SECURITY PLANNING FOR MALLS IN RELATION TO SITE DESIGN, CASE STUDY SARIT CENTRE SHOPPING MALL

By

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Declaration

This research presentation has not been presented in any other university.

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Supervisor
Dedication

I wish to thank the almighty GOD for HIS grace and blessing in helping me archive my degree up until its completion despite the difficulties. I also dedicate this Planning Development project to Sarit center mall facility, my lovely parents Mr. and Mrs. Njoroge for their support and bearing with me during the research process. I will remain forever grateful.
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Due to the complexity of this report I also wish to acknowledge the various institution as well as authors in delivering their researches for educational purposes. I would like to thank my supervisor Dr. Romanus Opiyo for his professional guidance and supervision.

I also appreciate the contribution made by my fellow students and the entire department of urban and regional planning.

Above all I would take this grateful moment and appreciate the Almighty God who gave me the opportunity, good health to study and be able to carry out this research.
ABSTRACT

The contemporary shopping mall tends to shift the urban focus and define the term ‘city center’ as itself. Considering the rapid increase of new built malls, it is obvious that in the future, neighborhoods will be surrounded by a number of shopping centers, where people satisfy whatever they need in daily life. Even today, they play the role as attraction points with an average population of thousands and reaching millions at weekends, where people are not only coming for shopping but also for business, entertainment and sightseeing.

Careless design and development strategies cause negative effects on environment. To begin with, shopping malls and their interactions with other urban elements are important at the planning stage. They are designed as attraction points that many people are expected to visit which unintentionally increases the land value of the selected site. With the increment of population, different needs appear naturally. Maintaining enough parking space for the cars is sometimes a difficult issue to cope with and it can lead to other problems as well.

Increasing the total construction area of malls can give some extra room but this is not a solution that can overcome the problems. With large building proportions in urban pattern, it is very hard for shopping malls to blend into the neighborhood environments.

Trending news all over the world currently are on terror attacks. Kenya has been a victim to a terror attack that left 68 people dead at the Westgate shopping mall in the year 2013. This shall be a reminder that security must be considered as the first priority to the public. Sarit center mall has had to manage security through improving surveillance by use of CCTVs and security personnel but however there are more spatial considerations that can easily be exploited. For instance traffic flow in and out of the mall, parking and accessibility to the facility.
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List of abbreviations and acronyms

CPTED - Crime Prevention Through Environmental Design

UN – United Nation

AU - (African Union)

FEMA 429 - (Insurance, Finance, and Regulation Primer for Terrorism Risk Management in Buildings)

TA - (Terror Attack)
CHAPTER 1: INTRODUCTION

1.1 Statement of the planning research project title

According to the national counterterrorism center report on terrorism 2011, over two-thirds of all terrorist attacks struck infrastructure or facilities. Of those, transportation assets and public places were the most frequently targeted. Recently there has been frequent attacks all over the world with malls being a prime target. This has led to social psychological fear that has resulted to too many mall enterprises having low sales activities and the general security measures applied at malls being exploited.

1.2 Summary of the main findings of the planning research project

Sarit center mall is located at a prime area in Westlands in Nairobi Kenya. It covers an area of Area: 46450m2. It is located off Waiyaki way, bordered by Pio Gama Pinto Road, Lower Kabete Road and Mukinduri Road. It is surrounded by other major business enterprises such as the Sankara Hotel and West Building, banks and a public transport terminal located 200m adjacent to Waiyaki way. Approximately 25,000 visitors are served daily due to its central location hence easily accessible. Since it was constructed a long time ago, the mall took the attribute of being a guiding infrastructure in accessing the neighboring facilities.

Security strategies adopted at the mall include;

1) Lighting – Lighting is the most effective method of eliminating crime and creating safer zones. Not only does it reduce crime in parking facilities, or any other place for that matter, users of a well-lighted space psychologically feel safe and are thus more comfortable when using the facilities in question. Lighting also reduces accidents within parking lots.

2) Natural Surveillance – This is the ability to see and be seen. It is achieved through openness of a given space. Exits and entrances are retained at minimal to make sure users of the facility can clearly see each other. Usage of CCTVs and security guards have been strategically positioned at entrances and inside within the mall.

3) Access Control – people accessing the parking lot, both on car and on foot, are controlled. People on vehicles enter through several check areas where they hand in a ticket and interact with security officers and also use automated checking in machines. However, the materials used in fencing create a sense of boundary, but still retain a sense of openness.
Table 1. Most common reasons for positive ratings on security preparedness.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Respondents answering “very good,” “good,” or “fair” percentage representation for each reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation between malls and first responders</td>
<td>20%</td>
</tr>
<tr>
<td>Manual Development of emergency preparedness plans this is through the use of physical signs</td>
<td>15%</td>
</tr>
<tr>
<td>Premises being secured by a wall</td>
<td>30%</td>
</tr>
<tr>
<td>Use of technological knowledge (CCTVs)</td>
<td>30%</td>
</tr>
<tr>
<td>Police patrol</td>
<td>5%</td>
</tr>
</tbody>
</table>

The design structure used for both the interior and exterior circulation of the mall include;

1) Wide walkways and aisles are provided throughout the shopping malls
2) Main walkways that connect the entrances to the two atriums at the center of the mall are 4500mm to 6000mm in width, according to their positions with regard to traffic flow. This is because these are the regions that receive the highest number of traffic flow.
3) Staircases, elevators and ramps are provided at the central area of the shopping mall. These serve as vertical circulation channels without causing congestion.
4) Circulation is centralized in the mall such that, there are two atriums at the center where all the main entrances lead, from whence patrons disperse to their destinations.
5) The shopping mall has three parking areas spread out through its site, with a total of approximately 1250 parking slots. Accessible both from outside and inside the mall.
Figure 1 shows: source author: sarit centers layout and parking

1.3 Summary recommendations of the research project

The General Need for a Planned Approach
Planning for security should include intelligence and information gathering along with assessments of state and local government administration, operations, infrastructure, transportation, and land use management.

Crime Prevention through Environmental Design (CPTED) and Safecape
This involves encompassing public involvement activities, defensible spaces, and eyes on the street. This policy is needed in order to ensure that there is a reasonable balance between planning for crime prevention and planning to mitigate acts of terrorism.
State and Local Policies Affecting Building Locations and Orientation, Street Closures, and the Public Realm

In the development of security plans and plans for safe growth and safe communities this chapters advocate security policies and guidance that focus on: (1) performance rather than prescriptive standards that address physical, operational, and other approaches, and that are context-appropriate; (2) balancing security and overall community development objectives; (3) responses that reflect different scales: site, neighborhood, community, and region; (4) strategies that develop and incorporate community-based risk assessments in addition to specific assessments; and (5) incorporating new information about new security threats and new technology and security solutions. (American planning association Policy Guide on Security 2005)

Security Planning for Transportation Facilities and Services

Issues that can be focused will;

- Promote research on best practices for security planning for transit facilities, addressing specific physical security provisions related to stations, boarding areas, bus stops, and the surrounding public realm.

- Promote flexible development standards relative to density, minimum setbacks, shared parking, on-street parking, and ground floor retail uses, consistent with a regularly updated and site-specific risk assessment strategy.

- Promote good road design, street connectivity, and the use of streetscape elements in the public realm as part of an overall community security plan.

- Promote flexibility in developing landscape design guidelines that address the need for balancing screening and providing visibility to a specific site.
General Security Planning Policy for Public Facilities

Security planning process for public facilities that provides a comprehensive focus on prevention, protection, response, and recovery/continuity beyond traditional plans. Each of these factors has a different set of planning considerations.

Building Design for Security

This chapter supports the development of building, zoning, and urban design guidance that promotes general security objectives while balancing community objectives, particularly as this guidance relates to:

- Parking Facilities, Including Garages
- Vehicular and Pedestrian Circulation
- Landscaping
- Lighting
- HVAC Systems
- Entry Ways and Access Points
- Lobbies
- Elevators and Stairwells, and
- Delivery Docks.

Use of GIS and Related Technologies

The field of planning relies heavily on good geospatial data. From parcel data to floodplain contours, the activity of planning uses geographically based sources of information to provide a basis for better decision making. This has led to the increased use of GIS software, such as ESRI's ArcGIS and others. Planning as a profession is accustomed to working with large complex data sets and to using GIS and similar software to model various phenomena and to analyze scenarios. (American planning association Policy Guide on Security 2005).
Threat, Vulnerability and Risk Assessments
This leads to adoption of:

✓ Advanced methodologies for conducting threat and vulnerability assessments at the building, site, and community levels;

✓ Best practice standards for the mitigation of threats at the building, site, and community levels.

✓ Procedures for the review of subdivisions and site plans that incorporate consideration for threat and vulnerability assessments and risks, along with consideration of requirements for emergency response and for the continuity of operations.

Access to Public Meetings and Records
Effective community planning depends on the engagement of an informed public. It is the policy that all geospatial information remains in the public record, with exceptions provided for specific data attributes that are traditionally kept confidential, such as the number of employees in a building or at a site. (American planning association Policy Guide on Security 2005)

1.4 Statement of the development project chosen for implementation
For years now, shopping centers have been the target of highly publicized attacks like the shooting last December at a mall near Portland, Ore., that left three people dead including the gunman, and the coordinated attack in September on the Westgate mall in Nairobi, Kenya. With multiple entrances, numerous parking levels and webs of corridors, the very design of a mall provides an assailant with endless opportunities for cover.

Strategies often employed by law enforcement agencies to prevent attacks — like metal detectors, armed guards and bag screenings — may discourage consumers from heading to the mall, during a period when malls are losing shoppers (nearly a 7 percent drop from last year at this time, according to ShopperTrak), largely to online retailers.

Mall operators now offer emergency evacuation training sessions for staff members. They have also added to security staffs; installed shatterproof windows and bomb-resistant trash cans; and expanded
closed-circuit television security systems. Malls increasingly invite local emergency response teams to speak to their staffs and to use the facilities after hours for practice drills. Some are turning to the very shoppers they hope to protect, encouraging them to report suspicious activity on social media outlets like Twitter.

Even for malls still in development, security measures are part of the planning. For example, construction is expected to begin next spring on Empire Outlets, a 340,000-square-foot retail center planned for Staten Island, yet the developer is already weighing security issues. The complex, designed by Shop Architects, will include 125 outlet retailers, restaurants, cafes, a 200-room hotel and a 1,250-space parking garage.

1.5 Reason for the choice of the development project

Security assessment

Intelligence gathering is very important aspect for any organization to be able to analyze and assess the security provision and prepare accordingly. There must be a synchronized process of the information gathering and actions taken by the malls for smooth and safe operations. The retail property has to be in close connect with the local police officials and cross authorities to understand the concerns in the vicinity and how a mall can be prepared to overcome the same. On their end, mall developers must equip the property with vigilance and safety equipment and processes for close monitoring of the soft spots and active zones within the malls. It is only through the constant, collaborative and cooperative approach of the authorities and the malls to be able to make the place a safe zone.

Mall Designs

As the security breaches at the malls have become common, the developers feel it is tough to make the destination terror proof and thus a lot of emphasis is put on the training and constant vigilance to ensure minimum damage. While in India, the retail industry is booming and this is helping the retail real estate segment to grow, it is the best time to revisit and equip the mall with the security measures. The first aspect to be taken care of is the Mall Design.

Planning and creating the mall designs is a confident move towards safety from the developer's perspective. Efficient planning in terms of the installing door frame and handheld metal detectors, CCTV cameras (Pan Zoom Tilt surveillance), and preparing the emergency and evacuation exists,
visitor friendly signboards, creating spaces for surveillance and monitoring rooms and adjustments of safety equipment is equally important as per the international industry norms and the malls must take proper consideration of the same.

There must be evacuation plans in place to prevent and ensure minimum damage. The malls in the metro cities are working towards the same; one such move is by DLF to be collaborated with the international consultants to ensure all active zones are secured. With respect to the evacuation plans, there are due emphasis on barricades and partial evacuation emergency exits rooting plan which not only secures the retail space but also the parking spaces within the mall.

**Training and Protocols**

The key fact is that public places such as malls are vulnerable and the developers must work towards making it protected zones so that the consumers feel at ease and are not scandalized due to the frequent security breaches. There is a need to ensure that a part of the investment goes into the infrastructure and the trainings of the security personnel at the mall. Understanding the situation and handling it accordingly is the key to operate safe at the mall. The security teams must be given proper trainings at the mall to understand the new technology and functions of the validation devices.

**1.6 Location and area coverage of the development project**

Sarit Centre is located in the Westlands suburbs of Nairobi. It is located off Waiyaki way, bordered by Pio Gama Pinto Road, Lower Kabete Road and Mukinduri Road. It covers an area of Area: 46450m2.

**1.7 Objectives of the development project**

- Defining urban structure in terms of building designs sustainability while accommodating frequent intensive public use in relation to security.
- Defining security actions to be taken to deal with malls security issues
- Formulation of guiding policies that focus on standards of infrastructure development in relation to security of malls

**1.8 Assumptions of the development project**

Shopping malls are potential targets for terrorist attacks because of the ability to inflict casualties, cause economic damage, and instill fear. Furthermore, they are “soft targets” in that they are serve
the general public, and the presence of a significant number of American citizens is assured at
certain times of the day. Due to the nature of their functions, these facilities usually lack perimeter or
access controls.

Due to their accessibility, soft targets are more vulnerable, and virtually impossible to defend against
terrorist attacks. Damage or destruction of a large mall could inflict mass casualties, primarily on site;
shut down or degrade its operation, thus having significant impact on the economic well-being of a
large area; have widespread psychological impact; and at times cause the release of hazardous
materials. Disruption of the facility without inflicting actual damage can result in severe financial
losses and erode the confidence of customers in returning to the site. (Characteristics and common
vulnerabilities infrastructure category 2004).

However tackling security through routine operations may prove difficult especially when it comes
to accessing mall facilities. It is however important to also consider urban land uses with emphasis
on access to mall facilities, traffic flow of both human and vehicle in and out of the mall facilities
and security measures taken in the instances of a terror attack at a mall.

1.9 Scope of the development project and organization of the project chapters

The study focuses on shopping malls security in relation to its land use activity and why they are
prone to terror attack. A comparative security assessment has be carried out at Sarit Centre shopping
mall in trying to highlight some of the spatial aspects that need to be considered in securing malls.

The study is organized into five chapters that outline different components of the study to
appropriate sections. Chapter 1 covers the introduction of the study in relation to the previous
report presentation. Chapter 2 focuses on the review of policy guidelines. Chapter 3 focuses on the
situation analysis. Chapter 4 focuses on the project planning and, design and implementation.
Chapter 5 monitoring and evaluation.

1.10 Research methodology

There is a huge gap as to how well should facilities be protected. Most of the security measures
applied are from technological installations as well as security personnel. Malls security had not been
an issue till the September 2013 terror attack at Westgate shopping mall that left 68 people dead.
Presentation made in these report relies on external sources and publications made about similar
occurrences at other malls.
1.10.1 Data needs and requirements

Data needed to meet to this presentation include; mapping so as to establish the urban factors that contribute to the existence of a mall; spatial attributes that contribute to the running of a mall and design factors that help in developing and sustaining secure malls.

1.10.2 Data sources

Primary data collected will included data collected from field work surveys, observations on the mall and its environment, security measures put in place, extent to which security is managed and operational challenges experienced.

Primary data collection instruments

- on site photography
- direct observation of the neighborhood layout

Secondary data included information extracted from government publications. Scholarly journals, government documents, papers presented at conferences, periodicals, internet and other alternative sources. Information derived from this sources include data on mall security status, security threats that malls face, legal and policy framework guiding malls development and security.

1.10.3 Methods of data analysis

Through written text, photography, tables, charts and maps.

1.10.4 Methods of data presentation

Through written text, photography, tables, charts and maps.

1.10.5 Limitations

With the research being a trending security issue, reliable information may be withheld especially by the various heads of authority. Also this may be attributed to the high level of insecurity hence preventing the relevant information from falling into the wrong hands.
In establishing a clear approach to coming up with a better development project proposal, a lot of security considerations have been proposed especially from outside sources from developed countries. Some proposals are technological based while majority are designed based by use of models. However, they happen to be effective due to presence of proper legal policies that meet to the requirements. This is a shortcoming especially from the physical planning handbook that gives generalized requirements of commercial centers while most of the centers that are present especially at the urban areas are not well addressed.
CHAPTER 2: REVIEW OF POLICY GUIDELINES

Overview
What do we know about the success factors of shopping centers? The literature has a lot to say about what makes a shopping center attractive to shoppers. Essentially, both spatial and non-spatial factors are important. A number of studies have examined their influence as determinants of shopping center rent (Sirmans and Guidry, 1993; Gatzlaff et al., 1994; Hardin and Wolverton, 2000). Biba et al. (2006) brings additional insights into the factors affecting customers’ choice for a shopping center.

With respect to location, the two most commonly noted determinants of retail patronage are accessibility and visibility (Simmons, 1992; Ownbey et al., 1994; Forgey et al., 1995). Size and quality of facilities are also relevant to retail patronage to the extent that unfavorable design characteristics may negate the attractions of an accessible and visible site (Brown, 1999). The gravity and potential models have traditionally been used for defining trading areas surrounding major cities. They prescribe that shoppers choose which centers to patronize by balancing between the utility (proxied by the size of the center) and the cost (proxied by distance) of the center to the shopper. With the growth of the regional shopping center, these “laws” have been utilized to predict market boundaries between competing retail facilities within metropolitan areas (Bucklin, 1971).

2.1 Policies and design guidelines on planning design and implementation of the development project

Why this guidelines are important

Security guidelines and risk mitigation control measures provide a consistent and structured approach to determining:

✔ the business impact of information, people and physical assets
✔ the level of control required to:
  • meet the threat environment
  • give suitable protection to information, people and physical assets
provide assurance to other agencies for information sharing, and

✓ The types of controls that are suitable.

The guidelines will:

✓ Aid in establishing consistent terminology for physical security across the Australian Government, and

✓ Give agencies a framework for the assurance needed to share information and physical assets.

Guidelines are structured around eight elements of design considerations:

✓ urban structure
✓ stations and interchanges
✓ street design
✓ public spaces
✓ building design
✓ malls and large stores
✓ higher density housing
✓ Car parking.

Aims for centers design

1. Develop a good-quality public environment

✓ Ensure public spaces within individual developments and throughout activity centers are comfortable, engaging environments.

2. Promote street-based patterns of connection

✓ Directly link developments within activity centers and with their surrounding neighborhoods using a fine-grained street system that accommodates diverse modes of travel.

3. Improve community safety

✓ Promote the natural surveillance of public space and street edge activity. This can be achieved by ensuring buildings address the street and contain active uses on the ground floor. Clearly define public and private space.

4. Encourage a mix of uses
Optimize the diversity of uses in activity centers where the mix promotes vitality, extends the hours of activity and intensifies the use of existing infrastructure.

5. Improve pedestrian and cycling amenity
   - Encourage an increase in pedestrian and cycling traffic by maximizing the convenience, safety and appeal of these modes of travel.

6. Promote a public transport focus
   - Better integrate public transport with activity centers by increasing community comfort, safety and accessibility.

7. Increase accessibility and integration
   - Ensure activity centers are a focus for the entire community, are accessible to all, and are physically integrated with the surrounding neighborhood.

8. Encourage environmental sustainability
   - Promote the efficient reuse of existing assets, prolong the life cycle of structures, ensure energy efficiency, and water and resource conservation and encourage appropriate orientation and use of materials.

OBJECTIVES FOR DESIGNING MALLS

a) To improve pedestrian and cycling access and amenity between malls/large stores the activity center and surrounding neighborhood.

b) To enhance maximum security control within the mall and its environment

c) To ensure malls and large stores address streets with active frontages.

d) To ensure that malls / large stores maximize the opportunity for an increased mix of use.

e) To integrate the built form of malls and large stores into activity centers and their surrounding neighborhoods.

DESIGNING FOR SECURITY

The Security Threat and Response

The Plan provides design solutions for building perimeter security intended to protect against threats resulting from unauthorized vehicles approaching or entering sensitive buildings. Included in this category of threats are bomb-laden vehicles, which are considered to be the easiest mode of attack and could cause extensive structural damage, progressive collapse, and loss of life. This Plan
does not address bombs carried by pedestrians, air attack, or chemical and biological weapon terrorism.

To establish the appropriate security response or level of intervention, individual agencies must conduct risk assessments to determine the magnitude of the security threat and the level of protection required for individual buildings. Not all buildings and facilities require the same level of security. Buildings are assigned a protection level based on factors that include symbolic importance, critical nature of operations, consequences of an attack, and surrounding site conditions. This approach is used in conjunction with a detailed risk assessment, identifies the appropriate level of protective measures to be applied to any federal facility. Concerned that agencies may have a natural tendency to elevate the required level of protection and to over-design security.

**EXCLUSIVE PEDESTRIAN FACILITIES**

Various alternatives have been implemented to restrict motor vehicles from the pedestrian environment, including residential yards, play streets, pedestrian malls, and transit malls. While pedestrian malls and other auto-free areas are usually developed as part of an urban renewal or downtown revitalization effort, they have the effect of improving pedestrian safety and facilitating pedestrian movement.

Pedestrian malls are streets which have been closed to all vehicular traffic and are reserved for the exclusive use of pedestrians, with few exceptions. Delivery and refuse collection access may be permitted during specified times of the day, and emergency service access must be permitted at all times.

Transit malls are streets where pedestrians share the space with transit buses or light rail vehicles (and sometimes bicycles, delivery and refuse collection vehicles, and taxis), but other vehicles are not allowed, except for emergency and maintenance vehicles. Transit vehicles operate on a narrow right-of-way within the mall space. Pedestrian malls can be developed in each of the following manners:

a) **Modified Street** - One block of a conventional street is closed to vehicular traffic for the exclusive use of pedestrians.

b) **Plaza or Interrupted Mall** – Several blocks of a retail street are exclusively designated for pedestrian use, with cross streets left open to vehicular traffic.

c) **Continuous or Exclusive Mall** – A multi-block area, which may include more than one street, is exclusively designated for pedestrians, with the exception of emergency, maintenance, and
delivery vehicles. The area extends the full length of the shopping area, through intersecting streets, without interruption.

d) Displaced Sidewalk Grid - A pedestrian walkway is developed away from the regular sidewalk grid through alleys and laneways, arcades, and/or lobbies within buildings.

Public Transit Services
Most cities with successful pedestrian malls have introduced policies that encourage the use of public transport. The success of these policies has varied depending on the extent of traffic congestion and the efficiency of the public transportation system. As always, public transit should be inexpensive, fast, comfortable, safe and enjoyable to ride.

Other tactics that can be successful are reserved lanes for public vehicles, low fares, convenient pickup and drop-off locations within the mall, and better security. Those pedestrian malls that are built as transit ways can provide increased mobility to pedestrians by dropping them at major department stores or activity centers within the mall itself.

Parking Supply
Effective parking policies have a significant impact on both the regulation of parking density and the attractiveness of parking spaces to mall users. Some cities use different strategies to meet the demands of employees seeking day-long parking and visitors looking for short-term parking.

Some cities offer park-and-ride systems to allow downtown or mall employees to park their cars at the periphery of the city limit and ride to work via rapid transit or special buses. On-street parking meters and multilevel parking facilities at the edge of the pedestrian mall areas can provide short term parking needs; time can be charged in incremental rates to promote a quick turnover.
Delivery of Goods

The opposition of many merchants to the idea of a pedestrian mall results from the problem of delivering merchandise to stores and making it possible for customers on foot to handle the purchases easily. One of the most common strategies has been to allow structural changes in the street pattern to make possible store deliveries from courtyards and alleys as well as using time restrictions on the use of pedestrian mall space by commercial trucks. Some downtown merchants have introduced free pushcarts in order to meet customer demand for assistance in delivering their goods to either the central transportation terminal or to where their car is parked. Establishments that sell bulk goods, such as grocery stores, should be relocated to the periphery of the mall where ready access to parked vehicles is available.

Figure 2: source author : Pedestrian malls provide for pedestrian safety and mobility.

Planning Considerations

For urban street malls to be successful, they must provide a viable and attractive alternative to regional shopping malls. This can be difficult when it is considered that street malls must necessarily be planned and designed around existing roadway configurations, traffic patterns, parking, retail mix and other constraints. Street widths can be too wide, walking distances too long, and retail development poorly located to encourage the patterns and volume of pedestrian activity needed to support a successful urban mall. In order to succeed, the street mall must, therefore, capitalize on its primary advantage as an outdoor activity space by promoting parades, street fairs, bicycle and track races, antique car rallies, marching band competitions, concerts, and other similar public events to encourage pedestrian activity and establish an area identity.
The primary objectives of the pedestrian mall should be to reestablish or fortify an urban area’s economic viability while simultaneously creating a social setting capable of responding to a variety of needs. The success or failure of an urban pedestrian mall is dependent upon many factors, some of which are directly controlled during the planning process. The following considerations identify elements of planning essential to the effective realization of pedestrian malls.

Several advantages exist from the design and implementation of pedestrian malls, including:

- Reduction in pedestrian delays and/or pedestrian congestion.
- Enhancement of the aesthetic and social environment of the downtown area.
- Greater pedestrian accessibility to retail merchants.
- An increase in the use of public transportation.
- Decrease in noise and air pollution on affected streets.
- A potential increase in revenues, sales, and land values.
- Increase in the efficiency and time savings of mass transit in transit malls.

Along with the advantages of pedestrian malls, there also exist several disadvantages, including:

- A potentially high cost of installation, maintenance and operation.
- Rerouting of vehicle traffic to other streets.
- Potential reduction in retail activity and an increase in noise and air pollution on nearby streets.
- Disruption of utility and emergency services.
• Disruption of bus routes and delivery of goods.
• Placement problems with street furniture for visually handicapped pedestrians.
• Potential parking problems for visitors and employees. Potential security and policing problems if poorly lit and designed with numerous hidden spaces.
• Potential maintenance problems.
• Conflicts between pedestrians and transit vehicles in transit malls.
• Pedestrian-vehicle conflicts at cross streets in a plaza or interrupted mall.
• Conflicts between pedestrians and vehicles at midblock locations where displaced sidewalk grids are used.

Proper planning for pedestrians through and along construction areas is as important as planning for vehicle traffic, especially in urban and suburban areas. Pedestrian considerations, including access to bus stops and crosswalks, must be an integral part of each construction project. There are three considerations for pedestrian safety in highway and street work zones:

 ✓ Pedestrians must be separated from conflicts with work site vehicles, equipment and operations.
 ✓ Pedestrians must be separated from conflicts with mainline traffic moving through or around the work site.
 ✓ Pedestrians must be provided with a safe, accessible and convenient travel path that duplicates as nearly as possible the most desirable characteristics of sidewalks or footpaths.

Covered walkways and pedestrian fences and other barriers must be designed to provide ample sight distance at intersections and crosswalks. Solid construction fences must be angled at corners or be replaced with chain link fencing to provide adequate visibility.

When pedestrians are judged especially vulnerable to impact by errant vehicles along moderate to high speed streets, foot traffic should be separated and protected by longitudinal barrier systems. Where a positive barrier is clearly needed, it must be of sufficient strength to avoid intrusion by an impacting vehicle into the pedestrian space. Short intermittent segments of longitudinal systems should be avoided. Upstream ends of the system must be flared or protected with impact attenuators properly fastened to the longitudinal barrier. For work zones adjacent to high speed
traffic, wooden railings, chain link fencing with horizontal pipe railing and other similar systems are not acceptable.

Construction work zones should be inspected daily and monitored continuously for vehicle and pedestrian needs. Security guards or flagmen may be needed to monitor work sites and help control pedestrian traffic. Where construction vehicles and equipment need to cross pedestrian paths, flagmen, police officers or traffic signals should be used during crossing times.

**On-Street Parking**

On-street parking has an important relationship to vehicle and pedestrian safety, the capacity and level of congestion on a street, the economic vitality of adjacent businesses and providing a service to nearby residences. It can create an effective buffer separating pedestrians on the sidewalk from motor vehicle traffic on the adjacent roadway. The presence of on-street parking reduces motorists’ speed, further enhancing pedestrian safety and comfort. On the other hand, the presence of on-street parking results in less visibility between the motorist and pedestrians, especially for children.

**Central Business District**

The CBD normally has slower moving vehicles (typically 40 to 48 km/h (25 to 30 mph)), closely spaced traffic signals, marked crosswalks at most intersections, and a high demand for on-street parking and high parking turnover. Parking spaces are often governed by parking meters and, on occasion, the spaces may be marked on the pavement to better organize parked vehicles and to prevent vehicles from encroaching intersections and marked crosswalks. Red curb markings along with NO PARKING signs are often used to prevent cars from parking too close to intersections.

Loading zones and bus stops are often an issue in CBD areas due to the high competition for limited curb space. Placing these zones adjacent to intersections often facilitates buses (or trucks using the loading zone) by providing a maneuvering area and minimizing the space needed for the zone. Bus stops should be placed downstream from a traffic signal or intersection (when practical) to encourage pedestrians to cross behind the bus. Downstream locations for commercial loading zones at intersections are also more practical since it will provide greater intersection visibility. However, this is sometimes difficult to accommodate since the business requesting the loading zone
generally wants it adjacent to their building where they can directly view the truck being unloaded and for convenience.

Corner parking restrictions are often needed and should be enforced. Supplemental parking restriction signs, such as NO PARKING WITHIN 30 FEET (or NO PARKING WITHIN 50 FEET) may be needed below STOP signs to obtain better motorist compliance or assist in enforcement. NO PARKING HERE TO CORNER (OR CORNER TO HERE) signs often provide the most straightforward information to motorists at intersections.

*Pedestrian sight distance and parking restriction for a parallel-parked vehicle, pedestrian standing at the curb.*

Figure 5: source author : Pedestrian sight distance and parking restrictions — for a parallel-parked vehicle, pedestrian standing halfway into the parking lane.
STREET LIGHTING FOR PEDESTRIANS

Street lighting is a very helpful tool for pedestrian safety, security, comfort and the economic vitality of an urban area. Ample lighting not only allows pedestrians to be better seen by motorists at night, it allows pedestrians to see better and feel more secure during nighttime hours.

Street lighting allows pedestrians to read street name signs or to identify any obstacles in or near the sidewalk or path at night. Providing high levels of lighting is critical for revitalizing downtown urban areas and is needed to encourage pedestrian shopping and attendance at events and other recreational activities at night. In these areas, it is best to consider separate pedestrian level lighting, directly over the sidewalk area. In some cases, this lighting may be designed directly into nearby buildings and structures.

In general, lighting may be warranted at locations where the local governmental agency concurs that lighting will contribute substantially to the efficiency, safety and comfort of vehicle and pedestrian traffic.

2.2 Reference to planning and design standards that guide implementation of similar projects.

(FEMA 429), INSURANCE, FINANCE, AND REGULATION PRIMER FOR TERRORISM RISK MANAGEMENT IN BUILDINGS 2003.

FEMA 429, Insurance, Finance, and Regulation Primer for Terrorism Risk Management in Buildings, is a part of the Multi-hazard Risk Management Series of publications that addresses
terrorism risk in buildings. The objective of this primer is to introduce the building insurance, finance, and regulatory communities to the issue of terrorism risk management in buildings and the tools currently available to manage that risk.

Insurance, finance and regulation are considered the change levers of the built environment. They are the principal mechanisms for the evaluation and management of risk exposure in buildings. These change levers play a critical role in introducing and maintaining standards for risk management and public safety.

Implications for Building Regulation Enforcement

Zoning and planning regulation define land use, building density, transportation systems, and utility systems. They are usually adopted by local governments, but state planners may provide guidance. For existing vulnerable properties, these regulations can address specific access-control measures. This will require a prioritization of hazards and buildings. Issues addressed at the planning level in facility security include;

- Property maintenance codes this explains the use and maintenance of existing buildings. Housing codes and fire codes are two examples. They are developed by model code and consensus standards organizations and adopted as regulations by local government agencies. These can be effective at addressing all building vulnerabilities. They will require extensive inspections, and enforcement will be burdensome unless targeted to highly prioritized vulnerabilities, and accompanied by financial incentives.

- Building rehabilitation codes address health, safety, and welfare in existing buildings that are undergoing voluntary improvements. These are a relatively new development. They have been enacted by some state or local government agencies. These can be effective at addressing vulnerabilities in existing buildings in which rehabilitation investments are otherwise being made. They should be carefully calibrated, since these codes all have the objective of encouraging the reuse of existing buildings rather than risk reduction.

- Construction codes building, mechanical, plumbing, electrical address health, safety, and welfare in new buildings. They are developed by model code organizations (ICC, NFPA) and adopted as regulations by state or local government agencies. Rarely does the government
regulate construction requirements. Construction codes can be effective at addressing the problem of vulnerability for new buildings to be built. However, many jurisdictions may require cost/benefit analysis to justify even these regulations.

VISION 2030
It is a policy running from 2008 to 2030. It aims to transform Kenya into a middle-income country by the year 2030. Infrastructure is one of the major tools to support attainment of Vision 2030. To achieve this vision on Sarit mall, the shoppers and informal traders need to be planned for. It is therefore essential to note that improvement of both public and private sector relies heavily on their security.

NATIONAL LAND POLICY (2009)
Section 103 of the policy explains the land use planning principles, which include sustainable production and environmental management. In this case, it gives guidelines on planning of Sarit center mall and its environs. It provides a basis for chapter five of the constitution as the constitution borrowed heavily from the policy. This will form the basis of pedestrian infrastructure development in the study area. In section 104, it points out that key issues to be addressed in land use planning include: Preparation of land use plans at national, regional and local levels; review and harmonization of the existing land use planning laws; actualization of spatial frame-works for orderly land and land based resources; establishment of an appropriate framework for public participation in the development of land use and spatial plans; establishment of effective framework for coordination of land use plans to ensure implementation of the planning proposals and regulations.

INTEGRATED KENYA NATIONAL TRANSPORT DRAFT POLICY (2009)
This policy aims at provision of an integrated, efficient, reliable and sustainable road transport infrastructure that meets national and regional passenger and freight transport goals and supports the government’s socio-economic development strategies to promote accessibility to services and the safe movement of people.

PHYSICAL PLANNING HANDBOOK PHYSICAL PLANNING DEPARTMENT
Purpose of this handbook is to provide clear and digestible user friendly guidelines and minimum standards on the process and practice of physical planning. In compiling this handbook, every effort has been made to nationalize the rules, regulations, guidelines and performance standards that exist
in various statutes, relevant subsidiary legislations, technical standards and principles that apply under relevant professional and technical disciplines.

**Objectives of the Handbook**

- To operationalize Physical Planning Act Chapter 286 of the Laws of Kenya and subsequent legislations.
- To develop a comprehensive land use planning guidelines and standards for emerging opportunities and challenges.
- To integrate physical planning guidelines and standards with other relevant Statutes, guidelines and regulations.

However the handbook does not give guidelines on security issues. There is no information regarding mall standards, building codes, parking space plot area coverage and building lines.

**THE CONSTITUTION OF KENYA (2010)**

The constitution gives guidelines on how land should to be used equitable, efficiently, productively and sustainably in article 60 (1), regulation on the use of land or any interest on or over land in article 66, and environmental conservation without which there would be legal consequences in article 70. It also gives the right to all Kenyans, including persons with any disability to be entitled to reasonable access to all places, public transport and information (article 53(1c)).

**NATIONAL POLICE SERVICE ACT 2011**

The national police service act covers only the mandates at which the police should take. Special cases such as terror attacks have not been highlighted on how to handle them. This is a gap that needs to be refocused on. Some of the general obligations given to the police in maintaining law are subjected to Article 244 of the Constitution and any other law enacted pursuant to Article 35 of the Constitution, a limitation of a right shall be reasonable and justifiable in an open and democratic society based on human dignity, equality and freedom and shall be limited only for purposes of ensuring—

- The protection of classified information;
- The maintenance and preservation of national security;
- The security and safety of officers in the Service;
- The independence and integrity of the Service; and
The enjoyment of the rights and fundamental freedoms by any individual, does not prejudice the rights and fundamental freedoms of others.

**PHYSICAL PLANNING ACT (1996)**

The Act gives the guidelines on the procedures followed for any development to be undertaken. In this Act the County government (the former City Council Authority) have the mandate to control land use and developments so as to ensure proper and orderly developments of the area under their jurisdiction and to approve all development applications and grant all development permissions as stipulated in Sec. 29 of the Physical Planning Act Cap 286.

**THE COUNTY GOVERNMENT ACT (2011)**

This is an Act of Parliament to provide for county governments powers, functions, and responsibilities to deliver services and to provide for other connected purposes. The Act points out that to guide, harmonize and facilitate development within each county the planning authority will aid the formulation and implementation of the following plans:

(a) **County Integrated Development Plans**

These will be five-year development plans for each county and which shall have clear goals and objectives; an implementation plan with clear outcomes; provisions for monitoring and evaluation; and clear reporting mechanisms.

(b) **County Sectoral Plans**

The County sectoral plans shall be ten-year plans which will be a component part of the County Integrated Development Plans and which will be programme based, will form the basis for budgeting and performance management; and will be reviewed every five years by the county executive and approved by the county assembly, but updated annually.

(c) **County Spatial Plans**

These will be ten-year plans which will be a component part of the County Integrated Development Plans which will aid in providing:

- A spatial depiction of the social and economic development programme of the county as articulated in the integrated county development plan;
• Clear statements of how the spatial plan is linked to the regional, national and other county plans; and
• Clear clarifications on the anticipated sustainable development outcomes of the spatial plan.

(d) Cities and Urban Areas Plans
The bodies that will interact with planning work include:

The County Assembly whose role will be approval of all County plans and policies as well as approval of an amendment to a county’s integrated development plan adopted by a decision taken by a county executive committee.

The County Executive Committee whose role will be to implement county legislation, implement, within the county, national legislation to the extent that the legislation so requires, review the County Sectoral Plans every five years and introduce a proposal for amending the county’s integrated development plan.

The City and Municipality Boards and Town administrators/Committees whose role will be to oversee the affairs of the city or municipality; develop and adopt policies, plans, strategies and programs, and may set targets for delivery of services; formulate and implement an integrated development plan and control land use, land sub-division, land development and zoning by public and private sectors for any purpose, including industry, commerce, markets, shopping and other employment centers, residential areas, recreational areas, parks, entertainment, passenger transport, agriculture, and freight and transit stations within the framework of the spatial and master plans for the city or municipality as may be delegated by the county government;

The City/Municipality Managers

The function of the City/Municipality Managers will be to implement the decisions and functions of the board and shall be answerable to the board.

URBAN AREAS AND CITIES ACT (2011)
This is an Act to provide for the classification, governance and management of urban areas and cities; to provide for the criteria of establishing urban areas, to provide for the principle of governance and participation of residents and for connected purposes. The Act establishes Boards of Cities and Municipalities to undertake the provision of social services among other things.
2.3 Case studies

**Israeli Malls**

Israeli malls have proved to be the most highly rated facilities in having very effective security measures against terror attacks. Two namely Ramat Aviv Mall and Azrieli Center have gained high interests from other nations in understanding their strategies against terrorism. In ten attacks mounted against Israeli malls since the Intifada, not a single attacker has succeeded in penetrating the interior of the mall. While present security concerns in U.S. malls do not approach the level of imminent threat in Israeli malls, there are nonetheless lessons that can be learned from their success.

It is explained that in Israel, security plans envisage the mall at the center of three concentric circles. In the outermost circle are roving patrols of one or two security officers and vehicle inspection points, with bollards and retractable barriers used to keep vehicles from being driven through the checkpoints. All vehicles entering mall parking areas are searched and drivers are assertively questioned by security officers. The mall’s entrances are considered the second circle. As they enter, all pedestrians are subjected to a search of bags, both physical and x-ray searches, and to scanning by a metal detector. Screenings are conducted by relatively low-paid, unarmed security staff, but they are monitored by a highly trained guard armed with a submachine gun. Inside the mall (the innermost security circle), just one or two armed security officers patrol and observe visitors. (Police Foundation Reports 2006.)

According to one of the Israel mall security directors, approximately 40% of their operational budget is devoted to security, compared to 3% to 5% in the United States. The high cost of security is largely driven by government standards regarding security guard staffing levels, vehicle check points, and barricades. All national standards must be met in order for malls to keep their operating licenses.

In Israel, mall security represents a close partnership of private and public sectors. The district police license all armed and unarmed security candidates, conduct frequent on-site inspections, and observe many of the drills being conducted by the mall security staff. Joint exercises pair mall security in
drills with police, fire, and medical first responders. Mall security and local law enforcement share interoperable communication systems allowing communication over a shared radio band. (Police Foundation Reports 2006.)

Israeli malls are required under governmental regulations to conduct periodic risk assessments using independent contractors. Once the plan is completed, it is handed over to the district police for approval. The two malls must present a comprehensive emergency response plans for various contingencies, also required by the government. Each security officer is given a duty under the plan, and a subset of officers is assigned to an emergency response team. Plans include preventing outsiders from gaining access to the mall as well as possible evacuation unlike in U.S. malls, is entirely up to the security director. An immediate reaction squad meets in a special control room to monitor and direct security actions until the police arrive. (Police Foundation Reports 2006.)

Malls provide monthly training for all officers, almost entirely focused on recognizing and responding to terror threats. According to the security officers at the two malls is that this malls usually conduct about 50 drills per month. The drills range from minor procedural drills to covert drills during which false bombs are planted and attempts are made to bring them into the mall. (Police Foundation Reports 2006.)

2.4 Statement of the conceptual framework that guide the design and implementation framework

Crime Prevention Strategies for Shopping Malls
There are numerous crime prevention strategies that can serve to make commercial shopping malls safer and more secure. These strategies include the following:

→ Security Patrol – Provide ample uniformed security officers to patrol both the interior and exterior of the mall in well-marked, high-profile vehicles. The security staff either contract or in-house, may be augmented by off-duty sworn police officers.

→ Escorts – Provide escort service to both patrons and employees to their motor vehicles, particularly during late-night hours of darkness.
→ **Community Policing Substation** – In some communities, community policing substations have been located in shopping malls.

→ **Exterior Lighting** – Provide adequate exterior lighting in all parking and exterior areas associated with the shopping mall. A reliable lighting inspection and replacement program should also be in place.

→ **Placement of Public Restrooms** – Unfortunately, shopping malls frequently place public restrooms at the end of long service corridors in less desirable space. Isolation makes mall restrooms possible sites for anything from robbery, sexual assault as well as hiding places. Mall maintenance or housekeeping personnel should be instructed to be in the restrooms every 15-30 minutes, and keep log sheets showing the frequency of these visits. In addition, mall security officers should also visit the restrooms periodically. A CCTV camera may be installed to monitor the corridors leading to the public restrooms, especially if the corridors twist and turn. Convex mirrors at corridor intersections can help mall patrons see around corners before they get there.

→ **Bicycle and Mounted Patrol** – For purposes of visibility and accessibility, some shopping malls have their security officers patrol the parking areas and grounds on bicycles.

→ **Rooftop Patrol** – Particularly during holiday shopping periods, when theft from motor vehicles tend to increase, shopping malls may station security or police officers on the building roof with binoculars. Also this increases level of surveillance to any terror threats as it alarms the others within the mall.

→ **Exercise Walkers** – Enclosed shopping malls often attract persons who want to walk within the confines of the mall for purpose of exercise. This practice should be encouraged, particularly during hours of least activity within the mall.

→ **Use of CCTV** – Closed-circuit televisions cameras can be used to monitor parking areas and common areas. For instance The Mall of America employs approximately 130 CCTV cameras monitored by two persons at all times.

→ **Emergency Phones or Call Boxes** – Shopping malls may provide highly visible emergency phones or call boxes located in parking areas and the mall itself.

→ **Volunteer Patrol** – A few shopping malls have developed volunteer citizen patrols to assist mall security or volunteer parents to work at the shopping malls. Preferred people include those who have businesses within the mall.
→ **Way finding Signs** – Signs should be placed along shopping mall ring roads to assist patrons in locating parking that is closest to their destination.

### CHAPTER THREE: SITUATION ANALYSIS

#### 3.1 LOCATION CONTEXT OF THE STUDY AREA

**Description of study area**

Nairobi’s Sarit center shopping mall is located in Westlands an affluent neighborhood in the city of Nairobi, the capital and the largest city in Kenya. Westlands was a residential area during the colonial days which ended in 1963. Later the years up until the year 2000 land was scarce and the land for sale was quiet priced. Due to its change in social class, Westlands became a fast growing area economically with a lot of business enterprises. (Wikipedia.com)

![Study Area Context within Nairobi County](image)

*Figure 6: source author: Sarit centre Google map.*
Sarit Centre is located in the Westlands suburbs of Nairobi. It is located off Waiyaki way, bordered by Pio Gama Pinto Road, Lower Kabete Road and Mukinduri Road. The mall whose slogan is “A city within a city” revolutionized shopping mall concepts in East Africa. According to the mall’s management, approximately 25,000 visitors are served daily with an approximately 5,500 car traffic frequenting daily both in the mall’s parking facilities and neighboring streets.

When the immediate neighborhood of the mall is put into consideration, similar materials and forms are employed in the designs of the neighboring buildings. For instance, the Sankara that borders it on its Pio Gama Pinto Road side and the 9 West building nearby are also contemporary glass buildings. Fig shows a map of Westland’s showing the different locations of some of Sarit Centre neighboring buildings. Maps 1&2 show the locations of the mall and its enviroments and view respectively.
The mall is surrounded by various business enterprises and institutions hence making its sport of access as crucial. Many enter prices make use of the malls name as a source of direction since it was established a long time as a huge facility back then when it was established and ever since it’s still referred to.

3.2 BACKGROUND OF PROJECT AREA AND HISTORICAL CONTEXT

Historical context

According to the mall’s website, www.saritcentre.com, the history of the Sarit Centre can be traced back to 1973, when his holiness Sat Guru Pujya Hariram Bapa visited Sobhagayachand Vidhu Shah (known as Bachu or Bachubhai to all his acquaintances), who was living on the land where the Sarit centre now stands. He advised the businessman (Vidhu Shah) to never sell this parcel of land, advice which he took. A few years’ later, Vidhu Shah's friend and business associate Maneklal Rughani visited the then new Brent Cross Mall on a trip to London, and returned determined to build a similar shopping complex in Nairobi. Upon returning, the neighboring plots were purchased, the architect briefed and construction begun. However, due to the attempted coup in 1982, the construction was halted and a much scaled down shopping complex opened in April 1983.

Fig 9: source author: shows the original design of the complex.
3.3 SITE ANALYSIS CHARACTERISTICS

Physical environmental characteristics

Topography
The study sites have their topography falling from the edge of rift valley in the west at an elevation of 2300m to 1500m to the east of the city Centre with itself being 1700m (Morgan, 1967). The study area is located on gently sloping ground thus most of the infrastructure facilities and services can be easily maintained.

Geological and Soil Characteristics
Westlands being in Nairobi County has the same geology and soil characteristics as the whole of Nairobi which is predominantly underlain by the Nairobi phonotypes of middle Pliocene rocks and extensively quarried for use as concrete, road stone and railway ballast. They are found about 2-3 ft. below the ground (Muraguri, 2008).

Climatic conditions
Located 3.1 kilometers by road northwest of the central business district of Nairobi, 90 KM south of the equator and with an altitude about 5,500 feet above sea level and experiences a continental tropical climate.
Temperature

The area receives an average of 79mm of rainfall with two rainy seasons in the months of March-May and September-December.

- Average temperature RANGE is 3.5°C.
- Average temperature is 17.70C.
- Highest monthly average high temperature is 26°C in February.
- Lowest monthly average low temperature is 10°C in July, August and September.

Rainfall

- Area receives an average of 925mm of rainfall per year or 77mm per month.
- Driest weather is in July with an average of 19mm on rainfall.
- Wettest weather is in April with an average of 206mm of rainfall.

Humidity

- Humidity is 72.8% and average monthly relatively humidity ranges from 64% in October to 79% in July.

Sunlight

- Sunlight hours range between 4.3 hours per day in July and 9.5 hours per day in February.
- Average of 2525 hours of sunlight per year with an average of 6.9 hours of sunlight per day.

3.4 POPULATION AND DEMOGRAPHIC CHARACTERISTICS

In 1906 the city of Nairobi had a population of 10,512. By 1963 after independence the population was 350,000. Population presentation at the time was based on Nairobi region as a whole. However, urban dynamics such as migration have changed urban population trends. From the 2009 census report, it was detailed out that Nairobi’s population was at 3,138,369 while the house hold population was at 985,016. This is an indicator that population trends vary with time. During the day
population is high due to many activities happening during the day. During the evening population reduces as people leave the city to their areas of residence as most of the happen to leave within the cities environs. The city continues to thrive with areas such as Westlands having more economical output due to the high demand of service and goods by the ever growing population.

3.5 LAND USE ANALYSIS

Sample size
The Sarit Center shopping mall in Kenya mainly focuses on providing excellent world class customer service in Kenya through wide shopping malls, security and degree of entertainment that meets the needs and expectations of the most Nairobi residents. Sarit Center shopping mall in Nairobi has four floors which are fully stocked to serve its customer. The lower ground floor of Sarit Center shopping mall has the following shops; Dash interior limited in Sarit Center shopping mall, Mutts Timber and hard ware within Sarit Center shopping mall, Dixon Electronic limited in Sarit Center shopping mall, Barclays Bank sarit premier in Westlands, Life center in Sarit Center shopping mall, Safaricom customer care centre in Sarit Center shopping mall, Airtel Kenya customer care centre in Sarit Center shopping mall in Nairobi, Union forex Bureau, Nairobi Java House in Sarit Center shopping mall in Nairobi, life fitness store in Sarit Center shopping mall and many more stores.

The major shops which are found in the ground floor of Sarit Center shopping mall in Westlands are; Micro city limited, Jewelart, Text book center within Sarit Center shopping mall, Kenya commercial bank in Sarit Center shopping mall, Bata sarit Centre outlet in Nairobi, Orange shop in Sarit Center shopping mall in Westlands, Sarit video, Technical engineering, and The Nokia shop within Sarit Center shopping mall in Nairobi among others. First floor of Sarit Center shopping mall has the following major shops; 4u2, the woman shop, Manix clothing store, Vanela house of coffee within Sarit Center shopping mall, Swahili fried chicken, Chinese corner hotel within Sarit Center shopping mall, Cake city, Chicago Pizzas and men’s secrets. Second floor and the third floor of Sarit Center shopping mall are mainly dominated by company shops such as Tricons insurance brokers, wella center limited, wwics Africa, KCB cards center within Sarit Center shopping mall in Nairobi, beauty quest limited, ken pride limited, PFP financials and urbane limited among other companies found within Sarit Center shopping mall in Westlands. Lastly, the
Fourth floor of Sarit Center shopping mall is dominated by health facilities such as AAR health center in Sarit Centre, DR. B. H Pandit, DR. Miva Joshi and DR. R.B Barad.

Sarit center in Nairobi is designed to meet the requirements of residents of Nairobi and business people who want to avoid the crowded Nairobi CBD.

**Access to the mall**

According to the management, the shopping mall has six points of entrances and three parking areas spread out through its site, with a total of approximately 1250 parking slots. This can be confirmed by the figure 5 below.

![Map of Sarit Center shopping mall](image)

**Figure 10:** source author: parking spots and entrances

The first parking, which is the main parking, is located at the front of the shopping mall. It is accessible from both Lower Kabete Road and Pio Gama Pinto Road. This is the largest parking...
available at the mall. It caters for approximately half of all the parking facilities provided. It is easily accessible both from outside and inside the mall.

Patrons pay twenty shillings for the parking slots for one hour stay or less. Payment for this parking is pre-pay at points located at the entrances to the facility to facilitate speedy entrances and exits with instructions on how to use this automated service. Parking charges increase with time spent, thereby reducing the chances of outsiders who don’t have an intention of using the mall from exploiting this service.

The main parking is articulated with various plantings at strategic points, and thus giving a green-like natural feel, reducing the visual impact of micro-concrete paving slabs that are used as the material for the parking.

There is a second parking lot, the express car park that is accessed from Mukinduri Road. This parking lot too resembles the first although it is smaller.

![Figure 11: source author: angle parking within the malls parking lot](image)

The third and last parking lot is the tenants’ car park, being served by Lower Kabete Road Bicycle parking is also provided at the main car park and is free of charge. At the time of the research visit, the parking was not full and thus can be said to be adequate for the facility. Moreover, cycling was not a common mode of access into the shopping mall, as most patrons either arrive on foot, or in cars.
The mall has a secure parking lot but can easily be manipulated due to heavy traffic that is experienced during peak hours during the mornings and evenings. The mall is adjacent a roundabout that links Lower Kabete Road and Ring Road Parklands.

**Malls security status**

Security at the entrances of the mall is well controlled by security officers who are well equipped with metal detectors and security dogs.

Accesses in and out of the mall are multiple unlike Westgate shopping mall that was recently attacked had only one main access point that was taken to full advantage by terrorist.

Layout of the Sarit centre showing the car park layout can be referred to *figure 5*.

Some of the security measures taken into consideration include;

4) **Lighting** – Lighting is the most effective method of eliminating crime and creating safer zones. Not only does it reduce crime in parking facilities, or any other place for that matter, users of a well-lighted space psychologically feel safe and are thus more comfortable when using the facilities in question. Lighting also reduces accidents within parking lots.

5) **Natural Surveillance** – This is the ability to see and be seen. It is achieved through openness of a given space. Exits and entrances are retained at minimal to make sure users of the facility can clearly see each other. Usage of CCTVs and security guards have been strategically positioned at entrances and inside within the mall.

6) **Access Control** – people accessing the parking lot, both on car and on foot, are controlled. People on vehicles enter through several check areas where they hand in a ticket and interact with security officers and also use automated checking in machines. However, the materials used in fencing create a sense of boundary, but still retain a sense of openness.

<table>
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<tr>
<th>Table 2. Source author: <em>Most common reasons for positive ratings on preparedness</em></th>
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<tr>
<td><strong>Reason</strong></td>
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<tr>
<td>Cooperation between malls and first responders</td>
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<td>Manual Development of emergency preparedness plans this is through the use of</td>
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<td>physical signs</td>
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<tr>
<td>Premises being secured by a wall</td>
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<tr>
<td>Use of technological knowledge (CCTVs)</td>
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<td>Police patrol</td>
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From these findings it was easier to conclude that a huge number of the people within the mall are satisfied with the premises level of protection. However, one of the respondents who happened to be the centers operational manager rated preparedness as poor especially on terrorism. Reasons given for these assessments were inadequate training and equipment.

The ability of large mall to respond to a terrorist attack depends in large part on the quality of training provided the private security guards who would be the first responders in the event of an attack. Unfortunately, this is one of the few states in the nation that has no regulatory board providing oversight of the private security guards. (An Assessment of the Preparedness of Large Retail Malls to Prevent and Respond to Terrorist Attack December 2006)

**Challenges faced in mall security**

- One of the main challenges faced within the malls especially at the entrances is disrespect by the rich. Some of the rich people hate being inspected and even threaten the security officers of losing their jobs. Due to fear of losing jobs security officers tend to let them through despite the risk.
- Another challenge is contributed by security comfort whereby security personnel become used to regular faces hence the ignore inspecting them.
- From the center operation manager at the mall, security personnel at the mall are not well trained on ways to handle terror incidences. They only rely on equipment provided, guard dogs and personal judgment.
- There are no interior security problems experienced but only at the exterior where cars at the parking lots are stolen. For this they propose more of patrolling to be conducted at time intervals.
Malls and traffic
Wherever a new shopping center is built, an environment around it is always crowded. Because of the communal type of society, the developers build a building without considering pedestrian area and traffic user around it. People come in and out the shopping center every time. Vehicles, which are parked in front of the shopping center, make the road looks narrow and crowded whereas the building and traffic regulation are not available. The government does not give enough attention to the society’s needs.

Along the roads leaving and leading to the mall especially Outer Ring Road and lower Kabete Road a lot of unplanned developments have taken place with small structures being setup by local traders. As a result congestion along the road has developed leading to roads being narrow hence high traffic congestion.

![Figure 12 & 13: source author: shows traffic flow being hindered by unstructured development close to the mall](image)

According to the customers survey conducted using questionnaires it was well identified that 60% of people that go to Sarit center go to shop. 15% is for the employers and staff, 20% is for those who come to meet with relatives and conduct private meetings and the others are window shoppers who take up 5%.
3.6 INSTITUTIONAL, LEGAL AND FINANCIAL ISSUES OF THE PROJECT AREA

The main institution in this area is the Nairobi City County since the project area falls under its jurisdiction. The key legal framework providing for the development of this project are Physical Planning Act, physical planning handbook, national police service Act among other legislations.

Financial framework

The financial support for this project is expected to come from the mall developers and the national government through planning authorities.

CHAPTER FOUR: PROJECT PLANNING DESIGN AND IMPLEMENTATION

4.1 PLANNING AND DESIGN OF PROJECTS

Environmental crime prevention emerged in the 1960s with Jane Jacob's *The Death and Life of Great American Cities* (1961) and Elizabeth Wood's *Social Aspects of Housing in Urban Development* (1967). Jacob's book was the first influential work to suggest that active street life could cut down opportunities for crime.

The early 1970s saw a surge of interest in the possibilities of manipulating the built environment to prevent delinquency and crime. Two works were particularly influential - C. Ray Jeffery's *Crime Prevention Through Environmental Design* (1971), and Oscar Newman's *Defensible Space* (1972). In *Crime Prevention Through Environmental Design* Jeffery suggested urban design, including the design of streets, parks, terminals, super highways, etc, could prevent crime by reducing the opportunities.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN
The recommended first step is for a local council to formally adopt crime prevention and CPTED as strategic council policy. This step is critical because successful implementation depends upon high level acceptance of the importance of crime prevention and CPTED, and the clear communication of this to the community and local council staff. An example that local councils could use or adapt could be along the following lines:

**Outcome/Objective**

Incidents, opportunities and fear of crime are prevented or reduced by ensuring that Crime Prevention Through Environmental Design (CPTED) principles are understood and incorporated into public and private development.

**Policy**

Council’s design, planning, management and use of public space and community facilities will incorporate CPTED in service delivery and asset management programs. Council will implement initiatives to encourage private development to incorporate CPTED and will implement regulatory initiatives if appropriate.

The key benefits to adopting a policy along these lines are:

✔ It signals that the local council is committed to reducing the incidence and fear of crime and enhancing quality of life through the adoption of CPTED.

✔ It signals that the local council will incorporate CPTED into the planning, design, construction and management of public space and community facilities. This is the most efficient and effective way that a local council can enhance the safety and quality of public space and facilities. It is an opportunity also for a local council to lead by example.

✔ It signals that the local council will use voluntary mechanisms to encourage private development to incorporate CPTED. This is the most efficient and effective way that a local council can enhance the safety and quality of private development.

✔ It signals that the local council will use regulatory mechanisms where appropriate, i.e. if non-regulatory mechanisms are found on occasions to be ineffective because of the reluctance of some developers to sufficiently change their proposals to make appropriate provision for CPTED.

Other benefits include:

✔ Better design of public spaces and facilities.
Increased use of community facilities (i.e. parks, promenades, street malls etc.) and thus people’s safety and wellbeing.

Increased business by making commercial areas safer and more attractive to people.

COMMUNITY ENGAGEMENT AND PARTNERSHIPS

CPTED experience to date shows that one of the most important ways that a local council can effectively implement crime prevention initiatives is to act as a facilitator for collaborative community and multiagency involvement and action. This reflects the fact that crime prevention and CPTED is a shared responsibility.

It is therefore recommended that a local council commit itself to acting as facilitator for collaborative community and multi-agency involvement and action. In this respect, a local council is ideally placed to act in this role because of its knowledge of its communities and the particular skills of councilors and officials to harness local support.

The benefits to a local council in acting as facilitator and promoting community involvement include:

- Providing leadership and direction to the community.
- Identifying with the community and stakeholders, the types and locations of crime and where people do not feel safe.
- Identifying possible solutions with the community and stakeholders.
- Gathering useful information and opinions to assist priority setting and decision-making.

The particular communities, agencies, interested groups and individuals who can assist a local council will vary depending on local circumstances, however they could include:

- Police
- Building Safer Communities Action Teams (BSCATs)
- Chambers of Commerce
- Business association and promotion representatives
- Neighborhood Watch groups
- Local hospitality operators, especially for licensed premises
- Special interest parties
- Car park building owners
- Council asset managers
Private developers

Other street users e.g. public transport operators, taxi operators

Consultants such as urban designers, architects, CPTED specialists

Residents’ associations

Tenancy groups (in the case of large multi-unit developments)

Schools and preschools.

There are also benefits in forming stakeholder partnerships. These will vary according to local circumstances, but the involvement of police and affected residents/businesses within a crime problem area is likely to be crucial to the success of prevention or reduction initiatives.

Safety Audits

Safety audits are a qualitative process that records subjective feelings and perceptions as a means of identifying community safety issues and possible solutions.

Safety audits are a proven way to identify the perceived safety of an area. They can be conducted for a particular location, street, park, building, residential complex or neighborhood.

To be successful, they need to involve people who use the space, as their perceptions are the key to a successful audit. Participants may be given an overview of the purpose of the audit prior to undertaking it, but there is no input by any trained professionals during the audit. This encourages a subjective interpretation of the environment from the perspective of the participants (i.e. particular user groups such as women, youth, people with a disability, etc.) who may have different perceptions than safety professionals and designers.

Management Audit

Crime statistics, safety audits and site assessments are tools to assist a local council to obtain a better understanding of the relationship between crime, the fear of crime, and place. Management audits, on the other hand, assist a local council to obtain a better understanding of existing management processes and the extent to which these could be improved to achieve better CPTED outcomes.

Triggers for a management audit could be:

A desire by a local council to identify the extent to which crime prevention is incorporated into existing policies and processes (i.e. “where are we at with crime prevention?”).
A response by a local council to a significant new development where CPTED opportunities to obtain much better CPTED outcomes were lost.

The broad steps in undertaking a CPTED management audit are:

Step 1: Identify recent significant developments that have taken place.
Step 2: Identify the planning, design and approval process that was used.
Step 3: Identify the extent to which CPTED was assessed in the planning, design and approval of the development.
Step 4: Identify process weaknesses and how the process could be improved.

Process improvements could include:

- Changing a local council’s commissioning practices to better incorporate CPTED into its projects.
- Training a local council’s staff so they are better equipped to apply CPTED (particularly those involved in the planning, design and commissioning of local council projects).
- Introducing peer review of local council projects by trained CPTED specialists.
- Improving community involvement processes to better understand community perceptions and possible responses in the design of local council projects.
- Reflecting CPTED more strongly in local council plans, policies and procedures.
- Improving stakeholder partnerships, particularly with the development community, so that a local council is more knowledgeable about impending private development and thus is in a better position to take proactive action to encourage the incorporation of CPTED into early site planning.
- Changing the Planning Scheme to incorporate more appropriate “triggers” for development applications and associated assessment criteria so that the local council can ensure CPTED is appropriately incorporated into private development.
- Production of local CPTED design guidelines to assist designers and applicants to identify safer design solutions.

APPLYING CPTED TO PUBLIC INITIATIVES

The most effective way that a local council can enhance the safety and quality of public space and facilities is to apply CPTED to its own existing facilities, public spaces and new developments. In
addition to the hot spot areas noted in the previous section, the sorts of public works or projects that a local council undertakes that can influence the incidence and fear of crime include:

- Street lighting
- Signage
- Opening up or closing pedestrian linkages
- Opening up or closing pedestrian sight lines
- Design and placement of landscaping
- Main street enhancement projects
- Road closures, surfacing and paving of footpaths
- Refurbishment of street malls and public facilities
- Scheduling street activities
- Locking and closing off potentially dangerous areas after dark.

A local council can apply CPTED to its activities and public places by:

- Involving the community and forming partnerships with key stakeholders as outlined in this guide.
- Obtaining a better understanding of the local context and identifying hot spot areas using the tools recommended in this guide.
- Incorporating CPTED into appropriate local council activity, policies/strategies (i.e. urban design strategy, open space strategy, multi-unit residential design guidelines, asset management plans etc.).
- Preparing a local CPTED design guide to assist all parties to identify appropriate local design responses.
- Making provision in Asset Management Plans for the appropriate investigation and improvement of existing facilities to incorporate CPTED.
- Making CPTED a planning and design criteria for new projects.
- Selecting project designers with CPTED skills and proven CPTED track records.
- Assessing alternative designs against CPTED assessment criteria and design guidelines for selection.
- Obtaining specialist CPTED peer review of significant existing and proposed public facilities, i.e. street enhancement schemes, park designs, existing civic centers, public transport facilities, parking buildings/facilities.
Assessing the relationship between the project area, surrounding spaces and private development so that opportunities to enhance the quality and safety of public space are realized.

Developing and implementing a comprehensive maintenance program.

Seeking the voluntary cooperation of adjacent private owners to activities and/or works on their land that enhance the safety and quality of the public space.

Providing training for local council staff in crime prevention and CPTED.

Initiating organizational change to promote communication and cooperation between the different sections that need to work together to achieve CPTED.

Establishing voluntary guidelines/protocols and working partnerships, or if necessary, seek regulatory management through a council Policy, to manage other users and occupiers of streets – for example, the location of taxi ranks, bus stops, public telephones, pump stations, substations etc.

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**APPLYING CPTED TO PRIVATE DEVELOPMENT**

Significant development of privately owned land can usually be achieved without the need to obtain development applications. While such allowance has benefits, it could be easy for significant development to be planned and constructed with little or no consideration of CPTED. Under these circumstances, there are two main ways that a local council can apply CPTED to existing and proposed private development – voluntary initiatives and regulatory management.

**Voluntary Initiatives**

It is recommended that local councils first use voluntary initiatives to promote the application of CPTED to existing and proposed private development. These initiatives could include:

- Promoting the importance of CPTED (i.e. by the production of guides to CPTED) and offering training opportunities to the private sector (in conjunction with council staff).
- Making owners in identified hot spots more aware of the local crime issues, the benefits of incorporating CPTED, and its importance to the community.
- Anticipating where significant private development is likely to occur and contacting the owner/developer to advocate the importance of CPTED.
- Forming closer partnerships with the development community so that a local council is more knowledgeable about impending private development and in a better position to take proactive action to encourage the incorporation of CPTED into early site planning.
- Making specialist officers available to give advice on CPTED.

Voluntary initiatives are attractive because they can be immediately implemented by a local council and are not costly. Significantly, they are also the only way to seek improvements to existing hot spot areas in circumstances where the owners are not contemplating change or development.

**Regulatory Management**

A second step is for a local council to incorporate CPTED into their Planning Scheme. This has the advantage of giving CPTED justification to negotiate with developers if they are reluctant to change their proposals to sufficiently incorporate CPTED. Significantly, regulatory management is ineffective for existing hot spot areas where the owners are not contemplating change or development.

A separate guide on *Incorporating CPTED into Planning Schemes*, including case studies, has been prepared and is included in the next chapter. This includes guidance on possible “trigger rules” that could be applied to specific areas or activities to ensure that a local council can appropriately manage private development to achieve CPTED.

4.1.1 Development of spatial plans

4.2 SITE PLANNING

Due to the nature of the research and its broad presentation on security issues, it is however important to note that the main planning factor for security for malls is visibility. CPTED tries to explain strategies best to use in planning to well establish visibility room for surveillance.

**CPTED STRATEGIES**

CPTED design strategies have evolved over time. While many actual techniques have been in use for hundreds of years, it has only been in the last few decades that urban planning experts such as
Jane Jacobs and Oscar Newman have explored the relationship between the built environment and criminal behavior.

Each of the following CPTED strategies offers guidelines that property owners, design professionals, developers or remodelers may apply to reduce the fear and incidence of crime and improve the quality of life.

There are four overlapping CPTED strategies. They include Natural Surveillance, Natural Access Control, Territorial Reinforcement and Maintenance.

**NATURAL SURVEILLANCE**

The placement of physical features, activities and people in a way that maximizes visibility is one concept directed toward keeping intruders easily observable, and therefore less likely to commit criminal acts. Features that maximize the visibility of people, parking areas and building entrances are unobstructed doors and windows, pedestrian-friendly sidewalks and streets, front porches and appropriate nighttime lighting.

Sarit center shopping mall is a well-spaced out mall that caters for huge traffic flow of vehicles. This is an indication of well exploitation for space. However, it possess a major security challenge whereby surveillance in and out of the mall is minimal covering a small area. This also gives a small window that can be exploited also due to the angle parking applied close to the facility.

**NATURAL ACCESS CONTROL**

Natural Access Control is another design concept directed primarily at decreasing crime opportunity by denying access to crime targets and creating a perception of risk for offenders. People are physically guided through a space by the strategic design of streets, sidewalks, building entrances, landscaping and neighborhood gateways. Design elements are very useful tools to clearly indicate public routes and discourage access to private areas. It is encouraged that is appropriate to use perpendicular parking in front of stores, rather than parallel, to allow greater visibility between cars.

Below is figure 14 showing: source author perpendicular parking in front of stores plus proposals to controlling traffic flow
Barriers should be at the entrances of the mall

there should be buffer zones creating more room for surveillance

**TERRITORIAL REINFORCEMENT**

Physical design can also create or extend a sphere of influence. Users are encouraged to develop a sense of territorial control, while potential offenders, perceiving this control, are discouraged. This concept includes features that define property lines and distinguish between private and public spaces using landscape plantings, pavement designs, gateway treatments, appropriate signage and “open” fences.

**MAINTENANCE**

Lastly, care and maintenance enable continued use of a space for its intended purpose. Deterioration and blight indicate less concern and control by the intended users of a site and indicate a greater tolerance of disorder.
Proper maintenance prevents reduced visibility due to plant overgrowth and obstructed, or inoperative, lighting, while serving as an additional expression of territoriality and ownership. Inappropriate maintenance, such as over pruning shrubs, can prevent landscape elements from achieving desired CPTED effects Communication of design intent to maintenance staff is especially important for CPTED to be effective.

4.2.1 Design formulation stage and development of detailed action plans

CPTED ACTION PLAN

Following the formal adoption of crime prevention and CPTED as council policy, a local council should prepare a CPTED Action Plan. The Action Plan should identify how the local council proposes to reduce crime. There should be a strong linkage to the local council’s Corporate Plan in terms of resource and financial allocation required to implement the Action Plan.

A successful Action Plan is likely to include initiatives within the following broad areas:

- Achieving community engagement and stakeholder partnerships.
- Understanding the local context and identifying priority “hot spots”.
- Applying CPTED to local council projects and public places.
- Applying CPTED to private sector projects.

It is expected that there will be variation between local councils in the emphasis given to certain implementation initiatives in order to reflect local circumstances. Some Action Plans will focus on CPTED, others will include broader crime prevention initiatives. Some also contain the proposed actions of other stakeholders identified through community involvement (see section 4 below) to show that crime prevention and CPTED is a shared responsibility.

A draft Action Plan can be prepared by a local council in conjunction with its adoption of CPTED as council policy. However, further development is likely to be beneficial in conjunction with community involvement and through the progressive improvement in understanding the local context.
4.2.2 Implementation strategies reference to project objectives, strategies, programs and projects

Priorities for CPTED Implementation

Community involvement, crime statistics, safety audits, site assessments, management audits, and the results of public consultation are all tools that help a local council to better understand the local context and help identify priority areas or hot spots. Priority areas or hot spots are public places where criminal and anti-social behavior tends to be concentrated and/or where the fear of crime is high and thus avoided by people. The main benefit in identifying hot spot areas is to help local councils focus collaborative, community and multi-agency involvement and action, on the most significant problem areas.

Some commonly identified hot-spot areas include:

- Public and community car parks
- Public toilets
- Bus stops and shelters
- Pedestrian paths, alleyways and cycle routes
- Public transport facilities (taxi ranks, railway stations, interchanges)
- Pay telephones and ATMs
- Public parks, recreational areas and children’s play grounds
- Street malls
- Pedestrian over-bridges and underpasses
- Civic centers
- Shopping malls
- Retail/entertainment/commercial areas
- Licensed premises
- Multi-unit residential development.

SHOPPING MALLS

Shopping malls often provide much of the public space in suburban communities and can be a mixed opportunity. On one hand, they perform the important function of town centers, serving as gathering places in the communities. On the other hand, a mall can serve as an attraction for criminal activity.
As land uses become less mixed and residents are less able to watch over commercial properties, it is essential that CPTED guidelines be followed when building or remodeling a commercial property. Safety is often cited as an important consideration in choosing one store over another. Ideas such as keeping customers and employees in view of each other can make customers feel safe and secure.

While shopping malls continually grow in size and popularity, they also become a haven for undesirable users and contribute to a growing number of crimes. It is now more important than ever that remodelers and designers implement CPTED principles.

**NATURAL SURVEILLANCE**

- Position restroom entrances to be visible from main pedestrian areas, but away from outside exits and pay telephones.
- Install rear windows to face parking areas for increased visibility

![Figure 15 showing: Rear windows facing the parking lot for increased surveillance](image)

- Brightly illuminate parking areas at night.
- Avoid creating dead-end alleys or blind spots in loading areas.
- Design parking garages so that all levels, including staircases, are visible from the street or ground floor.
- Equip garages with high-quality lighting and bright paint.
- Use perpendicular parking in front of stores, rather than parallel, to allow greater visibility between cars.
• Place water-retention areas in locations visible from the building or street they should be visual amenities, not hedged or fenced, if possible.

**NATURAL ACCESS CONTROL**

• Clearly mark public entrances with landscape, architecture and signs.
• Designate sidewalks and public areas with special paving or landscaping.
• Use landscaping to divide the parking areas into smaller lots.
• Separate loading zones with designated delivery hours from public parking areas.
• Allow no unsecured access to roof tops from within or from adjacent structures, such as parking garages.

**MANAGEMENT**

• Close-in parking should be available to nighttime employees.
• Business associations should work together to promote shopper and business safety and the appearance of safety.
• Morning walkers provide additional natural surveillance before shops open.

### 4.2.3 Implementation schedule

*Table 3*

<table>
<thead>
<tr>
<th>Engage people</th>
<th>Current actions</th>
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</table>


• Actively engage young people through existing networks and activities to develop programs as an immediate response.

• Use existing forums (e.g. combined schools and youth services) to identify strategies to address issues in the mall via schools, youth services and other relevant agencies.

• Monitor Police data as the basis for implementing proactive responses to emerging issues, including the use of effective youth outreach programs.

**Short-term actions (next one to six months)**

• Introduce the initiatives focused on engaging young people, other mall users and local traders to negotiate and promote socially appropriate behaviors for shared use of the mall. Activities include listening posts, community forums and social media.

• Conduct forums with traders and involve them in developing and implementing viable solutions, including activating the space.

• Focus Place Management initiatives to the mall and surrounds to address trader and public needs.

• Commence initiatives to engage the community around what makes a vibrant public space and where it should be located.

**Address the physical environment**

**Current actions**

• Undertake a Crime Prevention Through Environmental Design (CPTED) audit to identify physical improvements in the mall.

• Provide more frequent and improved scheduling of bus services through the Street transport hub to reduce waiting times and improve people movement.

• Increase community usage of the mall through the ongoing programming and promotion of diverse events (e.g. music performers, visual artists, street arts workshops, Food Truck Fridays, commercial promotions, holiday activities).

**Short-term actions (one to six months)**

• Liaise with local traders and other stakeholders about the recommendations from the CPTED audit and seek participation in problem solving.

**Longer-term actions**
• Implement CPTED principles as part of future physical improvements to the mall and throughout the CBD, including buildings, streets and other public spaces.

### Crime control

#### Current actions

- Implement an integrated approach to boost crime control measures (e.g. safety audits, CCTV monitoring, uniform or plain clothes patrols including foot patrols) in the CBD and wider area to improve safety perceptions, reduce offences and increase offender identification.
- Maintain Police presence at peak periods and in response to emerging issues.
- Continue regular meetings between Police Youth Response Task Force Unit, Department of Health and Human Services, and service providers to develop strategies to respond to children at risk, including those who frequent the mall.

#### Short-term actions (one to six months)

- Review the Street Central High Risk Community Location Plan and work with the Local Safety Committee to respond to emerging issues.
- Conduct further consultation with mall user groups, including traders, to identify emerging issues and enable the plan to be updated to incorporate a more contemporary and integrated approach in the CBD.

### Engaging others

Engaging young people, traders, mall users, the community and stakeholders is a critical component of many of the actions. Key community engagement activities due to be implemented over the next six months include:

- listening posts to seek mall users’ ideas about socially appropriate behaviors in the mall
- a negotiation process involving young people, traders and other mall users in mediating conflicts between stakeholders
- Workshops with traders and other stakeholders to seek their input to viable solutions, including those related to activating the space.
CHAPTER FIVE: MONITORING AND EVALUATION

5.1 MONITORING AND EVALUATION STAGES IN THE IMPLEMENTATION

Monitoring is the systematic collection and analysis of information as a project progresses. It is aimed at improving the efficiency and effectiveness of a project or organization. It is based on
targets set and activities planned during the planning phases of work. It helps to keep the work on track, and can let management know when things are going wrong. If done properly, it is an invaluable tool for good management, and it provides a useful base for evaluation. It enables you to determine whether the resources you have available are sufficient and are being well used, whether the capacity you have is sufficient and appropriate, and whether you are doing what you planned to do.

**Evaluation** is the comparison of actual project impacts against the agreed strategic plans. It looks at what you set out to do, at what you have accomplished, and how you accomplished it. It can be **formative** (taking place during the life of a project or organization, with the intention of improving the strategy or way of functioning of the project or organization). It can also be **summative** (drawing learnings from a completed project or an organization that is no longer functioning). Someone once described this as the difference between a check-up and an autopsy!

What monitoring and evaluation have in common is that they are geared towards learning from what you are doing and how you are doing it, by focusing on:

- Efficiency
- Effectiveness
- Impact

**Efficiency** tells you that the input into the work is appropriate in terms of the output. This could be input in terms of money, time, staff, equipment and so on. When running a project and are concerned about its reliability or about going to scale, then it is very important to get the efficiency element right.

**Effectiveness** is a measure of the extent to which a development program or project achieves the specific objectives it set.

**Impact** tells you whether or not what you did made a difference to the problem situation you were trying to address. In other words, was the strategy useful?
Who should be involved?

Crime prevention is complex. The National Guidelines and crime prevention solutions are likely to be more effective if central and local government work in partnership with local communities, businesses and service organizations. While the nature and scale of partnerships to promote safety from crime will vary according to local circumstances, the key partners are local authorities and the police.

Key partners include,

Table 4: source author: *key partners to be involved include*

<table>
<thead>
<tr>
<th>organization</th>
<th>role</th>
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<tbody>
<tr>
<td>Local authorities</td>
<td>Local authorities are responsible for the design and use of public spaces. They have a key role to implement CPTED. In most cases it is anticipated that the local authority will initiate, lead and facilitate the partnership with the police and other groups. Other roles include:</td>
</tr>
<tr>
<td></td>
<td>• identifying community outcomes</td>
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<td></td>
<td>• initiating major works in public areas</td>
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<td></td>
<td>• managing public places and assets</td>
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<tr>
<td>Police</td>
<td>• Police play a key role by:</td>
</tr>
<tr>
<td></td>
<td>• sharing their knowledge of criminal behavior, types and location of crimes</td>
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<td></td>
<td>• providing intelligence on hot-spot areas (such as identifying trends in criminal activity)</td>
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<tr>
<td></td>
<td>• Helping with crime prevention techniques.</td>
</tr>
<tr>
<td>Business and shopping center</td>
<td>Often crime hot-spots are in retail, business or</td>
</tr>
</tbody>
</table>
owners and operators, especially local hospitality operators | entertainment areas. Businesses in these areas can play a role in helping to better understand why crime is occurring and how it could be prevented.

Some solutions may need businesses to play a more active role in crime prevention, particularly if this involves improving the design of publicly accessible places on privately-owned land.

| Neighborhood Support groups, residents’ associations, community boards | These groups can help with:
| | • better understanding what is happening in the local neighborhood from the perspective of residents
| | • identifying neighborhood crime hot-spots and areas that trigger a fear of crime
| | • identifying options for improvement
| | • CPTED safety audits.

| Urban designers, planners, architects and landscape architects in the private sector | Urban designers, planners, architects and landscape architects can contribute specialist knowledge to help achieve CPTED, both in new development and redevelopment projects.

| Community agencies, groups or service providers | These agencies and groups can provide:
| | • a perspective on crime from different sectors within the community including vulnerable people (such as victims of crime, people with disabilities, young people, children, older people, women, schools and preschools)
| | • A perspective on the effectiveness of
organizations that could have a useful role

Ministry of Roads and Public Works
Ministry of Planning
Ministry of Internal security
Ministry of Transport
University of Nairobi (Department of Urban and Regional Planning)
Ministry of Local Government
Environmental Management Authority
Kenya Institute of Planners
Architectural Association of Kenya
Institution of Surveyors of Kenya
Director of Physical Planning
private developers
transport providers

5.2 GUIDELINES FOR THE IMPLEMENTATION PROCESS

Participatory approach to planning

This involves community mobilization and participation in planning processes and establishing and strengthening urban planning. Ideas of all stakeholders shall be considered from commencement of the project to the implementation with no bias. All stakeholders shall be involved from beginning of the project to the completion and afterwards. The stakeholders shall perform their duties as proposed in the implementation schedule and assessment on execution of their duties shall be done to determine the progress made.

Public awareness/ sensitization

This involves creation of consciousness on issues regarding the importance of walking as a mode of transport as opposed to any other means. This is due to the environmental concerns,
sustainability and convenience compared to any other mode. The public awareness through training and education shall be carried out in large scale to the community and the city at large.

5.3 SITE MANAGEMENT PLAN

Site security plans

Agencies are to evaluate each of their sites separately. These may be further subdivided into separate work areas where there is considerable variation in risks to each work area.

A site security plan documents measures to counter identified risks to an agency’s functions, information, people and physical assets at a designated site.

Agencies are to evaluate the different risks to their facilities, people, information functions and physical assets during business hours and out-of-hours. Controls needed during operating hours should take into account the increased risks from public and client contact as well as insider threats. While these risks still exist out-of-hours, there may be a higher risk from external sources such as break and enters.

Agencies are to assess the impact of the compromise, loss of integrity or unavailability of their site security plans to their security and operations, and apply a suitable Dissemination Limiting Marker (DLM) or security classification.

See the Australian Government information security management guidelines—Security classification system.

A site security plan should include:

- measures that are scalable to meet increases in threat levels
- the location and nature of the site
- whether the agency has sole or shared ownership or tenancy of the site
- whether the public or other non-agency personnel have a right of entry to the site
- what security classification of information is to be stored, handled, processed or otherwise used in each part of the site
- ICT assets, including, but not limited to, data, software, hardware and portable equipment such as laptops, personal electronic devices
• ICT-related equipment (for example, file servers, workstations, terminals, main distribution frames and cabling) and utilities
• any other resources that will be on the site
• an indication of whether every part of the site is intended to have the same level of security
• what protective measures will be required for:
  — the site as a whole
  — particular areas within the site (for example, part of a floor which will hold information of a higher classification than the rest of the site)
• what differing measures will be required for:
  — storage, handling and processing of security classified information, and
  — Security classified or otherwise sensitive discussions and meetings.

**Critical path**

The effectiveness of security controls is measured by the probability of detection at the point where there is enough time for a response team to interrupt an adversary. The critical path is the adversary path with the lowest probability of interruption.

An adversary path is an ordered sequence of actions against an asset that could result in it being compromised. Adversaries could normally be expected to take the easiest and most direct route.

Early detection of unauthorized access enables a quicker response. Ideally interception should occur before access to the asset, but this depends on the asset and the security objectives. Interruption may not be required if tamper evidence is the objective for protecting the asset. This concept is illustrated in Figure 2.

*Figure 2: source google Relationship between detecting, delaying and responding to a perimeter security breach*
The effectiveness of security elements will influence:

- probability of detection—the cumulative probability of detecting an adversary
- cumulative delay—the combined minimum delay time along the adversary path
- response—the time for a response to reach a point of detection, and

Interruption—occurs when the response time less than the delay is provided, measured from the first point of detection.

Proposed CPTED Framework for Sarit center mall (CPTED Framework 2011)

Interactional CPTED Framework

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CPTED Assessment

Safer by Design – NSW

Premises and Precincts

Design Guidelines & designing-out-crime

Secured by Design -

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Table 5: source author: *Proposed CPTED Framework*
References


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