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City of Grand Forks Report For:

Crime Prevention Through Environmental Design (CPTED)
Area Assessment and Recommendations

Report Prepared By:



Acknowledgements

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Mr. Dave Bruce, Manager of Building Inspection and Bylaw Services;

Mr. Bud Alcock, Bylaw Enforcement Officer;

Mr. Graham Watt, Senior Planner.

<u>City of Grand Forks, B.C. – CPTED Assessment and Recommendations</u>

Introduction

INSITE DESIGN was contacted by the City of Grand Forks to assist staff in identifying specific principles of Crime Prevention Through Environmental Design (CPTED) that can be used to reduce the incidence and fear of crime and to promote safer public spaces within the city's downtown and selected neighbourhoods where land uses conflict with adjacent residential development.

It is important to emphasize that CPTED does not provide universal solutions for every situation. Rather, CPTED focuses on planning, design and management strategies that need to be tailored to a community's specific needs and situation.

The report that follows provides a brief overview of key principles to serve as a background introduction to CPTED; description of observations made during a recent site visit of those safety concerns and challenges facing staff; illustrations of precedent examples in response to those concerns and challenges that can serve as a guide for Grand Forks; and provide recommendations for next steps moving forward to help implement solutions.

The goal is to provide Grand Forks' City Council with an understanding of how CPTED can be used as one tool, along with active policing, community engagement, social outreach programs and other initiatives that when combined can significantly enhance the overall safety and quality of our cities.

Defining CPTED

The National Crime Prevention Institute defines CPTED as:

...a crime prevention philosophy based on the theory that the proper design and effective use of the built environment can lead to a reduction in the fear of crime as well as an improvement in the quality of life.

...CPTED works by decreasing a criminal's ability to commit crime and increasing the chances that legitimate citizens will see the crime. CPTED goes beyond traditional security methods by naturally integrating security measures into the community.

CPTED is about creating defensible spaces. If properly conceived someone may take responsibility for the space and take action to defend it from non-legitimate, criminal, or unintended uses. In order to defend a space, it must be clearly identified, delineated and promote a sense of ownership.

CPTED relies on an integrated approach based on key principles to define and defend space, as opposed to the not so subtle fencing-off and barricading of space to prevent access of unauthorized persons.

Key CPTED Principles

Natural Surveillance:

Natural surveillance involves the design and placement of physical features, activities and people to maximize visibility of the site to deter criminal activity - by keeping intruders easily observable. Features, such as pedestrian-friendly sidewalks and streets, front porches and appropriate night time lighting, help promote casual observation, or 'eyes-on-street', which in turn increases a sense of defensible space that discourages undesirable activity.

Legibility:

Legibility is part *Wayfinding*; allowing people easily to know where they are and how to get to where they are going, part *Connection*; allowing people to move efficiently and safely between places they are most likely to frequent. Creating strong destinations within a city that are animated with activities which are connected by pedestrian-friendly environments that are logical (easy to read) as to where they lead and provide alternative 'escape routes' will result in people having greater confidence and being more observant of their surroundings.

Territorial Reinforcement:

Territorial Reinforcement understands that people naturally protect a territory that they feel is their own, and have a certain respect for the territory of others. If the physical boundaries that delineate public and private space are expanded, as through outdoor patios or building canopies that extend out into the public realm, then the sense of ownership (and protection) will also be extended to that space. This strategy works on the basis that if there is someone present who has responsibility for the space they will be more likely to observe criminal behavior and therefore reduce incidents of undesirable activity.

Operations and Management:

Operations and Management is related to the sense of 'pride of place' and that regular maintenance and upkeep of an area demonstrates that someone cares and is watching. Conversely, the more dilapidated an area, the more likely it is to attract unwanted activities – known also as the 'Broken Windows Theory.' While it is important to maintain a clean appearance, it is equally important to understand how the selection of materials and finishes will have an impact on operational regimes so that it can be sustained over time. For example, plant material should be selected for its size at maturity to avoid blocking of sight lines and exterior finishes should minimize potential for vandalism and graffiti 'tagging'.

Assessment, Challenges & Opportunities

The following observations were made during an October 20, 2017 walking tour with David Bruce of the City of Grand Forks, with representatives from bylaw enforcement and strategic planning. These observations form a preliminary assessment of those challenges and safety concerns in which CPTED opportunities could be used to help mitigate.

City Park:

City Park is the largest public open space located adjacent to Grand Forks' downtown and central business district. The park is bounded by Kettle River Drive (N), the Kettle River (S) and 4th Street (E), 7th Street (W).

City concerns are related to homelessness activities such as: encampment along the Kettle River; break-in and vandalism of western public washroom facility servicing camping area; potential safety concerns related to conflicts associated with homeless use of eastern public washrooms and proximity to playgrounds. Potential CPTED opportunities include:

Natural Surveillance

- Provide large seating areas and pedestrian lighting along entire park length of riverfront walkway;
- Locate washroom doors toward high visibility locations.

Legibility

 Extend park pathways to connect to adjacent neigbourhoods to promote higher uses alternate downtown connections.

Territorial Reinforcement

- Promote more seasonal use campground facility to generate all-year activities in support of washrooms;
- Provide additional park amenities to maximize use of washroom;
- Promote park and program outdoor activities to compliment nearby Boundary Lodge Assisted Living use.

- Clear understory planting and open views of riverfront from park;
- Consider consolidating and centralizing public washrooms for efficiency of resources and safety;
- Washroom facilities should be designed to be open and inviting to general public with use of natural lighting, material selection and clearly defined entry with signage.



City Park - West Public Washroom (7th Street)



City Park – Informal Washing Hole and Homeless Encampment



City Park - East Public Washroom (4th Street)

Kettle and Granby River Forks:

The confluence of the Granby and Kettle rivers, next to the downtown, is an under utilized site given its strategic importance to Grand Forks, from which its name is derived. With the downtown bordering the west bank of the Granby River and north bank of the Kettle River, there is the potential for creating a linear park and interpretive trail system to connect developments on either side of the Kettle and Granby rivers via existing vehicle and pedestrian bridges on 2nd Street at the end of Market Avenue.

City concerns are related to homelessness activities and a Tent City encampment that has formed out of proximity to services provided by the Whispers of Hope food bank shelter.

Potential CPTED opportunities include:

Natural Surveillance

- Develop the 'Forks Site' as a waterfront park and linear interpretive trail system along rivers;
- Encourage redevelopment of vacant land and single family residential to a mixed-use development integrated with new park.

Legibility

- Extend park pathways to connect to adjacent neigbourhoods to promote higher uses alternate downtown connections:
- Celebrate importance of 'Forks Site' in the forming of Grand Forks – making the City's heritage more obvious.

Territorial Reinforcement

- Create a mixture of housing types with ground floor commercial to expand uses and hours of operation into future public open spaces.
- Create stronger physical connections between park spaces and existing multi-family development.

- Clear understory planting and open views of river from Riverside Drive;
- Improve pedestrian lighting and formalize existing pathways to encourage greater use;



Granby River – Tent City (72nd Ave & Riverside Dr.)

Vacant Lot & Informal Park (Riverside Drive)



Multi-Family Development (7124 Riverside Dr.)

Unregulated Property Uses:

Property uses and their appearance have a direct affect on the quality of the urban environment and therefore the perception of safety. Property uses that are tightly controlled, conforming to approved zoning can promote a sense of order. Unregulated uses, which are not consistent with approved zoning, can have negative consequences to public safety.

City concerns are related to property uses which attract and promote undesirable uses, restrict sightlines or provide un-intended hiding places that make observing criminal activities more difficult to detect. Potential CPTED opportunities include:

Natural Surveillance

• Provide adequate lighting at appropriate levels based on property uses.

Legibility

- Where outdoor storage and screening is required on property it should be intentionally designed and sympathetic to overall development;
- Treat alleys and laneways as secondary routes with adequate paving, lighting and features to encourage pedestrian use.

Territorial Reinforcement

- Discourage use of chainlink fences within urban areas for more sensitive methods to delineate and control property access;
- Provide low-level landscaping as transitional buffers between public areas and private storage areas.

- Create or amend existing zoning regulations to deter problematic property uses;
- Require owners to maintain properties at minimum standards;
- Remove abandoned structures that create obvious opportunities for criminal activities.



Abandoned House in Disrepair (3rd Street) Promote Undesirable Occupancy



Hiding Places Created by Container Storage Units in Parking Areas



Untidy Outdoor Storage along Side Lanes Create a Negative Appearance to Neighbourhood

Downtown Area:

Downtown areas are traditionally defined by their concentration of commercial and retail uses. Due to higher land values, buildings are typically located in close proximity to each other with limited front and side setbacks. Retailers often display their wares to promote their business and to attract customers. Downtowns also have defined operational hours which limit activities in the evenings and early morning. This combination makes downtown areas more susceptible to criminal activities and strong candidates for implementing CPTED objectives.

City concerns related to the downtown area include difficulties in monitoring after-hour activities, theft and vandalism. Potential CPTED opportunities include:

Natural Surveillance

 Promote mixed-use development to encourage a higher downtown residential population and promote after-hour outdoor activities.

Legibility

- Control after-hour access to narrow passageways between buildings.
- Use banners and pageantry to celebrate City's cultural and events as part of wayfinding.

Territorial Reinforcement

 Encourage outdoor patios, displays and retail flow-out into public realm through zoning sidewalk and organizing of streetscape elements.

- Install Close-Circuit Television (CCTV) monitors in visible locations to heighten awareness of surveillance;
- Install LED lighting with proper illumination levels and color rendering to allow for higher surveillance;
- Develop an anti-graffiti program that includes: quick response to incidents of vandalism, murals and graphic vinyl wraps on bare surfaces prone to graffiti.



Building setbacks with narrow passageways are difficult to monitor and unsafe to use after hours.



Buildings set back from street with recessed entries and extensive window areas make easy targets for criminal activities.



Businesses with clearly defined entrances, well lit facades and have a strong sense of ownership will create a vibrant and safer downtown.

Industrial Area

The industrial area, north of Highway 3, follows an abandoned railway corridor (now the Columbia & Western Rail Trail) that bisects two residential neigbourhoods. Development along both Columbia and Donaldson Drive is sporadic and consists of simple light-industrial structures with storage compounds secured by chain link fences. The exceptions being two historic buildings associated with its past railway use. The two principle roads are lacking sidewalks and formalized street lighting. Given the proximity to residential development, the historic significance of the railway and the recreational & tourism potential of the Rail Trail, the current

industrial uses is questionable as the highest

land use for this area of the city.

City concerns are related to high incidents of thefts reported at both industrial and residential properties in the area and the appropriateness of some land uses (i.e. Bottle Depot) that may attract criminal activities. Potential CPTED opportunities include:

Natural Surveillance

- Locate principle building accesses with clear sight lines toward streets for easy monitoring;
- Provide sidewalks and street lighting at appropriate spacing to promote more safer pedestrian activity;

Legibility

 Strengthen the recreational and tourism potential of the Rail Trail as an active transportation corridor within the City and larger region.

Territorial Reinforcement

• Encourage development that is more complimentary to the historic railway uses.

- Provide security or after-hour maintenance personal to patrol areas with high crime incidents rates;
- Provide CCTV surveillance in common areas that does not have good visibility from high traffic areas.
- Work with local residents and community leaders to develop a Neighbourhood Watch Program for the area.



Bottle Depot typical of industrial uses along Donaldson Drive.



Industrial development along abandoned railway corridor bisects residential development that creates land use conflicts and safety concerns.

Precedent Examples

The following examples represent successful projects completed by other cities in response to similar challenges and concerns highlighted in the above assessments. Some examples are specifically CPTED lead, while other examples represent the integration of key CPTED principles which can be attributed to their overall success.

While many of the projects represent a significant investment in time, resources and funds that may not be directly attributable to the City at the same level, their overall approach is scalable within the context of the City of Grand Forks and therefore of interest. For brevity of the report a weblink has been provided to an overview of the project when available.

Park Spaces and Public Washroom Facilities:



Rainier Park, Seattle, Washington http://mayflyeng.com/projects/rainier-beach-tennis-courts-and-playground



Kinsmen Park, Saskatoon, Saskatchewan http://www.space2place.ca/kinsmen-park/



Norpoint Park, Tacoma, Washington http://www.gglo.com/places/norpoint-park/



Gerstmar Park Public Washroom, Kelowna, BC



Soldiers Park Public Washroom, Australia https://www.modusaustralia.com.au/projects/soldiers-park-yarra-5-sa

Riverwalks and Cultural Sites:



Forks Historic Site, Winnipeg, MB http://www.theforks.com/uploads/ck/files/Publications/GoWaterfront_2014.pdf



Assiniboine Riverwalk, Winnipeg, MB http://theforkswinnipeg.blogspot.ca/2014/03/the-forks-25th-anniversary-timeline.html



Cortober Riverside Park http://www.irishlandscapeinstitute.com/members/murray-associates/

Public Realm and Laneways:



Main Street, Rossland, BC http://citygreen.com/case-studies/main-street-rossland/



Cliff Avenue, Enderby, BC https://www.cityofenderby.com/enderby-readies-traffic-management-for-cliff-avenue-phase-2/



The Laneway Project http://thelanewayproject.ca/lanewayswelove/



Green Alley, Detroit, Michigan http://www.modeldmedia.com/inthenews/greenalley-citylab-072516.aspx

Rail Trails and Railroad Adaptive Reuse:



Old Midland Railway Square, Western Australia, https://www.placelaboratory.com/project/midland-railway-square/ https://www.mra.wa.gov.au/see-and-do/midland/attractions/railway-square



Gosport Railway Station Residential Development, UK http://re-format.co.uk/gosport-railway-station/



Quequecha Rail Trail, Boston, MA. http://www.brownrowe.com/taxonomy/term/163



Okanagan Rail Trails https://totabc.org/programs/regional-rail-trails/

CPTED Implementation Strategies

As initially identified, CPTED is only one part of a larger integrated approach to addressing crime. The following recommendations focuses on those strategies relating to the planning and design of communities and should be considered in concert with other active policing, community engagement and social outreach initiatives.

At the core of CPTED is the emphasis that local councils, planners, developers, police agencies and homeowners all have a role to play in helping protect their community and themselves from crime. For CPTED to be effective it needs to be encouraged and promoted within existing planning efforts; considered early in any new development process; and consistently acted upon through a regulated policy and enforcement framework. Strategies to help implement CPTED as a means to address the above noted area assessments and City concerns include the following:

Adopt CPTED Policies:

The City of Grand Forks should formally adopt crime prevention and CPTED as strategic Council policy. This is critical; as success depends upon high level acceptance and the clear communication of expectations of crime prevention and CPTED by City staff to local businesses, community leaders and the general public at large.

Foster CPTED Community Involvement:

One of the most important ways that the City of Grand Forks can effectively implement crime prevention initiatives is to act as a facilitator for collaborative community involvement and action. This will emphasize the importance that crime prevention and CPTED is a shared responsibility between all parties.

Incorporate CPTED Principles into Development & Planning Regulations:

The City of Grand Forks should incorporate CPTED principles into their planning review and approval process. This has the advantage of ensuring key CPTED principles are properly incorporated into future development proposals, as well as a means to negotiate with developers if they are reluctant to change their proposals to sufficiently incorporate CPTED.

CPTED Audit and Enforcement:

Part of any CPTED implementation strategy should include initiatives to acquire quantitative information on the incidence of crime as well as a means to evaluate and audit 'hot spots' where criminal activity is a continuing concern. This will help to gain a better understanding of the nature and conditions that are attributed to problematic areas. An example of a 'CPTED Checklist' is provided as a basis for qualitatively measuring and auditing existing site conditions to determine appropriate actions.

Leadership Through Example & Celebrate CPTED Successes:

The City of Grand Forks, as major investors and key contributors within the community, is in a position to promote and demonstrate how CPTED can enhance the safety and quality of public space by actively applying key CPTED principles to its own existing facilities, public spaces and new developments. The success of future projects should be celebrated to acknowledge the CPTED contributions made by the City and its community partners.

Summary

CPTED has become an increasingly important aspect to both policing and the planning of our cities. Research has shown CPTED, when purposefully and properly implemented, will reduce criminal activity and the negative behavior that is attributed to unsafe and uncomfortable environments. In addition, CPTED can help to create positive communities by improving planning and design decisions in ways that balances public safety with the built environment.

This report is not meant to be a definitive approach to addressing current safety concerns, but rather an introduction to CPTED and the benefits and opportunities it can provide to the City of Grand Forks as staff moves forward in future efforts to address those criminal and growth concerns facing all cities.

Further Reading & Bibliography

There are numerous documents available online that discuss the benefits of CPTED that can be used to supplement information contained within this report. Suggested further readings include:

<u>Crime Prevention Through Environmental Design – Essential Guidelines for Queensland</u> Queensland Government, Australia. October 2007. https://www.police.gld.gov.au/programs/cscp/safetyPublic/Documents/CPTEDPartA.pdf

<u>Crime Prevention Through Environmental Design – Implementation Guidelines for Queensland.</u>

Queensland Government, Australia. October 2007.

https://www.police.qld.gov.au/programs/cscp/safetyPublic/Documents/CPTEDPartB.pdf

Appendix A

CHECKLIST

The design guide is summarised in the form of a checklist. The questions help you to go through the security aspects of a project. The checklist will provide an initial crime prevention through environmental design review for the project.

- 1. Sight lines
- 2. Lighting
- 3. Concealed or Isolated Routes
- 4. Entrapment Areas
- 5. Isolation
- 6. Land Use Mix
- 7. Activity Generators
- 8. Ownership, Maintenance, and Management
- 9. Signs and Information
- 10. Overall Design

Design guide for reviewing project – CHECKLIST

I.	SIGHT LINES	Yes	No
	 Can sharp corners or sudden changes in grades that reduce sight lines be avoided or modified? 		
	 Does design allow clear sight lines and visibility at those areas where they are desired? 		
	 Do areas of concerns such as stairwells, lobbies of high-rise building have clear sight lines? 		
	• If sight lines are blocked, can it be made visible by using glass or can other enhancements such as mirrors or security cameras be provided?		
	 Does design allow for future sight line impediments such as landscaping in maturity? 		
	 Does access to hidden areas such as underpasses or parking areas have clear sight lines? 		
2.	LIGHTING		
	 Is there a need for lighting to be provided if the paths or spaces are not used at night? 		
	 Is lighting adequately provided such that a person can recognise a face from about 10 metres? 		
	 Does lighting provide uniform spread and reduce contrast between shadow and illuminated areas? 		
	Is lighting provided too glaring?		
	 Are light fixtures provided for areas that require good visibility such as pedestrian routes and entrapment areas? 		
	Are light fixtures protected against vandalism or made of vandal resistant materials?		

		Yes	No
	 Is lighting at areas used during night time e.g. car parks, space around buildings adequately provided? 		
	Is back lane lighting required?		
3.	CONCEALED OR ISOLATED ROUTES		
	 Can concealed and isolated routes such as staircases, passageways or tunnels be eliminated? 		
	 Are there entrapment areas within 50 - 100 metres at the end of a concealed or isolated route? 		
	Is there an alternate route?		
	 If a pedestrian cannot see the end of a concealed or isolated route, can visibility be enhanced by lighting or improving natural surveillance? 		
	Are concealed or isolated routes uniformly lit?		
	 Is there natural surveillance by people or activities through various land uses? 		
	Is there formal surveillance?		
	Is access to help e.g. security alarm, emergency telephones, signage and information available?		
4.	ENTRAPMENT AREAS		
	Is there an entrapment area and can it be eliminated?		
	Can it be closed during off hours?		
	Is the entrapment area visible through natural or formal surveillance?		
	Does design provide for escape routes?		

5 .	ISOLATION	Yes	No
	Does design incorporate natural surveillance?		
	Do areas of concerns such as isolated routes and parking areas provide natural surveillance?		
	• If providing natural surveillance is not possible, are emergency telephones, panic alarm and attendants provided?		
	Can compatible land uses be provided to increase activity?		
6.	LAND USE MIX		
	Are different land uses compatible?		
	Can land uses that raise security concerns e.g. bars and pubs, be located where their impact is minimised?		
7.	ACTIVITY GENERATORS		
	Can complementary uses that promote natural surveillance be provided?		
	Does design provide for complementary users?		
	Does design reinforce activity?		
	 Is the area programmed for various events or activities? 		
	 Can a clustering of uses be used to support the intended activity? 		
	 Are ground level activities incorporated in design? 		
	Can areas be programmed to facilitate increased activity?		
8.	OWNERSHIP, MAINTENANCE & MANAGEMENT		
	Does the design provide territorial reinforcement through design features?		
	Does the design allowed for easy maintenance?		

		Yes	No
	 Are there signs and information to guide people on how to report maintenance? 		
	Does the management of space provide maintenance priorities e.g. removal of offensive graffiti?		
7.	SIGNS AND INFORMATION		
	Are signs visible and legible?		
	Are signs conveying messages clearly?		
	Is information adequate?		
	Are sign strategically located to allow for maximum visibility?		
	Are signs well maintained?		
	Are maps provided in large areas such as underpasses, parks, etc.?		
	 Are signs displaying hours of operation? 		
10.	OVERALL DESIGN		
	 Do quality and aesthetically pleasing built environments compromise security concerns? 		
	• Is the scale of development consistent with neighbours to avoid large gaps on streets?		
	Is design of the built environment simple and easy to understand?		
	Is there space that can become dead space?		
	How is the built environment used at night time?		
	Are construction materials used to enhance safety and security?		