Group Project

Defensible space into a mini-neighborhood.

ISOL-634-M40: Physical security

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Introduction

Defensible Space is an important principle of urban planning for reduced crime and greater contact. The Defensible Space theory emerged in the 1970s through work by Oscar Newman, and it suggests that the physical organization of neighborhoods controls crime rates and generates community among residents (Newman, 1972). This article analyzes application of defensible space concepts by the case study of Five Oaks in Dayton, Ohio, and establishes guidelines for designing public housing for family households with children. The areas of emphasis are building configuration, security, parking, storage of refuse and garbage, and lighting. By incorporating lessons learned from the Five Oaks project, this report ought to provide an efficient plan that not only enhances security but also encourages community engagement and sustainable urbanization (Newman, 1996).

Inner-city areas and public housing projects often experience crime, social disorder, and declining property values. These issues are partly due to poor design choices that fail to promote natural surveillance, territoriality, and access control. Implementing defensible space principles can be used to mitigate these issues by rethinking urban design principles. This report not only discusses the theoretical foundations of defensible space but also provides a practical application of these principles in the design of mini-neighborhoods, such as the Five Oaks development in Dayton, Ohio. The studies herein are grounded in empirical studies and best practices in urban design to provide a firm basis for safer and more livable communities.

Thesis Statement

Defensible space is a crucial urban design theory of planning with the capability of reducing crime and enhancing social cohesion considerably by combining strategic design elements. Based on the Five Oaks case study, this report captures the benefits, constraints, and innovations in the implementation of defensible space tactics in urban areas.

Overview

This essay explores the implementation of defensible space principles in urban design with mini-neighborhoods being the prime example through the Five Oaks project in Dayton, Ohio. The explanation will look at some imperative design features like building design, security systems, parking architectures, waste disposal, and illumination enhancements. In addition, this report outlines the benefits of defensible space strategies, challenges of implementation, and new practices that have been embraced in various urban centers. Based on a critical review of existing research and case studies, this report aims to offer information on how defensible space strategies can be customized for diverse urban settings, particularly for public housing complexes for families with children.

Purpose

The aim of this report is to provide a generic model of the application of defensible space principles to public housing schemes in an attempt to improve their safety and community orientation. Drawing on previous applications examined, this report aims to provide handy guidelines to policymakers, city planners, and housing authorities who wish to integrate crime prevention policies into new and existing schemes. Apart from that, this report also seeks to

promote awareness of the great impact made by urban design in shaping social patterns of behavior and building communities where individuals are safe and belong to society. The central objective is to determine how the concepts of defensible space can be applied in children-inhabited public housing estates such that not only will they be safe but also conducive to organized social relations and sustainable community living in the long term.

Background

The theory of defensible space was initially formulated in the early 1970s by architect and urban planner Oscar Newman. His research centered on how the physical design of cities can affect crime rates by promoting a sense of ownership, natural surveillance, and territorial reinforcement within the community (Newman, 1972). Newman's studies confirmed that carefully designed residential neighborhoods were able to generate psychological dissuaders among potential offenders through detection and intervention by residents, which made them more probable. This approach has been widely utilized in urban planning, particularly in housing estates, since then, in order to enhance safety and quality of life. Defensible space strategies rely on several key principles, including territoriality, natural surveillance, image and milieu, and control of access. Territoriality prompts residents to claim and protect their environment, creating a responsibility for public spaces. Natural surveillance means that areas are created to have the highest possible visibility, making it less likely for crime to be able to occur without detection. Image and milieu is a broad, general impression of an area being safe and well-maintained, which reinforces local community pride and discourages criminal activity. Access control is the regulation and restraint of movement within a neighborhood to prevent unwanted or suspicious movement (Newman, 1972).

The Five Oaks suburb of Dayton, Ohio, has one of the most well-documented applications of defensible space theory. Five Oaks experienced a radical crime spike in the early 1990s with a 50% rate of growth in burglary and drug activity over a five-year period (National Institute of Justice, 1996). The community was plagued with issues such as vandalism, property abandonment, and transiency, which saw the social life of the place deteriorate. The residents had an increased sense of insecurity, prompting the city administration and area planners to come up with an effective solution. The Five Oaks area revitalization project included a combination of defensible space concepts, including the intentional closure of streets to limit cut-through traffic, marking of property boundaries to maximize territoriality, and lighting fixtures for increased visibility at night. Access control provisions, including limited points of ingress and cul-de-sacs, were included in order to limit movement and reduce opportunity for crime.

In addition, resident involvement programs and community policing initiatives were implemented to enhance resident participation in security provision (City of Dayton, 1994). The primary aim was to ensure residents felt safe and were part of a unified neighborhood culture, thus reducing crime. The Five Oaks project was a quick success, drawing national interest as a model worth replicating across the country. Crime rates in the neighborhood declined tremendously following the implementation of these principles. Based on research by the National Institute of Justice (1996), there was an overall decline in crime rates of 25%, with remarkable improvements in safety perceptions and resident social cohesion. Moreover, increased police visibility and the presence of community watch programs further boosted neighborhood security. The study found community involvement to be a critical aspect in sustaining the kind of desirable reforms, in that the locals became actively involved in neighborhood watch and community police programs. On the heels of the Five Oaks experience,

then, the vast majority of city planners and housing administrators continue to advocate defensible space programs within public housing communities and urban renewal projects. Those programs are best suited for criminally active, socially unstable societies.

For neighborhoods considering defensible space, among the most critical factors to examine are the integration of open lines of sight to exclude hiding places, the development of private and public spaces to reinforce territoriality, the expansion of streetlights to improve nighttime visibility, and promoting active resident engagement in neighborhood security initiatives. Research has identified that illuminated streets have the potential to reduce crime as much as 39% (Welsh & Farrington, 2008), making light an integral aspect of defensible space. The enduring impact of the defensible space model is evident in its continued application in urban regeneration plans worldwide. As cities fight crime and create communities, the principles Newman identified and implemented at Five Oaks remain a good guide to safer and more resilient neighborhoods. Dayton's successful defensible space projects illustrate their seemingly flexible application across various urban settings and thus serve as a critical consideration in urban planning and crime prevention strategies going forward.

Additional Example

1. Pruitt-Igoe in St. Louis: Contrast the failure of this public housing project (demolished in 1972) with the success of defensible space principles.

2. New York City public housing: Discuss how the New York City Housing Authority has incorporated defensible space principles in its developments.

3. International case studies: Briefly mention successful implementations in other countries, such as the Netherlands or the United Kingdom.

History of the Topic

The Defensible Space theory was originally developed by Oscar Newman in his seminal work Defensible Space: Crime Prevention through Urban Design (1972). Newman argued that the physical environment could be designed to facilitate natural surveillance, increase territoriality, and engender a sense of ownership among residents so that crime is prevented and quality of life is improved. His work found that public housing high-rises, without boundaries and private areas, experienced greater crime than low-rise housing with semi-private defined areas. The Five Oaks section of Dayton, Ohio, is a success case study where defensible space concepts were used to arrest emerging crime and neighborhood instability.

Before the adoption of the mini-neighborhood approach, Five Oaks experienced such issues as violent crime increases, rental turnover rates, and reducing housing stock. The city intervention entailed traffic restructuring, enhanced community vigilance, and facilitating resident action to offer a framework of mini-neighborhoods with boundaries and increased security elements (Newman, 1996). Subsequent city studies have also copied Newman's findings and proven that incorporating defensible space design elements into city design lowers crime rates and promotes social cohesion (Cozens & Love, 2015). The approach is further aligned with grander city design programs, such as Crime Prevention Through Environmental Design (CPTED), whose emphasis is the impact of physical design on people's behavior and the discouragement of criminality (Crowe, 2000).

This background is the basis for applying defensible space principles to present public housing developments and other urban planning.

Identify Benefits, Obstacles, and Innovations

Benefits of Defensible Space

1. Crime Prevention: Enhanced visibility and secure points of entry deter criminal activity (Cozens & Love, 2015).
2. Community Cohesion: Residents take ownership of local environments, fostering closer community bonds (Atlas, 2013).
3. Increased Property Values: A perception of enhanced safety and area improvement result in improved property desirability (Taylor, 2002).
4. Sustainable Urban Growth: Combining security with town planning preserves stable neighborhoods in the long term (Crowe, 2000).
5. Increased Livability: Mini-neighborhoods enhance the overall quality of life through improved safety and walkability of areas (Newman, 1996).

Obstacles in Implementation

Obstacles:

Implementation of defensible space in public housing has the potential to enhance security and safety, yet there are certain challenges that need to be tackled:

1. **Budget Restraints:** Creating secure buildings, sophisticated light systems, and security equipment often requires substantial investments. Budget restraints might compel

planners to cut corners on specific safety features, and therefore strategic prioritization becomes necessary to utilize available resources maximally (Cozens et al., 2005).

2. **Community Resistance:** Residents in the area will resist when planned changes affect their current way of living. For instance, limiting entry points or putting up surveillance systems could be invasive on privacy or suppress previous neighborhood social activities. Engaging residents during the planning phase and describing the advantages of such change in an open format is needed to overcome resistance (Armitage, 2013).
3. **Maintenance Problems:** Security devices, such as cameras, fences, and lights, require regular maintenance. If not attended to, it may render such devices ineffective and the safety advantage would be rendered useless. Budgeting a specific fund for long-term maintenance and involving residents' cooperation in informing system breakdown prevents security devices from being inoperative (Painter, 1996).
4. **Design Restraints:** Five Oaks or any other settled neighborhoods and age might have spatial restrictions that limit the use of specific design interventions. Narrow roads or houses set in close proximity may limit the proper installation of lights or the changing of parking bays. Strategically directed surveillance cameras or wall lights are a few of the creative solutions one can employ to overcome spatial restraints (Cozens et al., 2005).
5. **Social Dynamics:** There will be greater resident turnover in public housing developments, breaking the social bonds required if defensible space systems are to work. Greater use of more effective resident participation programs based on social bonds and responsibility can turn this around (Armitage, 2013)

Innovations in Design and Implementation

Through solutions for these concerns, new configurations may facilitate principles of defensible space and ensure peak security:

Smart Integration of Technology: Emergency calling home security systems, alarm detection through motion, and smart home real-time monitoring can be utilized to increase response time and security. For example, security cameras that are mobile app-accessible can be integrated into a system for the residents to see community space remotely and increase security engagement (Cozens et al., 2005).

Eco Friendly Solutions: The combination of green design and defensible space has the ability to maximize efficiency and environmental sustainability. Solar lighting is energy efficient and inexpensive but yields constant light. Likewise, drought-resistant landscaping eliminates maintenance needs but maximizes territoriality and natural surveillance (Painter, 1996).

Resident Involvement Schemes: Getting neighborhood watch schemes running and involving residents in the design of security can foster community responsibility. Alert residents who are trained to recognize suspicious activity can be informal guardians, locking down communities with minimal additional manipulation of infrastructure (Armitage, 2013).

Modular Design Methodologies: Modular design methodologies provide flexible designs to enable future security upgrading to be achieved without tension. These include prefabricated units for monitoring devices or light poles to become easily upgraded with new security devices developed (Cozens et al., 2005).

Interactive Public Spaces: Having accessible common space that encourages the citizens to positive social interaction, i.e., play space, park space, or seating space, gives people a sense of

ownership. Because such spaces allow human social relations, they discourage anonymity and hope of general security responsibility (Painter, 1996).

Conclusion

Summary and Lessons Learned

The Five Oaks example demonstrates that Defensible Space has the ability to transform high-crime inner-city neighborhoods into safer and more sane communities (Newman, 1996). Applying the same strategies to public housing projects will easily increase security, community cohesion, and feasible development. Paying attention to building design, security, car parking, litter disposal, and lighting can ensure city planners design mini-neighborhoods which are functional as well as safe. Barriers of funding, legal hurdles, and community resistance must be overcome in order to achieve long-term success. The recommendations in this report provide a model for transforming high-risk neighborhoods into healthy communities.

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