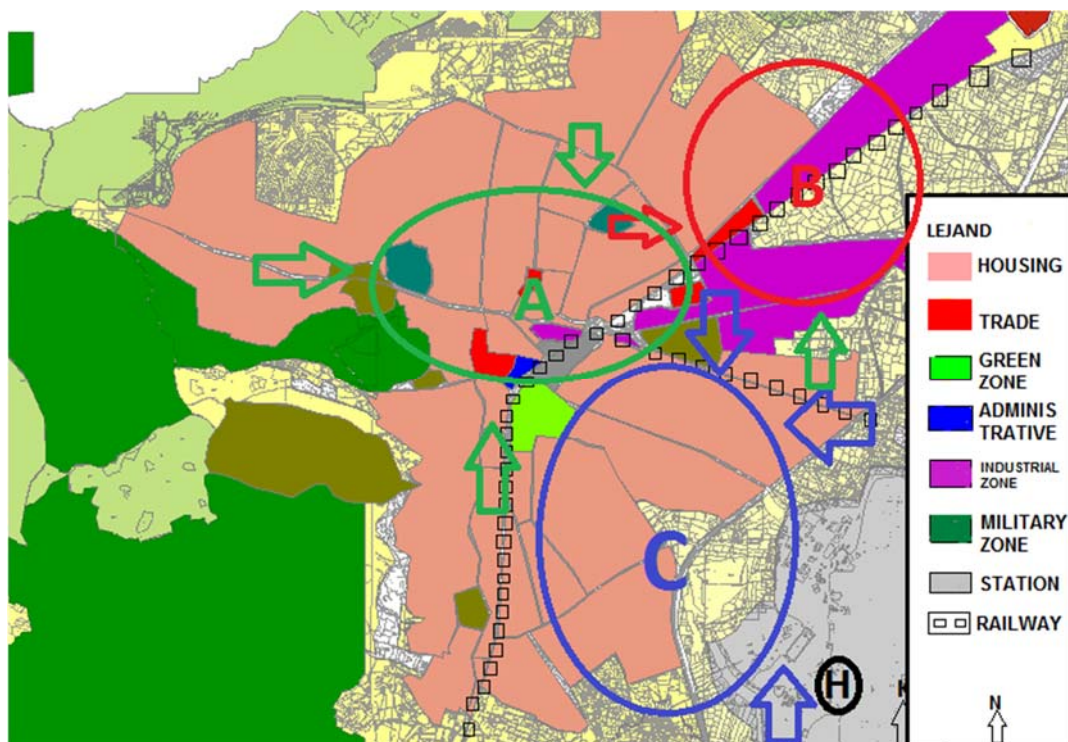
As a result, it is recorded, throughout the study area, that stealing from residences, cars, and workplaces are intensified in the city centre, in areas with busy commercial functions, and along main transportation axes as one moves away from the center. Another significant finding is that commercial units located alongside residential areas are less likely to be targeted by criminals.

It is a fact that, in some parts of the cities, crimes are committed at higher rates and constantly when compared to other parts and that this is rooted in local social equilibriums. Eliminating social forces that lead to crime may impact crime in a preven4, tive manner. This proves that the major reason for committing crime is not personal characteristics but environmental conditions.

Chosen as a topic for analysis by many different disciplines for its reasons of emergence, its development or its characteristics, crime has for its main source people. As people live in specific spaces and as crimes are committed in spaces, acts of crime appear as an issue for analysis for urban geography. In the viewpoint of Dönmezer [1], the emerging crime geography may be defined as 'identifying the distribution of crime over space by means of CBS, observing, analysing, and examining if the characteristics of the criminal's environment lead him/her to commit crime, and, as such, pointing out the correlation between a specific location's criminality and the elements of that location, thereby studying criminality.' As such, crime geography becomes the science of the interrelations between the authentic structure of a specific location and criminality at that location based on variables of place and time. Criminal behaviour is a criminological discipline encompassing place-time distribution. This discipline tries to define demographic, economic, social, physical, and cultural elements through models of expansion, specific space-time spread out, and connection for the aim of fighting against criminality. Founders of the crime geography perspective Guerry [19] and Quetelet [20] also regard it significant for the theory to render criminality numbers visible on the map.

The whole of these analyses in the study area help shape the 'activity areas,' named by Brantingham as such for those locations where urban use and criminal intensity overlap, that attract attention in relation to urban crime and constitute primary intervention areas, as indicated in Map 2. As the map indicates, the activity area is composed of spaces between workplaces at the commercial centre and along major transportation axes and dense residential locations. These locations, defined as primary intervention areas, constitute 'the focal points of crime.'

Map 2. Balıkesir Crime-Space Interrelation

The study area has been observed in three sub-districts. Accordingly, Zone A covers Eski Kuyumcular, Akıncılar, Altıeylül, and their surrounding neighbourhoods (Map 2). As these areas are commercially very busy during the day but transform into dead zones during evening and night hours, they create spaces that facilitate the committing of crime when human activity is lessened in line with the urban use.

In the areas where the population and buildings portray an excessive and disorderly intensity, urban crime is widespread, crooked and disorderly urbanization decreases the social control mechanisms in the city, people become self-centred and egotistical, and these lead to a tendency towards violence and crime. As such, areas around the centre and the small-scale industrial site, where development is unplanned, illegal and intense not only become convenient for the crime of theft but also increase the tendency towards crime in the area through the stress and pressure forced on people by the disorderly urban pattern and by toughening life conditions. Hence characteristics such as the low population density brought about by rural life, the strength of neighbour relations, and the fact that people know one another indicate that the security in this area is actualized through natural means, that is, through informal surveillance systems. The idea of strengthening social networks and communication, supported in secure space planning by scholars such as Brantinghams [4], Jacobs [13], Greene and Greene [15], Newman [21] and Lab [22] surfaces here as well.

In Zone B, there are mostly unused, empty locations, the industrial site, and the newly developing areas, and disorderly formation is increased, and as such, spaces that ease the committing of crime provide the criminals with easy escape or hiding opportunities and add to the feeling of urban insecurity. As a result, all acts of theft observed in the study area have been committed here. In the conducted study, it also becomes apparent that there exists a direct relation between transportation axes and crime areas. Transportation axes are always places where crimes formulate. That small-scale workplaces located alongside significant transportation axes lack adequate security systems and that they are mostly situated in clusters in areas that are deserted at night increase the workplace break-ins and theft. As Jacobs [13] also points out, the lack of mixed utilization at city centres causes many areas to become dead zones especially at night, rendering the streets deserted and dangerous. This is one of the major factors contributing to crimes.

Zone C encompasses Bahçelievler and Hasan Basri Çantay neighbourhoods and their environs where residential areas are in the majority. Since this zone is a newly developing area where neighbour networks are weak and empty lots are many, cases of theft are numerous. Moreover, the industrial sites in Gümüşçeşme and Gündoğan (1 and 2) neighbourhoods and idle lots scattered throughout cause cases of stealing from the workplace to be frequent.

2.2. Methods and Tools for the Prevention of Crime
Crime intensity analyses based on crime types put forth intervention methods (Map 2 and Table 1.).
In this matrix, the criminal's behavioural crime type and the space's characteristics that constitute crime intersect for those areas in which the crime type is spatially intensified.

This intersection defines, at the same time, planning principles, methods and tools for the type of crime taking place at the area. By this matrix, the densest areas of crime have been added to the areas where crime is the highest in number, and planning methods have been determined accordingly. The social factors that lead to crime in the study area are the weakness of social networks, the decrease in social control due to overpopulation and construction excess, the disorderly formation and the toughening living conditions due to this lack of order, the inability to identify strangers in desolate residential areas, insecurity, the move away from neighbourhood culture, violent disposition, and stress and fear caused by complex and intensified urban orders.

Table 1. Intervention Methods and Tools Specific to Crime Types and Space

		Types of Theft			
		Stealing from Residences	Stealing from Workplaces	Stealing from Cars	Auto Theft
Spatial Distribution of Crime	**Zone A** "Eski Kuyumcular, Akıncılar, Altıeylül"	■ (black)		■ (black)	■ (black)
	Zone B "Industrial Zone, New Residential Development Area, Paşaalanı"		■ (black)	■ (black)	
	Zone C "Bahçelievler, Hasan Basri Çantay, Gündoğdu 1-2"	■ (black)	■ (black)		■ (black)
Characteristics of the Space where Crime is Committed	Spaces that Produce Crime		■ (red)		
	Spaces that Constitute/Attract Crime		■ (red)		■ (red)
	Spaces that Ease the Formation of Crime	■ (red)		■ (red)	■ (red)
Intervention Methods and Tools specific to the Type of Theft	Technical Control "Formal Informal Surveillance Techniques"		■ (blue)	■ (blue)	■ (blue)
	Design Applications that do not allow the Crowds to Intensify "Natural Surveillance"	■ (blue)			■ (blue)
	Prevention of Disorderly Residential Areas and Crooked Urbanization	■ (blue)			
	Social Consciousness and the Creation of Neighbour Relations	■ (blue)	■ (blue)		
	Security Measures "Alarm, Camera Systems"		■ (blue)		
	Interrelation between Functions in the City Centre and "Mixed Use"	■ (blue)	■ (blue)		
	Prevention of Crime through Urban Design "Lighting, Eliminating Blind Spots"			■ (blue)	■ (blue)
	Duties of Security Forces "Random Patrol System"	■ (blue)		■ (blue)	■ (blue)

Another determinant of crime forming in urban space is the criminal's disposition according to the location, in other words, the criminal behaviour (opportunist/intentional). This behaviour of the criminal varies according to the characteristics of the urban space and the type of crime. The criminal may change the criminal behaviour that he/she is about to demonstrate in accordance with the type of the crime and the opportunities the space offers him/her. A significant example to this is the fact that acts of snatching-and-stealing and pick-pocketing mostly take place in crowded areas that lack surveillance. Intervention methods formulated in the crime matrix based on crime analyses of the study area are as follows.

Lack of Technical Control "Formal Informal Surveillance Techniques"

One of the supportive solutions recently used in decreasing crime in the cities is technological systems. The most widespread and important, and the ethically questioned, of these is security cameras located in strategic urban spots.

Design Applications that do not allow the Crowds to Intensify "Natural Surveillance"
That the intensity of one road is high is another spatial variable that may affect the formation of crime. It being a highway would naturally increase the rate of its intensity and accessibility. It has been observed that at such locations within the study area, crimes that affect pedestrians are seldom. This leads to the conclusion that accessibility and crime are inversely correlated. Thus, areas utilized during all hours of the day may be designated secure.

Prevention of Disorderly Residential Areas and Crooked Urbanization
Plan decisions taken within the framework of city plans should be revised upon the evaluation of the conducted crime analyses. In all kinds of planning decisions concerning city centres, such as the choice of location for major transportation axes and routes, and public transportation stations and stops, the selection of new residential areas, transformation and gentrification projects and choice of location for shopping malls, the crime status of spaces should be investigated.

Social Consciousness and the Creation of Neighbour Relations
It is crucial for the sustainability of applications that urbanites be made aware of urban crimes. Identifying those places that urbanites avoid, are afraid of, or define as insecure, will provide significant data that will benefit many other crime analyses. Furthermore, it is also noteworthy to inform the people of the city about the effectiveness of informal surveillance systems in preventing crime and about the personal precautions against crime in order to maintain the process.

Interrelation between Functions in the City Centre and "Mixed Use"
The utilization of urban land and spatial characteristics constitute one of the most important variables in crime rates. In areas that are used for some other purpose in addition to residential purposes, the rates of crime are lower. Since areas that lack urban equipment become deserted at certain hours of the day and surveillance decreases, crime rates increase.

Prevention of Crime through Urban Design "Lighting, Eliminating Blind Spots"
Preventing crime through urban design is one of the frequently utilized spatial solutions. In areas designated according to high-scale crime analyses, it is necessary to implement spatial organizations towards decreasing crime. The major elements of the method of preventing crime through urban design are changing the lighting of important locations, incorporating among the public a sense of security by means of security booths, locating security cameras according to crime in the city, implementing landscaping arrangements that would not obstruct seeing or being seen, eliminating blind spots, introducing controlled entrance and exit arrangements, and developing different design styles for public and private spaces.

Duties of Security Forces "Random Patrol System"
Spatial decisions towards secure city planning should be supported by security forces. To this end, introducing random patrolling of city centres which have varying population mobility for the day and the night and of areas that become desolate by night, thereby facilitating crime, in other words, of areas determined according to the results of crime analyses, as well as situating security booths without giving people a sense of pressure, should be among the intervention methods towards decreasing crime in urban space.

3. Conclusions

In all kinds of planning decisions concerning city centres, such as the choice of location for major transportation axes and routes, and public transportation stations and stops, the selection of new residential areas, transformation and gentrification projects and choice of location for shopping malls, the crime status of spaces should be investigated. Some of the precautions taken within high-scale city plans are as follows: implementing designs, especially in new settlements, that would develop neighbour relations and enable informal surveillance systems, not planning over-intensified residential sites, as such sites facilitate crime, implementing multifunctional designs, especially in city centres, and reorganizing, at the low-scale, urban space at many of the potentially-targeted locations so as not to allow crime.

Urban design practices: The method of preventing crime through urban design is one of the frequently utilized spatial solutions. In areas designated according to high-scale crime analyses, it is necessary to implement spatial organizations towards decreasing crime. The major elements of the method of preventing crime through urban design are changing the lighting of important locations, incorporating among the public a sense of security by means of security booths, locating security cameras according to crime in the city, implementing landscaping arrangements that would not obstruct seeing or being seen, eliminating blind spots, introducing controlled entrance and exit arrangements, and developing different design styles for public and private spaces.

Public participation: It is crucial for the sustainability of applications that urbanites be made aware of urban crimes. Identifying those places that urbanites avoid, are afraid of, or define as insecure, will provide significant data that will benefit many other crime analyses.

References

[1]   S., Dönmezer, "Criminology (Kriminoloji)", *Beta Publishing*, İstanbul, 45-67, 1994.
[2]   L.I., Shelley, "Crime and Modernization: The Impact of Industrialization and Urbanization on Crime", *Southern Illinois University Press*, USA, 1981.
[3]   L.E., Cohen and M., Felson, Social Change and Crime Rate Trends: A Routine Activity Approach, *American Sociological Review*, 1979.
[4]   P.J., Brantingham, "Criminality of Place: Crime Generators and Crime Attractors", *European Journal of Criminal Policy and Research*, 3, 5-26, 1995.
[5]   L.Q., Wilson and G.L., Kelling, "The Police and Neighbourhood Safety; Broken Windows", *Atlantic Monthly*, 29-38, 1982.
[6]   E., Candemir, "Kriminolojide Suç Ekolojisi Kavramı ve Suç Haritalama Metodu", *Akademik Bakış*, 18: 26-30, 2002.
[7]   D.J.K., Beavon, P.J., Brantingham and P.L., Brantingham, "The Influence of Street Networks on the Pattering of Property Offenses", *Criminal Justice Press*, U.S.A., 115-149, 1994.
[8]   P. J., Brantingham and P. L., Brantingham, "The Influence of Street Networks on the Pattering of Property Offenses"*, Criminal Justice Press*, U.S.A., 115-149, 1994.
[9]   K., Sheldon, "The Home Range: Topographical & Psychological Influences on the Target Selection of House Burglars", *Liverpool Hope University 1998-99 Library Articles*, 1: 7-21, 1998.
[10]   R.V., Clarke and J.,Eck, "Crime Analysis for Problem Solvers in 60 Steps", *Community-Oriented Policing Services (COPS)*, Department of Justice USA, 19-91, 2005.
[11]   H.J., Ratcliffe, "A Quantative Saptial Study of the Impact of Canberra's Unique Geography on Residental Burglary Offenders", *Final Report of Criminology Research Council Grant Project; No.CRC 17/00-01*, 20-39, 2001.
[12]   S., Harvey, "Literature Review: Police Practice in Reducing Residential Burglary", *Research on the effectiveness of Police Practice in Reducing Residential Burglary Report 3*, Ministry of Justice Publishes, New Zealand, 19-59, 2005.
[13]   J., Jacobs, "The Death and Life of Great American Cities", *New York: Random House*, New York, 39-122, 1961.

[14] G.R., Wekerle, and C., Whitzman, "Safe Cities: Guidelines for Planning, Design and Management", *A Division of International Thomson Publishing*, Inc., USA, 5-25, 1995.

[15] M., Greene and R., Greene, "Urban Safety in Residential Areas", *4th International Space Syntax Symposium*, London, 2003.

[16] M., Robinson, "The Theoretical Development of 'CPTED' 25 Years of Responses to Advances in Criminological Theory", *New Brunswick: Transaction Books*, USA, 8-41, 1999.

[17] J., Friedman, "Cultural Identity and Global Process", *SAGE Publication*, California, 1994.

[18] R.V., Clarke, "Tracking Vandalism", *London British Home Office Research Publication*, London, 1978.

[19] A.M., Guerry, "Statistique Compare de l'etat de l'instruction et du Nomre Des Crimes", *Paris Essai sur la Statistique Morale de la France*, Paris, 1833.

[20] A., Quetelet, "Researchers Statistique Sur le Royaume Des", Pays-Bas, 1829.

[21] O.,Newman, "Creating Defensible Space, Institute for Community Design Analysis", *U.S Department of Housing and Urban Development Office of Policy Development and Research*, USA, 9-81, 1996.

[22] S.P., Lab, "Crime Prevention; Approaches, Practices and Evaluations", *Anderson Publishing co.*, USA, 25-73, 2000.