5. Schools

Statement of Purpose

This chapter is not intended to serve as a checklist or an exhaustive resource. Rather it is intended to provide a direction for the design and development of new schools that is consistent with the best applications of CPTED principles.

Introduction

Schools have traditionally provided an effective and safe learning environment for our children while anchoring our neighborhoods as a common meeting place. With ever decreasing resources, schools are expected to satisfy these traditional roles while dealing with such non-traditional problems as irregular shaped lots, increased security demands and parent generated traffic nightmares.

You should begin the development of the site by completing the space assessment that is found in Chapter 3. This will assist you in locating driveways, parking lots, drop-offs, buildings and playing fields in the spaces that can best support them.

Once this is accomplished, the design of the property may begin in earnest. Begin by developing a school design that meets your primary objectives. Support these objectives by designing the building's facade, grounds and future portable placement to meet the intended use.

Developing Designs that Support the Intended Use

While it is now standard school board policy that all visitors must report to the main office, few school designs have evolved sufficiently to support this intended use. To date, this has resulted in a multitude of conventionally designed schools many of which have poorly overlooked entrances that are potential entry points. In order to resolve this issue, it is critical that school designers pay more attention to the context, function and design of entrances as well as the interior spaces located next to them.

Entry Context

The context of the entrance can be critical to the way it is perceived. A secondary entrance next to a parking lot, will, in the absence of a properly sized and located visitor parking area, draw the attention of visitors and thus will invite use. The same can be said for secondary entrances next to walkways or desire lines. The closest, most convenient entrance is the entrance that gets used.

In order to guard against this potential, it is critical that the entrances respond to the larger environment. Where walkways or staff parking lots invite use of secondary entrances, the convenience or prominence of these entrances can be negated in a number of ways. These include developing the connection between the main entrance and the walkway, developing the semi-private nature of the staff entrance and its parking lot and/or developing sufficient visitor parking to satisfy visitor demand.

Function and design of entrances

Many entrances have a standard presentation that does little to differentiate them from others. If the desired function is egress and the doorway is normally locked, the purpose of the doorway can be communicated by removing exterior hardware. If the desired function includes a limited amount of keyholder access, such as the daily arrival of teachers, consider developing a dedicated teacher entrance directly into the staff-room.

Strategic development of adjoining spaces and facades

Careful planning and design will ensure that activities, windows and guardians to the school (staff members) are strategically distributed throughout the school next to building entrances. This will increase the perception of risk in offenders by developing witness potential and providing for strong feelings of ownership.

Washrooms for portable and after-hours use

Over time, the need for portable and after-hours washrooms accessible to the greater community has resulted in the strategic placement of washrooms next to what would otherwise be remote back entrances. This invariably compromises access control, as these doors must remain open throughout the school day and sometimes throughout the evening.

In recognition of this problem, some schools have been designed with a "dedicated" washroom corridor that can be physically locked after hours to limit access to the remainder of the school. While effective for this purpose, the development of an interior hallway threshold often results in the further isolation of what is already a limited use hallway. As this may have the unintended effect of attracting malfeasants, special care must be taken to design a lockable interior threshold that is normally held in the open position during the school day.

Main hallway

For the purpose of a school environment, any visitor who fails to conform to the rules should be considered a trespasser. As all visitors are expected to report to the main office and trespassers are expected to avoid this, front office staff must be provided with a design that allows them to routinely overlook the main hallway area even when engaged in their normal duties.

Signage

Signage can play a critical role in highlighting aberrant behaviour. An unsigned secondary entrance that is intended only for egress will often be challenged or circumvented by trespassers because the intended use is not obvious and the rules are not prominently posted. This often results in limited staff challenges as the acceptance of improper behaviour creates its own excuse.

In order to address this problem, the intended purpose of this entrance should be prominently, permanently and clearly marked. This will reduce the incidence of inappropriate visitor behaviour and in the process eliminate an excuse. The wording of washroom signs can be of particular significance. In the situation where an adult offender enters a boys or girls washroom, the addition of the word "only" creates a condition which highlights the impropriety of this behaviour and limits potential excuses.

Risk Management

The advent of computers has resulted in a significantly increased reward should a thief break into a school. This has shifted the risk/reward ratio in favour of the thief, which in turn influences the thief's decision to commit a break-in. In response to this increased threat of break-in, schools must decide how to best control their risk.

One of the best ways to manage risk is to extend the offender's escape time by strategically locating high concentrations of computer equipment or other valuable and frequent stolen items, such as musical instruments, away from exterior ground floor walls. This can be best accomplished by selectively locating these items into interior or second floor spaces.

Where this is not an option or further security is advised, the development of a target-hardened safe room will substantially increase the risk while significantly reducing the reward.

Photo 16: This photo is an example of a property designed to effectively deal with the movement of people onto and through the property. Section 5.1 School Grounds.

Section 5.1 School Grounds

Principle:

Design a property that will effectively deal with the movement of people onto and through the property. **See Photo 16.**

Section 5.1.1. Surveillance

Issues	Design Directives
▪ **Does the design allow us to observe?**	Provide ample opportunities for legitimate users, engaged in their normal activities, to observe the space around them.
(a) Parking	(a) Place visitor parking in an area that can be observed from the main office or other staffed area. Provide direct overlook of staff and, where applicable, student parking from the interior of the school and a public roadway.
▪ **Is the natural surveillance level responsive to the needs of observation?**	
(a) Kindergarten Play Areas	(a) Locate play areas away from areas that offer concealment.
(b) Play Equipment	(b) Ensure that play equipment can be well observed from the interior of the school and the surrounding neighborhood both day and night.
▪ **Has the need for observation been carried consistently throughout the project?**	
(a) Landscaping	(a) Where landscaping is required around the perimeter of the property, select plant materials that do not create a screen. Take special care when planting next to parking lots and the top of berms.
(b) Parking Lot Lighting	(b) Ensure uniform lighting throughout the light. Minimize glare and light trespass by lighting from the perimeter of the property inwards.

Section 5.1.2 Access Control

Issues	Design Directives
▪ **Does the design decrease criminal opportunity by effectively guiding and influencing movement?**	Direct normal access to observable areas and prevent access to unobservable areas.
(a) Visitor Parking	(a) Orient the visitor parking towards the main entrance and away from all secondary entrances. If the visitor's parking is not separate, develop a transition between the visitor, staff, and where applicable student parking.
(b) Staff parking	(b) Minimize traffic through staff parking areas by locating it on a dedicated parking lot or designated section of a shared facility.
(c) Student parking	(c) Where student parking is required, designate and define an area and minimize the number of vehicular entry points and escape routes. Develop a parking permit system to provide for the easy identification of visiting vehicles.
(d) Primary student drop off	(d) Wherever possible, develop drop off points, i.e. lay-bys, for private vehicles along the main road allowance. Where Kiss n' Ride features are desired interior to the property, consult the City of Mississauga's "Urban Design Guidelines for School Sites" Design Reference Notes.
(e) Kindergarten play area	(e) Where exterior kindergarten play areas are required, surround the area with a fence and gate. Where possible, use interior courtyards to develop kindergarten play areas.
(f) Rear of school	(f) Limit vehicular access to asphalt areas around the perimeter of the school. Accomplish this by developing pinch points and using retractable barriers such as swing gates or bollards with chains.

Section 5.1.3 Territorial Reinforcement	
Issues	**Design Directives**
▪ **Does the design act as a catalyst for natural surveillance and access control opportunities?**	Develop a transition that indicates the movement from public to semi-private space. Accomplish this with signage and the use of symbolic barriers at property lines or transitional zones. Post easy to read signs at all pedestrian and vehicular entry points. Identify the owner of the property and include a brief trespassing message such as "NO TRESPASSING, Trespassers will be prosecuted" or "Parking Permit REQUIRED, Visitors REPORT to main office". Symbolic barriers can include changes to walkway or driveway textures or the development of islands, raised walkways or bollards.

Section 5.2 School Building Exterior

Principle:

Design a facade that will effectively deal with the movement of people into and around the building.

Section 5.2.1 Surveillance

Issues	Design Directives
▪ **Does the design allow us to observe?**	Provide ample opportunities for legitimate users, engaged in their normal activities, to observe the space around them. School buildings should be located close to the street, and the grounds between the school and the street should be clear to give an unobstructed view of the school, both from the street and any nearby houses. Facilitate observation around the perimeter of the building by minimizing alcoves and hiding spots especially next to doors and windows. Always be cognizant of the main sources of natural surveillance when locating and designing entry points.
▪ **Is the natural surveillance level responsive to the needs for observation?**	Attempt to match the need for natural surveillance with the available witness potential. Emphasize natural surveillance in vulnerable areas such as secondary entrances.
▪ **Has the need for observation been carried consistently throughout the design?**	
(a) Landscaping	(a) Where planting is used next to windows or doors, limit the use of plant material to low growing varieties or high branching deciduous trees at a distance that will not allow roof access.
(b) Lighting	(b) Provide consistent, glare – free lighting where the opportunity for witness potential exists. Consider the use of a motion activated, "high/low" (high intensity discharge compatible) lighting system. Avoid installing lights that result in light trespass to surrounding neighborhoods.
(c) Portable placement	(c) Consider the impact on natural surveillance when assigning space for portable classrooms (see section 5.4)

Section 5.2.2 Access Control	
Issues	**Design Directives**
▪ **Does the design decrease criminal opportunity by effectively guiding and influencing movement?**	Direct normal access to observable areas and prevent access to unobservable areas. Accomplish this by emphasizing elements of logical design and reducing roof access opportunities.
(a) Logical Design	(a) (i) Develop an exterior that naturally queues visitors towards the main entry point and away from secondary entrances. Accomplish this by developing a prominent entrance that's convenient to use in relation to the visitor parking. Limit the obvious presentation of secondary entrances as it relates to visitors arriving by car (see Sec. 5.1.2). (ii) Queue secondary "entrance" use by removing all non-essential exterior entry hardware.
(b) Roof Access	(b) Within code requirements, eliminate all methods of access from grade to the first floor roof. Pay special attention to the impact of out buildings and fencing around exterior equipment.

Section 5.2.3 Territorial Reinforcement	
Issues	**Design Directives**
▪ **Does the design act as a catalyst for natural surveillance and access control opportunities?**	Develop a transition that indicates the movement of people from semi-public to private space. Accomplish this with effective signage located adjacent to entrances on the exterior of the building

Section 5.3 School Building Interior

Principle: Design an effective learning environment.	
Section 5.3.1 Surveillance	
Issues	**Design Directive**
▪ **Does the design allow us to observe?**	Provide ample opportunity for legitimate users, engaged in their normal activities, to observe the space around them. Accomplish this by strategically matching areas that require natural surveillance with areas that naturally provide it. Where appropriate, develop and orient counters, doorways, windows and sidelights between those areas offering and requiring natural surveillance.
▪ **Is the natural surveillance level responsive to the needs for observation?**	
(a) Main Entrance	(a) Create a dynamic entry area that maximizes overlook opportunities from a variety of active sources. This generally includes, but is not limited to, office, library and staff facilities.
(b) Secondary Entrance	(b) Strategically locate safe activities next to secondary entrances. These generally include, but are not limited to, active staff and custodian facilities.
(c) Hallways	(c) Facilitate surveillance opportunities at corridor intersections. Wherever possible, minimize the number of secondary corridors and, where required, provide space for flush mounted perimeter lockers. Develop hallways leading to washrooms so that they are not audio or visually isolated during regular school-time use.
(d) Stairwells	(d) Eliminate or minimize stairwell blind spots that are not visible from main corridors.
(e) Washrooms	(e) Strategically locate a safe activity directly overlooking this entrance. Wherever possible eliminate the need for entry doors. Where privacy is an issue consider the development of a screen wall at a height to allow surveillance by staff.
(f) General Purpose Lockers	(f) In the absence of superior overlook opportunities from above, avoid the development of locker bays or alcoves that cannot be viewed from the main corridors.

▪ **Has the need for observation been carried consistently throughout the project?**	
(a) Doorways/Doors	(a) Where doorways have been strategically located to enhance natural surveillance, specify doors or doorways that offer natural surveillance even while the door is closed, i.e. a window in the door or sidelight.
(b) Window Coverings	(b) Limit window coverings where privacy is not required. When privacy is desired such as a staff room, consider perforated roller blinds.

Section 5.3.2 Access Control	
Issues	**Design Directives**
▪ **Does the design decrease criminal opportunity by effectively guiding and influencing movement?**	Direct normal access to observable areas and prevent access to less observable areas. Accomplish this by developing a movement predictor from the main entrance that passes the office area without offering a choice to visitors. Strategically develop an office reception space that provides a natural destination for visitors. Consider the use of a door enunciator.

Section 5.3.3 Territorial Reinforcement Issues	
Issues	**Design Directives**
▪ **Does the design act as a catalyst for natural surveillance and access control opportunities?**	Provide for the development of territorial influence around entry points. Clearly delineate the movement from semi-public to private space. Reinforce the movement with the strategic posting of easy to see and read signs such as "report to the main office" or in the case of student washrooms "boys and girls only". Wherever possible incorporate universally recognized symbols, such as stop signs, into the signage.

Section 5.4 Portables

Principle:

Develop an effective learning environment that will effectively deal with the movement of people onto and through the property.

Section 5.4.1 Surveillance

Issues	Design Directives
▪ **Does the placement allow us to observe?**	Provide ample opportunity for legitimate users, engaged in their normal activities, to observe the space around them both day and night. Strategically orient portables to minimize disruption of existing sightlines; maximize observation of entry points (doors and windows) and loitering spots (steps) from surrounding neighborhoods and, where appropriate, streets; and limit the development of unobserved alcoves where witness potential exists.
▪ **Is the natural surveillance level responsive to the needs for observation?**	Wherever possible, orient the portables so that its teacher can continually follow the progress of a child travelling between portable and the designated school entrance.
▪ **Has the need for observation been carried consistently throughout the project?**	Provide uniform lighting around observable entry points. Consider turning off the lights where witness potential does not regularly exist so as not to aid in socialization, vandalism/graffiti and break and enters. Where lighting is desired in areas with poor or limited natural surveillance, consider wire screened motion activated lights that signal the presence of people by leaving a light trail beyond the perimeter of the portable area. Where multiple portables have been laid out in a grid pattern, consider the deployment of wire screened motion-activated lights at all entry points to interior alleys.

Section 5.4.2 Access Control	
Issues	**Design Directives**
▪ **Does the design decrease criminal opportunity by effectively guiding and influencing movement?**	Direct normal access to observable areas and prevent access to unobservable areas. Accomplish this by training (placing portables end to end with a covered fire separation) portables according to fire fighting specifications and limiting the development of internal grid style alleys. Where internal alleyways exist limit vehicular access using curbstones, swing gates or bollards. Limit seating areas around deck areas by avoiding flat railings and replacing them with hip or picket style railings. Supplement natural forms of access control with effective target hardening techniques including strategically placed alarm boxes with siren and flashing strobe.

Section 5.4.3 Territorial Reinforcement	
Issues	**Design Directives**
▪ **Does the design act as a catalyst for natural surveillance and access control opportunities?**	Strategically post "No Loitering" and "No Unauthorized Vehicle" signs around the perimeter of the portable or, where more than one portable exists, the portable area.