"Understanding how the design of urban areas can negate the anti-social behaviour and criminal activity" - Taking the example of Hyderabad Urban Areas as Case-Studies

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Abstract

Cities and towns are developing into well-defined, heavily populated areas, but these areas have advantages and disadvantages of their own. With more residents, a city becomes more diverse, with individuals of all different classes and races. Yet, this diversity frequently breeds crime and a fear of victimization for the people living in urban areas.

Most of these antisocial behaviors occur in public and neighborhood areas.

This paper tries to identify why public spaces are frequently the scene of antisocial behavior and other approaches to criminal and antisocial behavior beyond simply installing surveillance cameras. It examines the root causes and pressing needs for CPTED and offers a critical assessment of the evidence supporting this approach's effectiveness in crime prevention. It also discusses situational and dispositional approaches to preventing crime based on urban design modules and how designing cities based on opportunity reduction techniques with key themes of activity, surveillance, territorial, definition, and control impacts criminal activity in public spaces based on existing models.

A mixed **design technique/Methodology** is employed, which includes the following steps:
1. Qualitative method- Insights and analysis of other publications and research papers.
2. Quantitative analysis in the form of a survey and an analysis of the existing urban area with and without the CPTED design measures incorporated in the metropolitan area.

Limitation

Despite lacking conclusive empirical evidence, the paper concludes that a substantial body of research supports the idea that environmental design is a practical and successful strategy for preventing crime.

Keywords: CPTED; Public space; Urban design; Opportunity reduction methods; Neighbourhood.

Theme

Urban Design and The Role of CPTED in Planning Urban Areas

Highlights

The paper intends to identify how the CPTED principles can be incorporated more humanly in the cities to create a sense of belonging among the citizens and between them and the city.

1. Introduction

Cities and towns are developing into well-defined, heavily populated areas, but these areas have advantages and disadvantages of their own. With a steady rise in population, a city becomes more diverse, yet this leads to crime and a fear of victimization.

People face various threats in urban areas, such as**crimes, street barbarism, acts of terrorism, incivility, fast-moving traffic, natural phenomena, and unseen problems.** *Heath, T., Oc, T., & Tiesdell, S. (2012). Public places Urban space. In Routledge ebooks.*

The public sphere and the development of better places are threatened by crime, safety and security, lack of security, perceptions of safety, and fear of victimization. These dangers result from how metropolitan areas are developed.

The leading factor that gives rise to crime in urban areas are:

- People who need to be utilizing a specific location or setting. They do this because the way the urban environment is designed or because it isn't being used makes them feel uneasy or unsafe. Poorly designed urban neighborhoods, including those with dark alleys, visually and physically separated places, subways, and graffiti-covered areas, are to blame for this sensation of unease.

Carmona, M., Tieldell, S., (2003). Public Places- Urban Spaces.

Residential flats have the same problem. That we have adopted is one out of many. Secondly, the concept can quickly become rigid and be used for far from scientific purposes.

Urban settings frequently cause a dread of victimization. Physical or visual barriers are being built in more and more urban locations to stop this victimization. This results in the physical separation and segregation of communities.

The term 'territory' is ambiguous—first, the definition is based on identity. Secondly, the concept can quickly become overly rigid and used for far from scientific purposes.

The overlapping of territories, however, usually leads to various types of tension.

Territoriality leads to segregation; the building of New Delhi in the 1910s and 1920s offers an excellent example of urban planning based on segregation, Dupont (2001). The empire was deliberately built at a distance from the existing 'native' town, Old Delhi. A vast stretch of land was cleared, left underdeveloped, and used to make the boundary between the two urban areas.

Dupont, V., Landy, F., Segregation and Territory: What do we mean? A discussion in the Indian and South African

Context.

CPTED is an acronym for Crime Prevention through Environmental Design, which asserts that "the proper design and effective use of the built environment can lead to a reduction in the fear and incidence of crime and improvement in the quality of life."
Crowe, (2000, p.46).

This **paper** analyses CPTED principles and how they are used but tries to suggest other ways in which they can be used that are humane and don't segregate communities or spaces.
It talks about how CPTED principles have been used in different cities, taking the example of **Chandni Chowk** and **Gachibowli**.
These two places are selected as they have a combination of both private and public spaces. Numerous people visit this area.

1.1. Need For CPTED Study

CPTED is a proactive or reactive action that leverages present environmental factors or changes them to lessen the likelihood of criminal conduct. The environment can be changed by making existing structures open towards the streets or by altering the flow of traffic for cars or people on foot such that there is no blind zone. *Huges, G., Mclaughlin, E., Muncie, J., & University, O. (2002). Crime prevention and Community Safety: New Directions. SAGE.*

If the opportunity to perpetrate crime is diminished or gone, crime declines. CPTED reduces the likelihood of crime occurring in and around your home. This may make your property less desirable as a target. People frequently feel insecure and believe that unpleasant conduct happens where there is a lack of maintenance.

1.2. Description

CPTED has five principles: **Natural access control**, **natural surveillance**, **territoriality**, **activity support**, and **maintenance**.

The two principles we will look at in detail are- **Natural Surveillance** and **Territoriality.**
And how to incorporate these two principles in the design of Urban areas.

a. **Territoriality**

Territoriality is the claim to a particular place; this claim prevents people from misusing the city or acting impolitely. This principle's design element tries to show who owns the land and other assets. This ownership can be done in two significant ways:
Symbolic barriers are signage, gardens, and landscaping-.
Natural barriers include fences delineating between private, semi-private, and public areas.

b. **Natural- Surveillance**

The main goal of natural surveillance is to deter criminal conduct by making public areas easily visible. Even though official surveillance methods might use covert cameras and security guards, illegal activity isn't hampered by a lack of personal contact.

c. **Natural access control**

The construction of physical or perceptual barriers to restrict or reroute movement within a space is required by the third main idea of CPTED (this can be in line with or linked to territoriality). These are designed to prevent possible targets from entering or allow authorized people to exit (Cozens et al., 2005). Some examples are widening walkways, establishing straightforward entry and exit points, controlling access to certain areas (such as a housing complex), installing automatic gates or turnstiles to deter evasion, and installing bulletproof barriers at banks.

d. **Maintenance**

The upkeep of a location fosters a favorable perception and demonstrates guardianship; lighting fixtures, driveways, paths, sidewalks, and gardens direct traffic through the site and make it so there are no hiding places for prospective offenders. Graffiti on public property or buildings, "broken windows" in homes or businesses, and litter are all examples of disorder and unfavorable perceptions undermining informal social control and cohesion.

Cozens et al., (2005).

e. **Activity Support**

The community, the target group, picnicking, and park play are all encouraged by activity support. Design and signage that promote the desired use patterns are part of this. Although more pedestrians may act as more "eyes on the street" and possibly deter some crimes, this could also encourage crime and present new targets (such as pickpocketing).

Cozens et al., (2005, p. 337).

1.3. Literature Study

To reduce the likelihood that crimes would occur, the Crime Prevention Through Environmental Design (CPTED) concept provides crime prevention from the very beginning of planning through the following methods.

- **Natural access control**, **natural surveillance**, **territoriality**, **activity support**, and **maintenance**.

Crime Prevention through Environmental Design (CPTED) is a concept that focuses on locations that frequently become the targets of criminal activity before highlighting methods that can lower criminal activity in the impacted areas (Taylor & Harrel, 1996). The criminologist and sociologist Ray Jeffery (1971), motivated by Jane Jacobs (1961), initially proposed CPTED in his study that linked crime to land uses and road designs in American towns designed for public safety.

Newman (1972) expanded this research by introducing the defensible space theory through investigations on the influences of physical environmental construction on criminal activities. Other researchers (Brown & Bentley, 1993; Shaw & Gifford, 1994) later followed suit, concentrating more on elements thought to serve as mediators in the decline of criminal activity.

A different method of preventing crime is called CPTED. It can be described as physical environmental designs that, through natural, mechanical, and procedural mechanisms, may lower the potential for criminal activity and the fear of

crime.

Natural Methods

1. Dumpsters should not create blind spots or hiding areas, mainly when located in lanes.
2. Recessed doorways, alcoves, or other dark niches should not be created or removed to eliminate hiding places for potential assailant vandals or other criminal activity.
3. Loading areas should not create hiding places.
4. Signs placed within windows should cover at most 15% of the window area to ensure natural surveillance.
5. The lower branches of existing trees should be kept at least 10 feet off the ground.
6. Parking areas should be visible from the building street.
7. Paths in commercial areas should be provided in a location with good surveillance, not blocked in by blank walls and dense landscaping.
8. The exterior of a building should be well-lit.
9. Mixing of uses should be encouraged.

Territorial

1. Public events such as festivals and outdoor concerts help to increase activity.
2. Property boundaries should be marked with hedges, low fences, or gates.
3. Private and Semi-private areas should be easily distinguishable from public places.
4. Lanes should be well-maintained with pavement and landscaping.
5. Use of furniture.

Mucano, K., Duda-Banwar, J., Klofas, J., (2018). Crime Prevention Through Environmental Design [CPTED]: Designing Out Opportunity and Fear: Rochester Institute Technology College of Liberal Arts.

1.4. Research Gap

Even if both barriers serve to dissuade criminal activity, they can also result in the segregation of communities, and there is no way to predict what will happen when space is divided into Public, Private, and Semi-Public spaces. Lack of activity in the semi-public area may trigger uncontrollable actions. One such is gated communities, which display social division, polarisation, and fragmentation. Walls and gates surrounding the gated community block public access to areas that would otherwise be accessible to all and easily supervised, such as playgrounds, parks, beaches, rivers, and trails.

How can CPTED principles be used without segregating communities and keeping a sense of belonging between the communities? This sense of belonging makes people more conscious of their environment and want to protect it.

2. Research Methodology

A mixed approach is used in the research methodology:

1. Qualitative method- Insights and analysis of other publications and research papers.
2. Quantitative analysis in the form of a survey and an analysis of the existing urban area with and without the CPTED design measures incorporated in the metropolitan area.

2.1. Survey

From an informal survey of around 30 people, it is noted that people living in areas with little to no activities outside their perimeter on the road feel a sense of insecurity after 9 PM. In contrast, the presence of any activity reduces this sense. This is done due to natural surveillance. This natural surveillance is done via informal training, a connection with different communities, and when infrastructure is provided on the street that anyone can use.

2.2. Case- Study

Two areas have been selected from different states to analyze how planning and the absence of CPTED principles affect how people perceive the physical environment.

Chandni Chowk-

One of the oldest and busiest markets in Old Delhi, India, is the **Chandni Chowk**. Nearby to the **Old Delhi Railway Station** is where it is situated. The **Red Fort**
Nearby to the **Old Delhi Railway Station** is where it is situated. The **Red Fort** monument is located at Chandni Chowk's easternmost point. Shah Jahan, the Indian Mughal Emperor at the time, constructed it in the 17th century. Canals used initially to partition the market and reflect moonlight are now closed. It is still one of the biggest wholesale markets in India. Chandni Chowk has a rich history of traditionally built structures and historic dwellings. Initially, even though Chandni Chowk was small and needed separate roads for cars and pedestrians, it was hectic. Following its renovation, Chandni Chowk is now a hive of activity that attracts people from all social and economic backgrounds.

The mixed-use dwelling and the numerous activities happening in the area were the primary criteria for selecting this space.

Gachibowli

Gachibowli is a neighborhood in the **Serilingampally** mandal of the **Rangareddy** District of Hyderabad, Telangana, India. Hitech City, another IT hotspot, is located around 5 km distant. Numerous IT businesses, commercial spaces, and housing units are in Gachibowli. It covers a large size and is peppered with hillocks and rocky terrain.

Gachibowli was chosen primarily due to its mixed-use buildings, integration of many purposes in one area, and future center location where most social contact occurs.
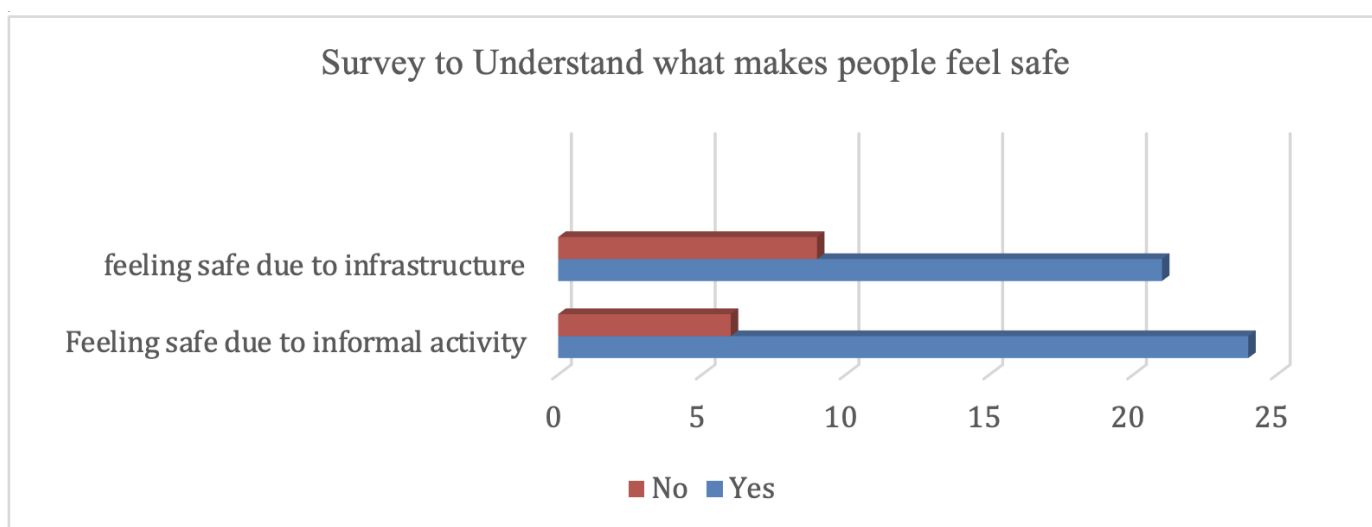
3. Analysis

3.1. Survey

When there is no sufficient visual link to the road or when open spaces are provided that are distant from the main road and have objects built in front of them that block visibility, unsafe conditions in the physical environment are created. Most people feel that POSH areas segregate communities. When there is no sufficient visual link to the road or when open spaces are provided that are distant from the main road and have objects built in front of them that block visibility, unsafe conditions in the physical environment are created. Most people feel that POSH areas segregate communities.

The divided residential neighborhoods need direct access to the main road. The vicinity of the gated community is also devoid of unauthorized activity.

Survey to understand what makes people feel unsafe
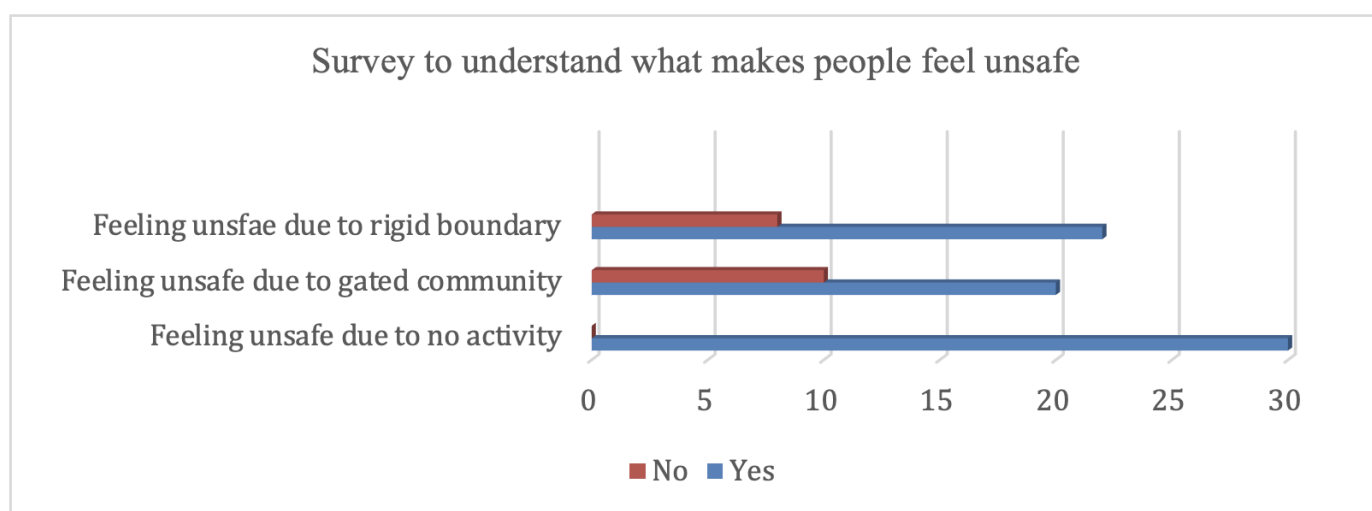
Graph 3.1(a). Feeling Unsafe and its causes. Source: Author

Survey to Understand what makes people feel safe

Graph-3.1(b). Source: Author

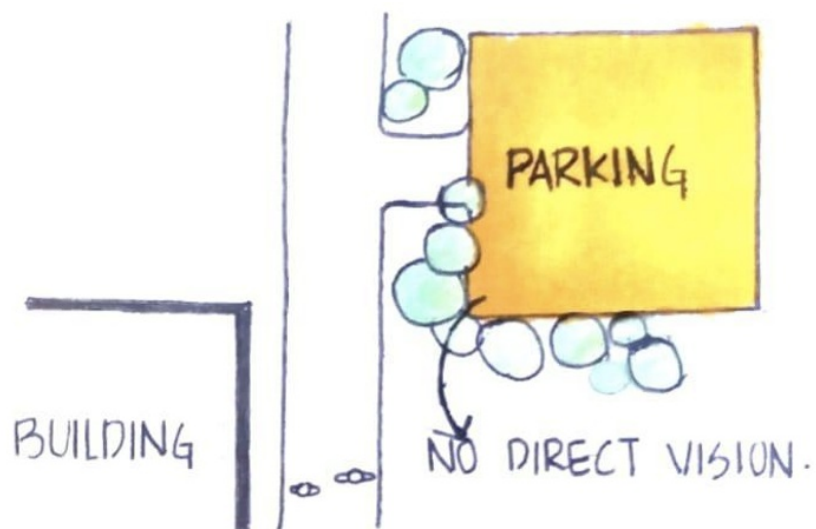Illustrations based on the analysis of these two surveys
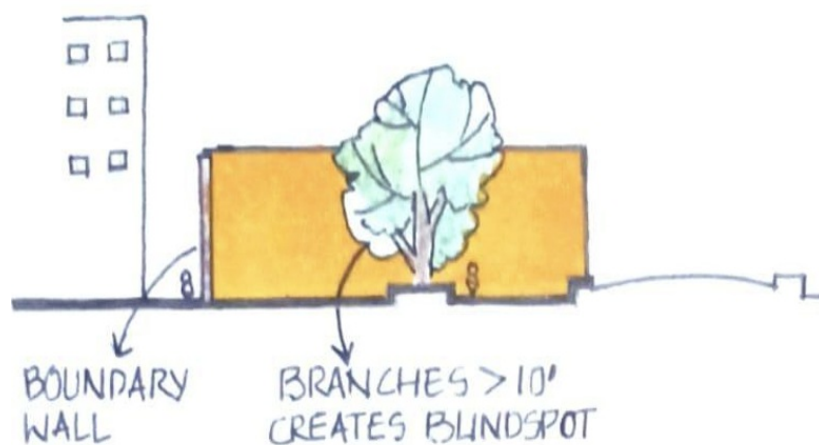
Figure 3.1(a). How the vision is obstructed due to boundary walls greater than 4m and trees with branches.
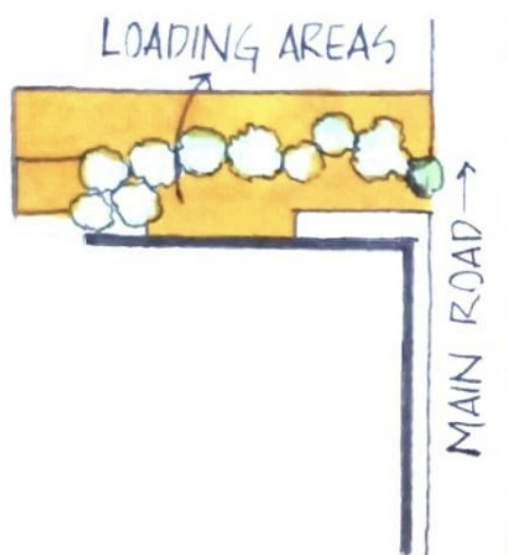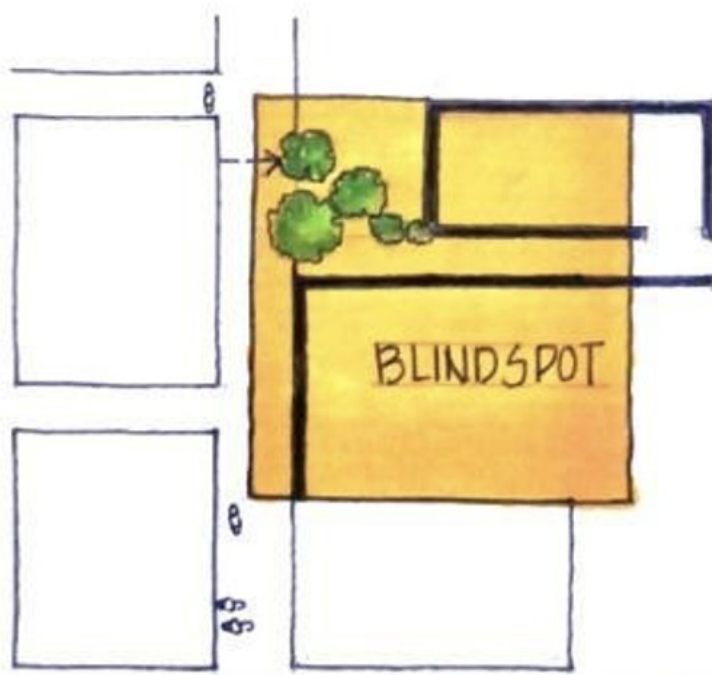

Figure 3.1(b). Loss of vision when the loading areas are placed in an alley away from direct vision. Giving rise to sense of unsafety.
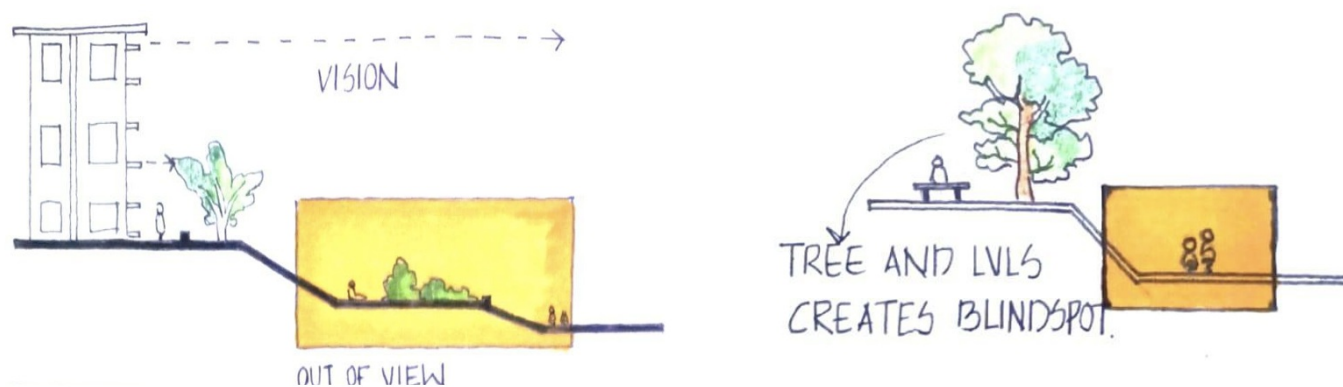
Figure 3.1(c). No direct vision in the parking areas leads to a sense of unsafety in the parking lots.

Figure 3.1(d). Creating openings of spaces away from the main road and near vacant lots creates a blind spot and an area for illegal activities.

Figure 3.1(e). Levels with no direct surveillance or vision often leads to a sense of feeling unsafe and leads to a place where illegal activities can happen.
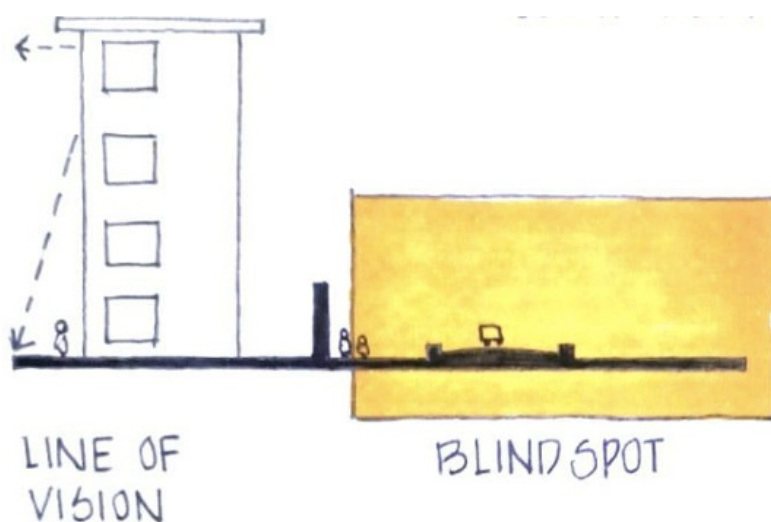
Figure 3.1(f). Placements of openings towards the main road create a sense of safety for the pedestrians; still, to maintain the occupants' privacy, personal spaces should be oriented inwards, but balconies should be oriented outwards.

3.2. Case-Study

3.2.1. Chandni Chowk

Figure 3.2.1(a). Chandni Chowk

Source- The Print https://theprint.in/india/delhis-chandni-chowk-gets-new-look-a-restoration-of-not-just-facade-but-400-yr-old-legacy/697319/

Chandni Chowk stretches from Jama Masjid to Lal Quila. The stretch contains formal and informal markets, mixed-use buildings, and street furniture.

With street décor and lighting at strategic locations, the length is pedestrian friendly. Additionally, many impromptu vendors, shops, and homes are on the top floors of the streets. In addition to houses, the road is dotted with hotels and shrines.

Combining all these actions makes the roadways safer, and others who use this area sense their safety.

In Chandni Chowk, the streets are designed to provide a sense of safety through the natural surveillance method, one of the CPTED principles. This natural surveillance is achieved through the following activities:

Analysis of CPTED Principles found in Chandni Chowk:

1. The maximum number of openings helps in natural surveillance, and as most of the shops open towards the roads, there is no blind spot.

2. Segregation of vehicular and pedestrian roads is present, yet the numerous activities in the streets deter incivility.

3. There is a smooth transition from public to private with no clear distinction; there is no segregation, yet it aids in deterring incivility.

No specific boundary walls or fences deter the segregation of communities. There is a gradual transition from the main road to the inner shops, yet that doesn't create blind spots where harmful activities can occur.

Figure 3.2.1(b). Different types of buildings help in surveillance.
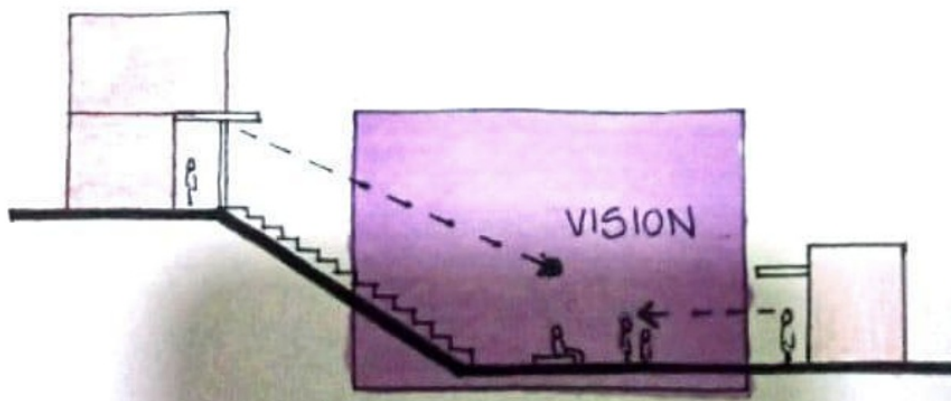
Figure 3.2.1(c). Paratransit and Informal vendors on the roads help in natural surveillance.

Figure 3.2.1(d). Informal activity around the main road that makes people.

Illustrations based on the case study

Figure 3.2.1(e). Shope are placed on different levels of the road that helps in surveillance.
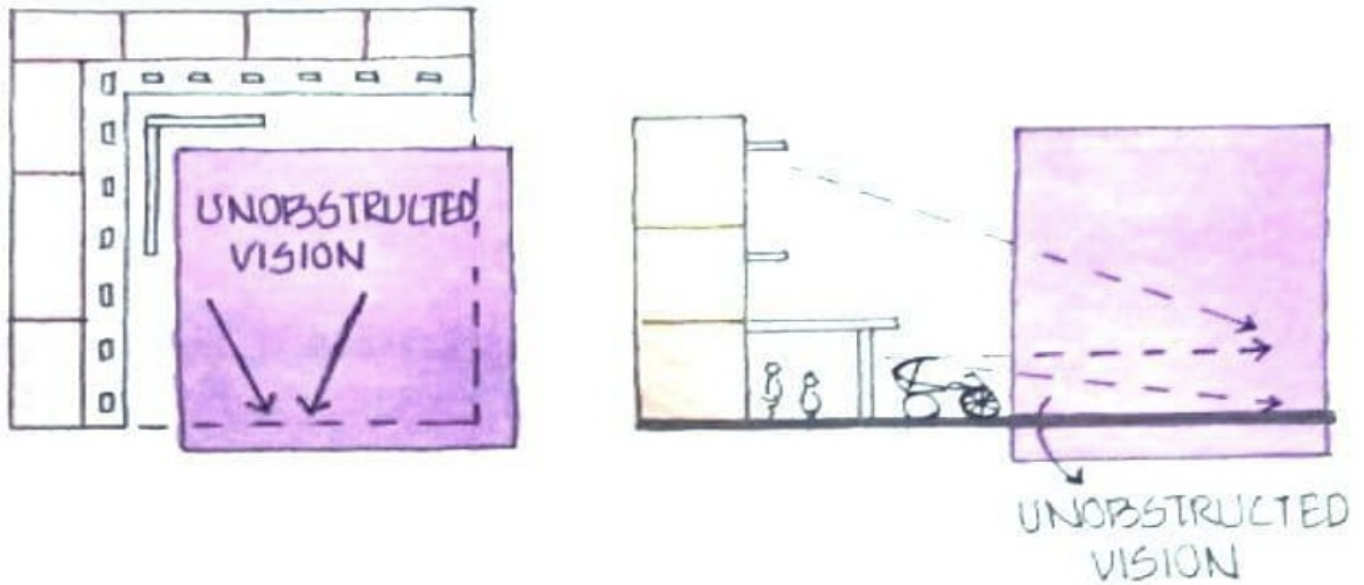
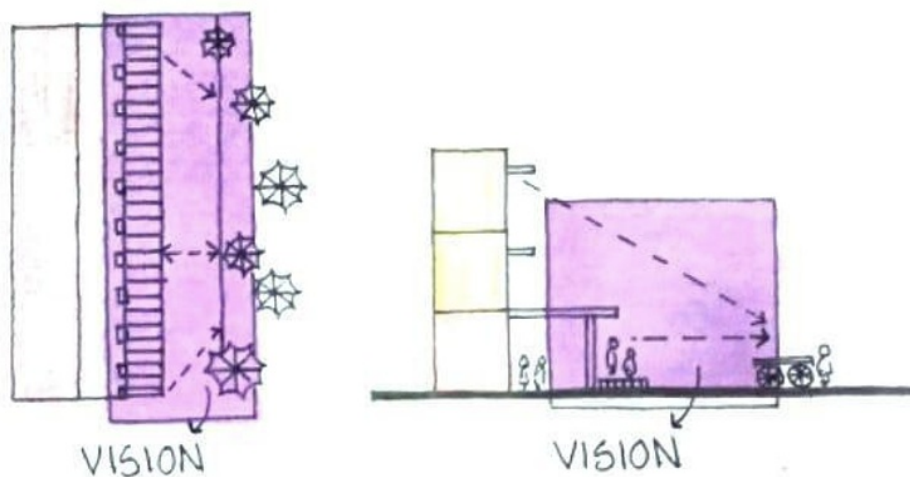**Figure 3.2.1(f).** Open spaces in front of the shops helps in surveillance.

Figure 3.2.1(g). Informal activities.

3.2.2. GACHIBOWLI

Figure 3.2.2(a). Gachibowli

Source: The Print https://theprint.in/india/delhis-chandni-chowk-gets-new-look-a-restoration-of-not-just-facade-but-400-yr-old-legacy/697319/

Commercial, residential, hospital, and office buildings can be found there. One of the social hubs is this neighborhood, which is dotted with cafes.

Gachobowli is built in a very upscale manner, with tall structures and extensive commercial areas covered in hoardings that obstruct the view of the road. This frequently results in a little less clear vision of the road. Parking is commonly used in the areas in front of commercial buildings, obstructing natural vision.

Traffic is not adequately segregated. Because the residential areas are supplied distance from the main road and have open spaces surrounding them, the risk necessary to engage in criminal activity there is reduced.

Border walls and fences divide communities and destroy their sense of belonging. Behind these boundary walls, there is no direct connectivity to the offices. With a smooth transition between spaces, some actions that are easier to govern occur.

Open lots are behind boundary walls, and mitigating the activities inside is challenging.

The space underneath flyovers is vacant, surrounded by boundary walls, often where illegal activities occur.

Some informal activities and shops do look towards the roads, but they are towards the inside and look inward, with no activities towards the main roads.

Analysis of CPTED Principles found in Gachibowli:

1. Informal shops are there that help in natural surveillance.
2. The presence of territoriality with fences and boundary walls.
3. Commercial buildings open towards the pedestrian roads help in natural surveillance.

Figure 3.2.2(b). Parking between road and pedestrian space disrupts visibility.
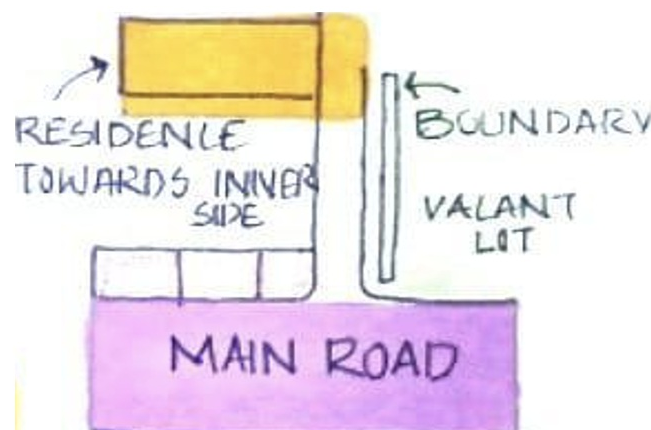

Figure 3.2.2(c). Informal activities.

Figure 3.2.2(d). Residential areas away from the road with boundary wall.
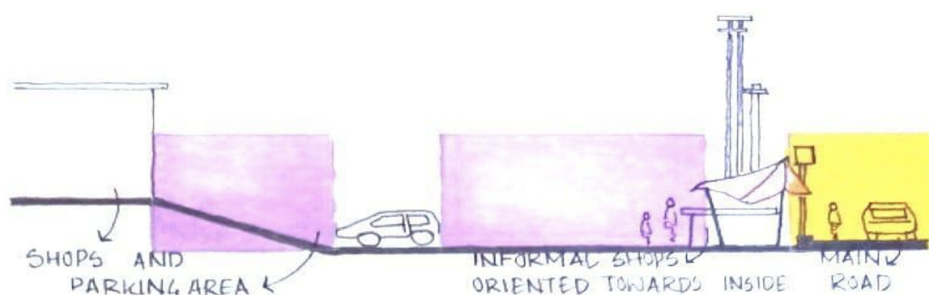

Figure 3.2.2(e). Obstruction and a break in visibility

Figure 3.2.2(f). Residences away from the main road with open areas.

Figure 3.2.2(g). Parking between shops and the main road.

Figure 3.2.2(h). Informal activities away from the pedestrian road and parking in between the shops and pedestrian road.

Figure 3.2.2(i). Boundary walls and spaces near flyovers creates a break in vision.

4. Results

From the two case studies, it is derived that crime in urban areas arises due to poor management of the space and when there is minimal visibility of the room. Crime in urban areas cannot be mitigated entirely, but certain design principles can help to reduce crime. The design principle that was seen in both these two areas is natural surveillance.

Vision/Eyes on streets cannot entirely eradicate crime in urban areas but can visibly lower it. When the reported crime

rates for two social housing projects in New York (Brownsville and Van Dyke) were compared and studied, it was found that the high-rise blocks of the Van Dyke project had significantly higher crime rates than the low-level structures of Brownsville. Newman contended that the environmental design of the buildings was a causal element explaining the different crime rates between the two housing complexes despite the tenant populations in both projects being generally identical. The Van Dyke developments' high-rise apartments had a labyrinth of meandering hallways and public spaces with few places to be watched. According to Newman, more than half of all crimes were perpetrated in less obvious settings or where there was a chance of hiding.

5. Conclusion

Jeffery (1971) argued in Crime Prevention through Environmental Design that the social reasons for crime had been exaggerated and that corruption's biological and environmental factors needed to be examined. He drew on social, behavioral, political, psychological, and physical characteristics to have a more multidisciplinary and comprehensive view of the causes of crime. Criminal behavior is influenced by both the internal environment of the brain and the outward physical environment.

The design of the physical environment plays a significant role in regulating urban space. It not only makes the environment usable for all but, through design, incivility and criminal activities can be deterred; as seen in the above case studies, making an environment safe is not just adding fences, segregating communities, and adding cameras.

Like CPTED helps to lower the crime rate, Opportunity reduction methods create an environment where it is difficult to commit a crime.

Their primary goal is to reduce the likelihood of crime, using diverse strategies to deter even those inclined to do so. Situational crime prevention strategies can effectively combat some of the most bothersome types of crime, even though they may result in only modest decreases in crime.

A safe environment can be designed by incorporating **Opportunity Reduction Methods** in Planning.

It can be done in the following ways:

1. Increasing the perceived effort of the offense.
2. Increasing the perceived risk of the offense.
3. Reducing the reward from the offense.
4. Removing excuses for the offense.

Opportunity reduction methods can be used in planning the urban area. It is under surveillance most of the time by opening the windows toward the street, having informal activities, and providing amenities on the road. Good planning or an urban environment will make the space safer and deter criminal activity due to constant surveillance.

This constant surveillance of space makes it harder for people to commit crimes and increases the effort to commit a

crime as people watch the area; it also increases the risk of committing crimes.

Planning also helps people to use the area appropriately without any excuses for harmful actions.

All of these plans that help in natural surveillance can be seen and found in old Indian cities; the main aim of the paper is to understand what these methods are that are more humane and do not segregate any community and how they can be used better.

Segregation can be mitigated by providing amenities outside the gated communities that prompt people to use them.

This doesn't mean these planning methods should be copied and pasted in the present context but should be thought about and modified to make it work in the current context.

This study concludes that a mixed-use setting is much more appreciated than standard zoning, bringing all the communities close.

Conflicts of Interest

Approaches to reducing opportunity are criticized primarily for their reputation and the potential for displacement.

The employment of opportunity reduction strategies has frequently raised concerns concerning the picture sent and the atmosphere of the resulting environment. For instance, expressed security concerns, crime prevention, and a heightened sense of safety have led to highly defensive urbanism. Nevertheless, urban areas and public spaces were made safe, but they lost their allure or began to frighten and intimidate potential users. Environments that are overly policed are oppressive to others.

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