
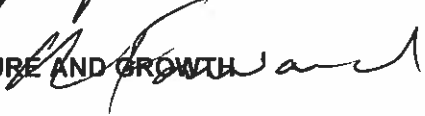

TO: GENERAL COMMITTEE


SUBJECT: CPTED (CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN) STUDY

WARD: ALL

PREPARED BY AND KEY CONTACT: R. COTTON, MPI, MCIP, RPP, POLICY PLANNER, EXT. 5135 AND V. SIMPSON, PLANNING STUDENT

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GENERAL MANAGER APPROVAL: R. FORWARD, MBA, M.Sc., P. ENG. GENERAL MANAGER OF INFRASTRUCTURE AND GROWTH MANAGEMENT 

CHIEF ADMINISTRATIVE OFFICER APPROVAL: C. LADD, CHIEF ADMINISTRATIVE OFFICER 

RECOMMENDED MOTION

1. That the Crime Prevention Through Environmental Design (CPTED) Study (Appendix "A") as attached to Staff Report PLN028-14 be received.
2. That a public meeting be scheduled in early 2015 to amend the Official Plan in accordance to the two following provisions:

2.2 COMMUNITY SAFETY AND SECURITY be amended by the addition of following sentence:

Additionally, promote a safe environment for the community through developing security measures for physical spaces (private and public) and implementing good urban environmental and commercial design.

And

6.1 GENERAL POLICIES be amended by the addition of the following new section:

6.1.6 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

The following Crime Prevention through Environmental Design (CPTED) principles should be incorporated into building and site plan designs to enhance community safety:

1. Natural Surveillance - is a design strategy that is directed at keeping unauthorized persons under observation through the placement of physical features, activities, and people in a way that maximizes visibility and fosters positive social interactions amongst legitimate users of private and public spaces. Natural surveillance increases the threat of apprehension by taking steps to increase the perception that people can be seen. The proper placement and design of windows, lighting and landscaping increase the visibility of a property and building. They include creating clear sightlines, through the combination of proper placement of low-lying shrubs and lighting designs.

2. Natural Access Control - is a design strategy that is directed at decreasing crime opportunities by denying access to a crime target and creating a perception of risk of apprehension in offenders. Through the design strategies, clear boundaries are defined between public, semi-public and private areas. These boundaries can also be established via signs, walls, fences, landscaping, and pavement treatments. Careful consideration should be given to the strategic placement of physical attributes so not to hinder the mobility of potential victims.
 3. Territorial Reinforcement - promotes definition of space and improved proprietary concern. Owners have vested interest and are more likely to challenge intruders or report them to the police. By using buildings, fences, pavement, signs, lighting and landscape to express ownership and define public, semi-public and private space, natural territorial reinforcement occurs. These tools create an increased sense of ownership and territory which would deter offenders from intruding properties.
3. That the City of Barrie's Urban Design Manual be amended to incorporate the changes attached as Appendix "B" to the Crime Prevention Through Environmental Design (CPTED) Study.

PURPOSE & BACKGROUND

Report Overview

4. CPTED is based on the concept that the proper design and effective use of a built environment can lead to a reduction in the fear and incidence of crime, as well as an improvement in the quality of life.
5. The purpose of the CPTED Study is to:
 - i) Create a safe and secure urban environment by incorporating CPTED principles into planning, design, construction of both the private and public urban fabric.
 - ii) Promote and integrate CPTED safety and security measures in the planning, design and implementation of development applications (eg. Zoning Amendments, Site Plans and Plans of Subdivision); and the construction and management of the public realm.
 - iii) Raise awareness of CPTED / Safe Design principles and applications.
 - iv) Reduce opportunities for crime and promote social well being.
6. It is recommended that the CPTED Study will be implemented through amendments to the City's Official Plan and Urban Design Manual.

ANALYSIS

7. As the City of Barrie grows to the target population of 210,000 by year 2031, the City will be faced with many of the issues of safety that larger municipalities face. The proactive introduction of CPTED principles and strategies at this time in the design of buildings, site plans and public areas will assist in the creation of a safer urban environment and improve the quality of life for City residents and visitors.
8. Many large Cities across Ontario such as Mississauga, Brampton and Brantford and across Canada such as Winnipeg, Calgary and Edmonton have CPTED policies and strategies that are used in the design of their urban environments. While it is recognized that Barrie is ranked as the top safest City in Canada by the 2013 Statistics (Crime Severity Index Data), it is recommended that CPTED principles be incorporated within the Official Plan and Urban Design Manual to assist in maintaining Barrie as a safe community.

9. The CPTED principles are intended to alter the physical design of the community to make the built environment safer from criminal activity. The principles range from small scale strategies such as height of vegetation to urban design of development such as one window streets.
10. The use of CPTED is also recognized as an implementation tool in the City's new Hewitt's Creek and Salem Secondary Plans and in the Intensification Area Urban Design Standards.
11. The CPTED principles recommended by this Study are generally consistent with both provincial and local policy as outlined in the Provincial Policy Statement 2014 and the City of Barrie Official Plan.
12. There are three generally accepted CPTED principles: Natural Surveillance; Natural Access Control; and Territorial Reinforcement. These principles can work independently or collectively, creating an environment that promotes a well designed and built environment that improves the safety of users.
13. Natural Surveillance is based on the concept of creating clear sightlines and allowing the majority of site to be visible to the casual observer on, or in proximity to the site. Examples of Natural Surveillance design strategies include locating buildings close to the street with unobstructed views, providing lighting systems to ensure safety, and landscaping that does not obstruct views of streets, walk/pathways, parks, parking lots/areas and building entrances.
14. Natural Access Control is based on the concept of controlling access and creating a perception of risk of apprehension for offenders achieved through clear boundaries between public and private areas. Examples of Natural Access Control design strategies include creating a gateway effect or entrance to delineate space, and guide or direct visitors/users to and from buildings, parking areas and the street through the use of signage and landscaping material.
15. Territorial Reinforcement is based on the concept that physical design can create or extend a sphere of influence so that users develop a sense of proprietorship of the property that is noticeable by the offender. Examples of Territorial Reinforcement design strategies include encouraging mixed use developments to ensure round the clock usage of sites, and designing sites to define property lines and private areas.
16. Implementation of this study will contribute to the success of enhancing the safety of the community. It is recommended that the CPTED Study be implemented through amendments to the Official Plan and to the Urban Design Guidelines. This will ensure long term success and applicability of CPTED.

ENVIRONMENTAL MATTERS

17. There are no environmental matters related to the recommendation.

ALTERNATIVES

18. The following alternatives are available for consideration by General Committee:

Alternative #1

General Committee could decide not to adopt the recommended policies and maintain the Official Plan being silent on this matter.

This alternative is not recommended, as it does not recognize new urban design standards relating to crime prevention.

Alternative #2

General Committee could alter the proposed recommendation by amending the proposed standards.

Although this alternative is available, it would result in an incomplete CPTED strategy.

FINANCIAL

19. There are no financial implications for the Corporation resulting from the proposed recommendations.

LINKAGE TO 2010-2014 COUNCIL STRATEGIC PLAN

20. The recommendations included in this Staff Report support the following goals identified in the 2010-2014 City Council Strategic Plan:

- Manage Growth and Protect the Environment

The implementations of the CPTED principles will assist in creating a safer community for our residents. We also anticipate it will serve as a deterrent for vandalism of private and public property.

- Create a Vibrant and Healthy City Centre

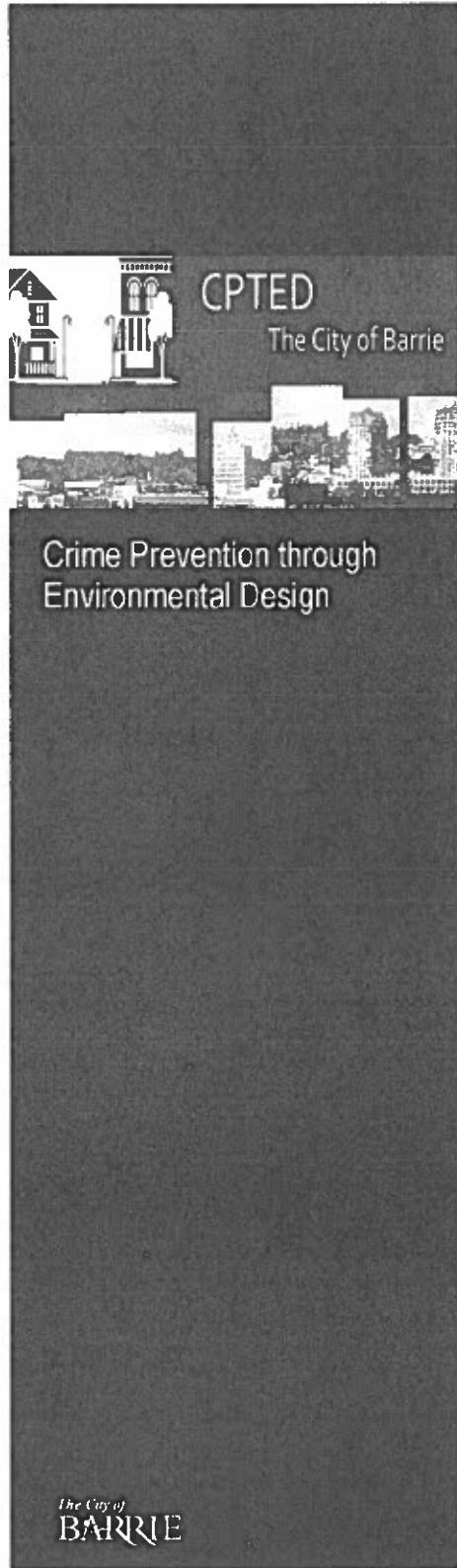
The implementation of the CPTED principles will serve as deterrence of crime assisting in creating an environment that people will feel is vibrant and healthy.

- Improve and Expand Community Involvement and City Interactions

CPTED principles encourage the creation of a physical environment that facilitates interactions with neighbours in the creation of safer communities.

Attachments: Appendix "A" – CPTED Study (includes Urban Design Manual Revisions)

APPENDIX "A"
CPTED Study



August 2014



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1.0 Introduction

Everyone in Barrie should feel safe and be safe in the City's public spaces. To enhance the safety of our residents, the City of Barrie will use the principles of Crime Prevention through Environmental Design (CPTED) in its review of development applications to enhance personal security in the design of spaces that are accessible to the public. CPTED is based on the concept that proper design and effective use of a built environment can lead to a reduction in the fear and incidence of crime, as well as an improvement in the quality of life.



2.0 Purpose

The purpose of this study is to:

- (I) Create a safe and secure urban environment by incorporating Crime Prevention through Environmental Design (CPTED) principles into planning, design, construction, of both the private and public urban fabric;
- (II) Raise awareness of CPTED/Safe Design principles and applications;
- (III) Reduce opportunities for crime, and promote social well-being;
- (IV) Optimize the community's use of public space.

3.0 Existing Policy Framework

An overview of the existing policy framework is summarized below. These policies act as the basis for which this study has prepared and will be referred to throughout.

THE ONTARIO PLANNING ACT

The legislative framework for all planning policy, procedures, and decisions is derived from the Ontario Planning Act. To encourage and facilitate good design, the Act has been amended to permit municipalities to include requirements related to external building design details where it addresses certain specified matters such as safety, character and appearance. These are permitted to be used if there are Official Plan policies and a site plan approval by-law under ss. 41(2) that is in effect that contain provisions relating to such matters.

PROVINCIAL POLICY STATEMENT, 2014

The Provincial Policy Statement provides policy direction on matters of provincial interest related to land use planning and development while protecting interests of the province, public health and safety and the quality of the natural and built environment. As a key part of Ontario's policy-led planning system, the Provincial Policy Statement sets the policy foundation for regulating the development and use of land. It also supports the provincial goal to enhance the quality of life for the citizens of Ontario. One policy of the PPS is to build strong health communities which includes protecting public safety and avoiding development and land use patterns which may cause safety concerns.

The Provincial Policy Statement focuses on growth within settlement areas and away from significant or sensitive resources and/or areas which may pose a risk to public health and safety. It recognizes that the wise management of development may involve directing, promoting, or sustaining growth. Land use must be carefully managed to accommodate appropriate development to meet the full range of current and future needs, while achieving efficient development patterns.

THE CITY OF BARRIE OFFICIAL PLAN

The Official Plan provides guidance for land use and land use changes, the provision of public works, actions of local boards, municipal initiatives, and the actions of private enterprise. It gives direction on implementing by-laws, guidelines for more detailed planning, and the means for controlling growth so that the City's capacity to provide a healthy community environment is not exceeded.

Municipalities have authority through their land use planning documents to require policies and related development approval procedures to address CPTED.

The following excerpts from the City of Barrie Official Plan demonstrate the existing policies that relate to community safety:

2.2 Community Vision

Community Safety and Security

To provide high quality programs, services and facilities for the health and well-being of the community, through comprehensive, efficient and cost effective emergency and health related protection.

6.5 Urban Design Guidelines

6.5.1 Goals

- (a) To provide, through urban design policies and guidelines, a framework for the development and maintenance of a healthy, safe, convenient, efficient and aesthetically pleasing urban environment
- (b) To initiate an overall visual improvement program for the Planning Areas with emphasis on the Defined Policy Areas and major entrances to the City through public works programs incorporating such matters as boulevard landscaping, street furniture, lighting, signage, sidewalks, and park/plaza development (**Mod G (m)**)

6.5.2.2 General Design Guidelines

- (a) Building and Siting
- (vi) Pedestrian links should be designed to promote the safety of the user and be fully accessible between the commercial and residential properties.

6.5.2.3 City Centre Guidelines

- (b) New development shall be of high quality design to maintain and enhance the Downtown's image as an enjoyable, safe, accessible, pedestrian-oriented place, and designed and built to complement pedestrian activity and historical attributes
- (c) Buildings and public areas shall be designed and built to consider pedestrian scale, comfort, safety and access.
- (k) site-specific urban design studies may be required as part of a development proposal to investigate and recommend a design for compatibility with surrounding uses, micro-climate effects, pedestrian safety, and issues of human scale and views.

DOWNTOWN BARRIE: THE NEXT WAVE COMMUNITY IMPROVEMENT
PLAN & ALLANDALE CENTRE COMMUNITY IMPROVEMENT PLAN

Broadly, the Next Wave and Allandale Centre Community Improvement Plan focus on the preservation, revitalization and promotion of the historic downtown, as well as the strengthening of connections to the waterfront. These plans both promote safety of the downtown area and community.

The study promotes mixed-use development, including affordable housing, in order to create a diverse, active, safe and a healthy Downtown.

8. One of the objectives of Downtown Barrie: The Next Wave Revitalization Plan is; To provide for an attractive, safe and pedestrian friendly environment

Similarly, the following objectives of the Allandale Centre Community Improvement Plan that relate to community safety is as follows:

7. To promote safety and provide a pedestrian friendly environment

Additionally, one of financial incentives offered under the Allandale CIP is a grant to help offset the cost of providing energy efficient exterior lighting in poorly lit areas (SLED). Section 5.2.3 of the CIP states that "*Assistance shall be for lighting using energy saving technology and shall demonstrate an improvement in public safety and, therefore, shall be installed in accordance with Crime Prevention through Environmental Design principles (CPTED).*"

URBAN DESIGN GUIDELINES

The City of Barrie Intensification Area Urban Design Guidelines provide a vision, a set of priority directions, and detailed design guidelines, to direct new development within the Intensification Nodes and Corridors, Urban Growth Centre, and Major Transit Station Areas identified in the City of Barrie Official Plan. The guidelines present a vision, and a set of priority directions, to ensure that new development is compatible with the existing built fabric, and creates a safe pedestrian realm. This study looks at enhancing the guidelines and safety of designed spaces to supports CPTED principles and goals.

URBAN DESIGN MANUAL

This manual establishes guidelines for implementing the existing urban design policies contained within the Official Plan. It provides a framework for establishing Barrie's future urban form, and ensures that new development is consistent with the City's



vision for urban design. The inclusion of CPTED provisions within the Urban Design Manual is anticipated to bring public safety issues into consideration for all new developments within the City.

4.0 CPTED Principles

There are three generally accepted CPTED principles: Natural Surveillance; Natural Access Control; and Territorial Reinforcement. These principles work independently or collectively to achieve the following:

- (I) Allow for clear sight lines;
- (II) Provide adequate lighting;
- (III) Minimize concealed and isolated routes;
- (IV) Discourage entrapment;
- (V) Reduce isolation;
- (VI) Promote mixed land-use;
- (VII) Generate public and social activities;
- (VIII) Create a sense of ownership and proprietorship;
- (IX) Provide signs, cues, symbols, and information and;
- (X) Improve overall design of the built environment.

4.1 Natural Surveillance

Natural surveillance is a design strategy that is directed at keeping intruders under observation through the placement of physical features in a way that maximizes visibility and fosters positive social interactions amongst users of private and public spaces. Natural surveillance allows for monitoring and aids in the detection of potential crimes. CPTED guidelines are restricted to only natural methods of surveillance that occur through casual observation, even though it is recognized that surveillance can also be organized (e.g. security patrols) or mechanical (e.g. security cameras).

Natural surveillance is often associated with creating clear sightlines. This allows the site to be observable without any electronic or mechanical devices (e.g. security cameras or audio-visual recorders). It is optimal when casual surveillance and sightlines of people living, working and playing in an area are maintained. Allowing these users to monitor what is occurring around them, decreases the opportunities for concealment for crime. If appropriately delineated, opportunities for surveillance and access control are leveraged when natural forms are used, and concealment and crime are minimized as legitimate users become more aware of their surroundings.

4.2 Natural Access Control

Natural Access Control is a design strategy, directed at denying access and creating a perception of risk of apprehension for offenders. The natural access control design mechanism is based on the premise that a person, who is confronted with a clearly defined and/or strategically developed boundary, will typically show it some deference

by respecting the way it guides and influences their movement as they transition from public through private space.

Through the use of natural access control design strategies, clear boundaries are defined between public, semi-public, and private areas. Such boundaries are required at commercial, residential, and retail building entrances, as well as parking lots and garages. These boundaries can also be established via signs, walls, fences, landscaping, and pavement treatments amongst other things. These are all natural forms of access control. These methods are particularly effective when combined with natural surveillance. The careful placement of physical features creates safer environments by limiting and controlling access.

However, it is important to note that any strategy that fosters access control is also likely to impede movement. Therefore, careful consideration should be given to the strategic placement of physical attributes so not to hinder the mobility of potential victims.

4.3 Territorial Reinforcement

Territorial Reinforcement is an expression of proprietorship. It is an 'umbrella' design strategy that embodies both Natural Surveillance and Natural Access Control strategies. Territorial reinforcement is a design concept that realizes that physical design can create or extend a sphere of influence so that users develop a sense of proprietorship of the property that is noticeable by the offender. It also works to make the user feel safe and make the potential offender aware of a substantial risk of apprehension or scrutiny.

Territoriality often results in challenging behavior, as it promotes increased definition of space and increased concern for property. Design solutions bring about this sense at various levels of articulation from obvious to subtle expression. The most important function of territorial reinforcement is to set up the framework of the control system. In its application, natural surveillance and access control can help people to develop a sense of ownership about a space regardless of whether or not they own it. Through clearly delineating private space and creating a sense of ownership, owners have a vested interest and are more likely to challenge intruders or report them to the police.

The same cues have an adverse effect on potential offenders. The design of space and the way in which people are behaving will give the impression that the potential offender will be observed, stopped, or apprehended.

5.0 Design Strategies

The following are recommendations of design strategies for the application of CPTED principles, in both the private sector and the public realm. CPTED design strategies can be implemented City wide in all zones and land uses.

5.1 Natural Surveillance Design Strategies

- **Mixed Use Land Development**
 - Encourage mixed use developments as it increase natural surveillance at different times of the day
- **Building Siting/Environment and Architectural Design**
 - Locate buildings close to the street with unobstructed views to streets, parks and neighbouring sites. Buildings and new developments should have eyes on the street
 - Orient building entrances and windows toward the street and/or neighbouring buildings to enhance opportunities for natural surveillance
 - Windows should be installed to allow for a clear view and enhance opportunities for surveillance. Discourage using blank walls that limit visibility and serve as targets for graffiti
 - Do not create entrapment areas or hiding places. Discourage recessed doorways, alcoves or other dark niches
 - Design recycling and garbage structures that are secure and do not create entrapment areas or hiding places
 - Elevators and stairwells should be located in a central area. Ensure they are clearly visible and well lit
 - Stairwells, walkways, balconies and patios should be visible and have transparent or open metal railings/guards and without solid walls
 - Locate driveways, driveway entrances, sidewalks, surface parking lots, parking garage ramps and entrances in areas visible from the adjacent buildings and streets
 - Street and/or park furniture should be placed in public spaces along paths or sidewalks to provide resting spaces as well as creating more opportunities for surveillance
 - Bike racks should be located near entry doors, in a high foot traffic and highly visible location
 - Bus stops/shelters should be located in areas where there is high foot traffic and visible from the street or neighbouring buildings. They should be designed of a transparent material for surveillance.

- Alleyways should have clear sightlines and/or traverse short distances, so that there are no entrapment areas for users
- **Parking Areas and Pedestrian Circulation**
 - Provide safe pedestrian connections that are visible from the street and buildings
 - Link parking areas on abutting properties to encourage interaction and provide for movement between lots and buildings
 - Locate parking areas in visible locations from street or adjacent buildings
 - Locate visitor parking areas near main entrances of buildings to minimize path of travel
 - **Parking Structure**
 - Position all pedestrian entrances/exits next to vehicle entrances, in a visible location
 - Locate elevators close to the main entrance, with the entire interior in view when doors are open
 - Limit access to no more than two designated, monitored entrances/exits
 - Use round columns to minimize hiding locations
 - Ceilings and walls should be painted white so the reflective paint would generate a brighter environment
 - Install corner mirrors can increase viewing opportunities
- **Lighting**
 - Provide lighting systems that enhance visibility and conform to the city's Dark Sky Friendly Lighting
 - Design lighting systems for pedestrians, homeowners and business people to permit pedestrians to see one another, and to see risks involved with walking at night
 - Lighting design and placement is to illuminate potential areas of concealment and is to project illumination so that objects are easily discernable
 - Use pedestrian scale street lighting in high pedestrian traffic areas to help people recognize potential threats at night
 - Fully illuminate all doorways, parking areas, pedestrian connections, sidewalks and public transit stops
 - Provide adequate lighting to ensure safety around loading bays, recycling areas and garbage storage facilities
- **Landscaping**
 - Landscaping material must not create blind spots or hiding places. Consider high branching deciduous trees and low shrubs or ground cover as the primary landscaping material
 - Conifers can be integrated into landscape plan to provide screening options where required with the option to limb them up to increase visibility and reduce hiding spaces

- Landscaping should not obstruct views from doors, windows, street or other properties
- Trees and/or vegetation should be planted away from light poles and video cameras so they do not block illumination on the ground and/or their fields of view
- Parking lot planting should not obstruct views of traffic and pedestrians as well as the street and building entrance
- **Parks and Open Areas**
 - Parks and open areas, including playgrounds or sports fields, should have maximum street visibility and be visible from adjacent homes/buildings/businesses
 - Waterfront trails, parks and open spaces should provide direct links to surrounding areas
 - Directional and assistance signage and maps should be illuminated for night use

5.2 Natural Access Control Design Strategies

- **Building Siting/Environment and Architectural Design**
 - A gateway effect or formal entrance should be created with planting or fences to restrict access during non-operational hours. Gates should be designed with some transparency to permit surveillance
 - Buildings should be designed in a way that naturally directs visitors toward the main entry point
 - Main entrances should front public streets
 - Clearly identify, point(s) of entry with adequate lighting, and appropriate signs and/or address numbers
 - Eliminate design features that provide access to roofs or upper levels
 - Design common areas to increase use and attract more people
 - Block off dead-end spaces with fences or gates
 - Establish clear boundaries between public, semi-public/private, and private areas through using signs, walls, fences, landscaping and pavement treatment, etc.
- **Lighting**
 - Directional and assistance signage and maps is to be illuminated if the space is used at night
- **Landscaping**
 - Trees and/or vegetation should be planted away from walls, fences, and buildings so they cannot be used to enable someone to climb over or onto them

- Use walkways and landscaping to direct visitors to the proper entrance and away from private areas
- **Parks and Open Areas**
 - A gateway or entrance feature should be placed at the principle access point for parks and trails that can be easily seen by passing pedestrian and vehicles
 - Trails should be designed with multiple points of entry and exits to prevent entrapment

5.3 Territorial Reinforcement Design Strategies

- **Mixed Use Land Developments**
 - Plan and design mixed-use developments to promote street/neighbourhood activity. Creating vibrant active streets promotes use and safety
- **Building Siting/Environment and Architectural Design**
 - Encourage "window streets" on arterial and collector roads to discourage rear-lotting dwellings which disconnect the units from the community
 - Encourage interaction between neighbours through house design such as front porches and recessed garages
 - Create transitional areas between the street (public space) and houses/shops etc. (private spaces) through material and architectural changes. Use signage or symbolic barrier to define a transition that indicates the movement from public and private space
 - Locate the main entrance so it is easily identified when approaching the building. Accentuate building entrances with architectural elements, lighting and/or landscaping
 - Define property lines and private areas with decorative fencing, pavement treatments and/or landscaping to direct pedestrian traffic to desired point of access only. Boundary of property should be clearly delineated with appropriate signage, landscaping or fences
- **Landscaping**
 - Property perimeters should be defined by landscaping, gates, or fencing which do not create a visual barrier within the site or along exterior of site
- **Parks and Open Areas**
 - Consider using fences or gates to close some of the outdoor public places at night to prevent loitering, drug activities, illegal lodging, and other conduct that would disturb the peace and make them unsafe for people



6.0 Conclusion

The City of Barrie has been extremely successful in shaping the character and design of the urban form. However, with increased population pressures and demands will be placed on the City to ensure Barrie remains a safe and pleasant place to live, work and play. As such, this study recommends design considerations which may assist in reducing opportunities for crime in the City.



7.0 Implementation

The success of this study in enhancing safety will be directly related to the implementation process. The Planning Act provides several tools for municipalities to shape the character and design of urban form. Official Plan and Urban Design Guideline amendments are recommended to implement the recommendations of this document.

To ensure long term success and applicability of CPTED, the following implementation steps are recommended:

- (I) Amendment to Official Plan (see Appendix A)
- (II) Amendment to Urban Design Guidelines (see Appendix B)
- (III) Public Education and Outreach

APPENDIX A

Areas that are highlighted and italicized are the proposed revisions to the City of Barrie Official Plan.

(i) City of Barrie Official Plan Proposed Amendments

The following are excerpts for the City of Barrie Official Plan. Included are the recommended implementation measures for each applicable section.

2.2 COMMUNITY SAFETY AND SECURITY

To provide high quality programs, services and facilities for the health and well being of the community, through comprehensive, efficient and cost effective emergency and health related protection. *Additionally, promote a safe environment for the community through developing security measures for physical spaces (private and public) and implementing good urban environmental and commercial design.*

6.1.6 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

The following Crime Prevention through Environmental Design (CPTED) principles should be incorporated into building and site plan designs to enhance community safety:

- 1. Natural Surveillance- is a design strategy that is directed at keeping intruders under observation through the placement of physical features, activities, and people in a way that maximizes visibility and fosters positives social interactions amongst legitimate users of private and public spaces. Natural surveillance increases the threat of apprehension by taking steps to increase the perception that people can be seen. The proper placement and design of windows, lighting and landscaping increase the visibility of a property and building. They include creating clear sightlines, through the combination of proper placement of low-lying shrubs and lighting designs.*
- 2. Natural Access Control- is a design strategy that is directed at decreasing crime opportunities by denying access to a crime target and creating a perception of risk of apprehension in offenders. Through the design strategies, clear boundaries are defined between public, semi-public and private areas. These boundaries can also be established via signs, walls, fences, landscaping, and pavement treatments. Careful consideration should be given to the*

strategic placement of physical attributes so not to hinder the mobility of potential victims.

3. *Territorial Reinforcement- promotes definition of space and improved proprietary concern. Owners have vested interest and are more likely to challenge intruders or report them to the police. By using buildings, fences, pavement, signs, lighting and landscape to express ownership and define public, semi-public and private space, natural territorial reinforcement occurs. These tools create an increase sense of ownership and territory which would deter offenders from intruding properties.*

6.11 REQUIRED STUDIES IN SUPPORT OF DEVELOPMENT APPLICATIONS

In order for a development application to be considered complete in accordance with Sections 22, 34, 41, 51 or 53 of the *Planning Act*, the City of Barrie may require the following reports or studies to be prepared to the City's satisfaction:

- (a) Needs/planning justification report except for applications for new aggregate operations
- (b) Functional servicing report
- (c) Storm water management report
- (d) Environmental evaluation study
- (e) Environmental impact study
- (f) Environmental assessment study
- (g) Traffic impact study
- (h) Hydrogeological/hydrology study
- (i) Agricultural assessment
- (j) Fisheries impact study
- (k) Archaeological study
- (l) Architectural/cultural heritage report
- (m) Affordable housing report
- (n) Urban design report
- (o) Aggregate potential assessment and/or Aggregate license compatibility assessment
- (p) Wellhead protection area – risk assessment report
- (q) Hazards lands/slope and soil stability report
- (r) Tree preservation plan/inventory
- (s) Noise/vibration impact analysis
- (t) Odour/dust/nuisance impact analysis
- (u) Illumination study
- (v) Shadow/shading study
- (w) Wind study
- (x) Market study



- (y) Fiscal evaluation and staging of development, including analysis of municipal revenues and expenditures
- (z) Digital plan according to City specifications
- (aa) Energy conservation and efficiency evaluation
- (bb) Coastal engineering studies along the Lake Simcoe shoreline
- (cc) Heritage Impact assessment
- (dd) Marine archaeological assessment
- (ee) Source Water Information Form
- (ff) Threats and Issues Assessment – Water Quality Study
- (gg) *CPTED (Crime Prevention Through Environmental Design) Assessment*

APPENDIX B

Areas that are highlighted and italicized are the proposed revisions to the City of Barrie Urban Design Manual

(II) City of Barrie Urban Design Manual Proposed Amendments

The following are excerpts for the City of Barrie Urban Design Manual. Included are the recommended changes to be implemented for each applicable section.

2.0 PHYSICAL ENVIRONMENT AND BUILDING SITING

- Q. Locate buildings close to the street with unobstructed views of the street, parks or open spaces and neighbouring buildings.*
- R. Orient building entrances and windows toward the street to enhance surveillance*
- S. Where appropriate, plan and design mixed land use development and supporting facilities to create and enhance surveillance*

3.1 PEDESTRIAN CIRCULATION

- A. Provide a safe and convenient and accessible pedestrian network from street to building, parking area to building, and building to building, that is visible from the street and buildings, and clear from visual obstructions.*
- G. Install park and street furniture to create monitoring opportunities along pedestrian pathways and open areas.*
- H. Discourage dead ends, reducing the potential for entrapment and concealment.*
- I. Provide adequate lighting along pedestrian connections.*

3.2 VEHICLE CIRCULATION AND PARKING

- L. Provide landscaping around the perimeter of parking areas and laneways. Use low level screening adjacent to public streets. Use dense screening (i.e. solid fences, coniferous plant material) when adjacent to conflicting land uses. Be sure that landscaping does not create hiding places or be a visual obstacle.*

- Q. Ensure that parking lot planting does not obstruct views of approaching traffic and pedestrians, *the street and building entrances*.
- Q. Provide appropriate snow storage areas that do not interfere with pedestrian and vehicle circulation, or sensitive landscape plantings, *as well as in an area that could be a visual obstacle*.
- R. *Visitor parking areas should be located near main entrances of buildings and marked with signage, providing visitors with a direct route to and from the building.*

3.3 PARKING STRUCTURE

- D. Ensure that parking structures include the following safety features:
- Adequate and uniform lighting.
 - Clearly indicated exit routes and doors.
 - Bright coloured paint to improve light levels and reduce glare.
 - Mirrors and circular support columns to encourage open spaces and discourage potential entrapment and hiding areas.
 - Limit access to no more than two designated, monitored entrances/exits*
- E. *Parking garages should be designed with maximum visibility and surveillance from the street, adjacent buildings and stairwells. They should be fully illuminated to minimize hiding places.*
- F. *Position all pedestrian entrances and exits next to vehicle entrances and in a visible location.*
- G. *Stairwells and elevators should be located in a central area, close to a main entrance. Stairwells should be without solid walls.*

3.5 DRIVE-THROUGH FACILITIES

- D. Screen vehicles stacking lanes from adjacent residential areas to avoid illumination from vehicle headlights *but should not create hiding places*.
- F. *Lighting should be provided at drive through window and the queuing lane.*

4.0 SITE SERVICES

- A. Ensure that loading bays, recycling areas and garbage storage facilities are located away from public streets or screened through the use of landscaping, walls and buildings *but not to create entrapment areas and hiding places*.

- K. *Provide adequate lighting to ensure safety.*

5.0 LIGHTING

- A. *Select exterior lighting fixtures based on compatibility with the architectural design of the building and the character of the neighbourhood. And enhance the ability for surveillance.*
- H. *Encourage lighting areas that are intended to support evening/night activities. Avoid lighting all public areas as it creates a false sense of security for people passing through the night.*

6.0 FENCING

- C. *Avoid walling off an entire development as it creates a fortress effect that would reduce monitoring opportunities.*

7.0 ARCHITECTURAL DESIGN

- K. *Buildings should be strategically designed to minimize alcoves or hiding spots for offenders to hide in.*
- L. *Buildings should naturally direct visitors toward the main entry point where it is observable by residents and security.*
- M. *Balcony space should be large enough to provide a useable activity area for residents, thereby increasing opportunities for residents to overlook public areas. Balcony railings should be built with transparent or open metal material as it will increase surveillance opportunities.*
- N. *Access points to buildings should be reduced so as to be manageable for security officers.*
- O. *Define entrances to the site and each parking lot with landscaping, architectural design, or symbolic gateways.*

9.0 LANDSCAPE DESIGN

- M. *Landscaping should not obstruct sightlines or create hiding places.*
- N. *Conifers can be integrated into landscape plans to provide screening options where required with the option to limb them up to increase visibility or reduce hiding spaces.*



10.0 WATERFRONT

- G. Waterfront trails should have directional, and assistance signage and maps which are illuminated for night use.*
- H. Parks and open spaces should have maximum street visibility for monitoring.*
- I. Waterfront trails, parks and open spaces should provide direct links to surround areas.*
- J. Provide lighting only in area that are intended to support evening/night activities.*

12.0 TRANSIT

- E. Bike racks should be located near building entrances or in high foot traffic areas to increase pedestrian circulation for deterring potential offenders.*
- F. Provide adequate lighting at transit stops.*
- G. Transit shelters should be of transparent material to provide visual surveillance.*
- H. Transit stops and shelters should be visible from the street and neighbouring buildings.*