

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN ASSESSMENT

SELECTED WATERCOURSE & RIVER AREAS

(Recommendation 115, Seven Youth Inquest)

Thunder Bay, Ontario



Barry Horrobin, B.A., M.A., CLEP, CMM-III

Stephen Lynn, B.A., MUP

Professional Planners & Specialists in
CRIME PREVENTION THROUGH
ENVIRONMENTAL DESIGN

May 2017

Table of Contents

EXECUTIVE SUMMARY	3
STATEMENT OF THE ASSIGNMENT.....	3
Background.....	3
Initiative Partners	4
INTRODUCTION	6
APPROACH USED FOR THE ASSESSMENT.....	7
Situational Context.....	8
KEY UNDERLYING “TRIGGERS” OF RISK & VULNERABILITY	9
PUBLIC USER SURVEY TO GAUGE PERCEPTIONS OF SAFETY	14
Survey Results	14
RESULTS OF PHYSICAL SAFETY INSPECTION.....	17
Positive Safety and Security Features	17
SAFETY AND SECURITY DEFICIENCIES.....	19
General Observations and Issues for All Study Areas:	19
SPECIFIC OBSERVATIONS & SAFETY CONCERNS IDENTIFIED IN AUDIT:.....	21
Study Area 1: McVicar Creek	21
Study Area 2: Neebing-McIntyre Floodway	24
Lower Neebing River Section	26
Study Area 3: Kaministiquia River	27
GENERAL CONCLUSIONS & RECOMMENDATIONS:	30
SUMMARY OF RECOMMENDED ACTIONS	31
SUMMARY	42

Executive Summary

This assessment was commissioned after a Chief Coroner's report recommended a comprehensive analysis and evaluation of safety and security issues at selected river areas in Thunder Bay. The assessment was conducted from a physical design perspective using Crime Prevention Through Environmental Design (CPTED) principles. The CPTED analysis focused on specific sections of three watercourse/river areas: Kaministiquia River, Neebing-MacIntrye Floodway, and McVicar Creek. The methods of analysis included multiple, multi-sector CPTED "ground truthing" or walking audits of each river section completed during both day and evening hours, and conversations with local community groups, advocates, Indigenous leaders, and local authorities. Key stakeholders also completed a survey regarding perceptions of personal safety at the aforementioned river areas prior to undertaking the "ground truthing" exercise.

Results of the river area CPTED analysis point very clearly to one predominant root cause issue; namely, widespread loitering combined with the use of alcohol or other intoxicants. The study's recommendations have provided many positive natural and built form attributes that encourage users of the river system to walk, cycle, rollerblade, fish, relax and observe in a safe and appropriate manner. However, several applications of intoxicant-influenced loitering were identified as catalysts for unwanted activity and behaviour that increase the likelihood of harm. General observations and issues for all study areas included an absence of, or inconsistent lighting, and remote sections with visible signs of sustained unlawful activity.

Although each of the river areas examined has distinct characteristics and require varying degrees of customized measures, both physical and social in nature, to address their unique deficiencies, it is essential to emphasize the recommendations in this report, if endorsed, must be considered as a collective response to improving the safety and security of the river areas as a whole and implemented accordingly.

Because the situational context and events that have resulted in the tragic deaths of many youth is a community-wide one, the recommendations in the report must then be planned and implemented through continuous communication and consultation with the community. Improving the safety and security of the river areas, when approached through a collective community lens will have a greater and longer lasting impact for reducing and minimizing harm in all circumstances.

STATEMENT of the ASSIGNMENT

To identify and comprehensively address safety and security issues/concerns relative to selected local waterways and river areas frequented by Indigenous youth in Thunder Bay, from a physical design perspective using Crime Prevention Through Environmental Design (CPTED) principles. The overall goal is to improve safety for all users in these areas.

BACKGROUND

On June 28th, 2016, the Chief Coroner for Ontario received the Jury's Verdict and Recommendations into the deaths of seven Indigenous youth who were attending secondary school in Thunder Bay. Recommendation #115 calls for safety audits to be conducted at river locations frequented by First Nations students and youth in the evenings.

Between December 2016 and May 2017, parties named on Recommendation #115 and additional community stakeholders worked together to develop a Terms of Reference. These included the identification of high risk watercourse/river locations. Three priority locations were identified as follows:

- 1) McVicar Creek (from Algoma Street to Lake Superior)
- 2) Neebing-McIntyre Floodway (from Balmoral Street to the railroad tracks east of Fort William Road)
- 3) Kaministiquia River (from the Kam River Park to the Rowing Club)

Initiative Partners

*City of Thunder Bay, *Thunder Bay Police Service, *Northern Nishnawbe Education Council, *Dennis Franklin Cromarty High School, *Keewaytinook Okimakanak, *Independent First Nations Alliance, *Shibogama First Nations Council, *Matawa Learning Centre, Nishnawbe Aski Nation, CN Rail Police, CP Rail Police, Shelter House

[* Denotes parties named on Recommendation #115]

CPTED Audit – Partnership Approach



NOTE: *The findings and recommendations contained within this audit report are not binding nor are they intended to be rigid. Other contributing factors such as cost, practicality, and overall functionality of the area being assessed must also be considered when evaluating changes to improve public safety. Therefore improvements that can be made with minimal time, complication, alteration to the existing natural environment, and expenditure outlay are encouraged. Recommendations attached are based on the known, universally recognized principles of Crime Prevention Through Environmental Design (CPTED) and the expertise of the authors in how they should be applied here. It is also very important to understand that improvements to public safety cannot be made strictly through architectural, engineering, and landscape architectural modifications alone. The affected property owners and users of these critical assets must be willing to work with any suggested physical, social, and operational changes identified in this assessment to truly improve the overall level of safety. The incorporation of direct feedback from all stakeholders is also a critical element for implementing changes to achieve improvement.*



INTRODUCTION

This assessment has been carried out according to the universally recognized principles of ***Crime Prevention Through Environmental Design (CPTED)***; uniquely applied to a natural environment. The philosophy behind this approach is rooted within the science of “Environmental Criminology” (the study of crime, criminality, and victimization as they relate to physical space and the way citizens use it according to influencing factors). CPTED in this particular context is defined as:

“The proper design, orientation, layout, and effective use of the existing natural environment, leading to a reduction in the fear and incidence of crime, disorder, and overall acts of harm to individuals and groups. This in turn leads to an improvement in the overall safety and quality of life of natural asset areas.”

The core principles of CPTED as they are specifically applied to natural areas:

1. Natural Surveillance

The capacity to easily observe what is occurring without having to take special measures to do so. This is achieved by unobstructed views of users who walk/hike/cycle, those who attend for educational and interpretive purposes, and those who periodically stop to rest and take in the enjoyable aspects of visiting a place of natural beauty.

2. Access Control

The ability to limit who can gain entry to specific locations, and how, within the overall natural area in order to limit risk and vulnerability. This can come in the form of visible, signed, and well designed pedestrian entry points that are intended for access while physically limiting the ability to access via riskier areas such as railroad tracks and tunnels.

3. Territoriality

The means by which authority/ownership/usage of space is established throughout the entire natural area to clearly identify who is in control, who belongs, and what activity is not permitted. This is reinforced through strategic placement of signs, thematic images/graphics, and the presence of persons of authority (such as police, City employees, etc.).

4. Activity Management

The concept of promoting, placing, and increasing safe, positive, legitimate activity (that will attract lawful users) throughout all natural areas to either displace negative behaviour that is occurring or to prevent problematic behaviour from getting established in the first place.

5. Target Hardening

The physical fortification or reinforcement of any existing built structures to prevent unlawful access by intruders. This can be accomplished in natural areas through the installation of fencing, locked access gates, or the strategic installation or enhancement of lighting.

6. Behaviour Engineering

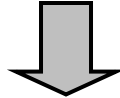
The practice of establishing or re-establishing positive behaviour and functioning throughout all natural areas at the expense of unlawful behaviour. This can be achieved through subtle changes in the placement, arrangement, or maintenance of physical elements to eliminate vulnerability without diminishing natural beauty and significance.

While the principles of CPTED have been applied as the primary methodology here, it should be clearly understood the focus and goal of any recommended courses of action to come from this assessment are less about crime but instead more squarely associated with harm reduction and disorder control. CPTED principles, if recognized properly within the unique situational context they are applied here (in this case large areas of natural space), can assist greatly in identifying both physical and social measures to improve the overall safety of these natural community assets. The ultimate outcome to be realized is a tangible and sustained reduction in opportunities for social disorder and harm to establish and persist.

APPROACH USED FOR THE ASSESSMENT

The approach that has been employed for this assessment has been carefully customized to uniquely address Recommendation #115 from the Seven Youth Inquest. In this regard, the basic structure followed has been:

1] UNDERSTAND/LEARN – Identified participants gain a fundamental comprehension of applying CPTED methodology to this unique & serious community concern so that it can be applied appropriately



2] ACTIVELY OBSERVE – Participants actively engage in a comprehensive walking inspection of the subject sites (“groundtruthing”) to obtain a direct and first hand understanding of the unique physical circumstances that exist



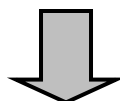
3] IDENTIFY & ACKNOWLEDGE – Participants, with the guidance of CPTED experts, collectively observe and identify physical indicators/evidence of locations where the risk of harm is elevated and most likely to regularly occur



4] ADDRESS WITH ACTION – CPTED experts will develop creative options to address all identified concerns & issues using both conventionally tested methodologies, plus more unique strategies to ensure there is minimal disruption to the natural environment that would effectively reduce enjoyment



5] REMEDIATE & RESTORE – The full implementation of recommended safety improvement measures will be strongly encouraged collectively to reflect all possible viewpoints that can lead to full restoration of the affected areas



6] SAFE ENJOYMENT BY ALL – Final desired outcome of the CPTED-focused safety assessment is returning these special natural areas to full, safe enjoyment

Situational Context

The locations of the three Study Areas were first identified by the Thunder Bay Police Service as having the highest level of risk for youth. This is based on past experience with harm having occurred, as well as continued high levels of risk activity (i.e. loitering and consumption of alcohol and other intoxicants) in these locations. The Study Areas were also identified by several other project partners as being known locations where youth continue to gather. As a result, these three Study Areas were jointly selected as priority locations for safety auditing.

These areas, along with numerous other watercourse/river areas found across Thunder Bay are significant natural assets that offer residents and visitors a range of benefits. They wind their way through both urbanized areas and entirely natural sections of the community. These environments of natural beauty offer all users an experience to enjoy a rugged and natural setting through which to walk, cycle, or just sit, relax, and observe. With this comes one major issue however; namely, that such spaces create greater challenges to maintain an acceptable level of public safety for users. This is particularly noticeable for sections that are more thickly vegetated, those more isolated from built up areas where user populations may be more concentrated, and sections where either the lighting provided is inadequate or non-existent.

A critical element to ensure the functional viability and enjoyment of these river-based natural areas is ongoing safety for all users. If safety is compromised in any fashion, the intrinsic value subsequently diminishes. In this regard, there is a direct correlation between optimal user enjoyment of these assets and the ability to discourage criminal and disorderly behaviour, and other opportunities for harm.

The key is reaching a desirable “middle ground” whereby these areas remain valued natural community assets for all to use and enjoy without negative consequences relating to safety.

KEY UNDERLYING “TRIGGERS” of RISK & VULNERABILITY

In no particular order, the assessment revealed a number of very distinct “triggers” of risk and vulnerability that serve to act as a catalyst for behaviour that increases the likelihood of harm. It is important to recognize these triggers if any course of action is to be successful at improving safety.

1. LOITERING: A Key Incubator of Problematic Behaviour

Without a doubt, loitering represents a fundamental root cause problem for Thunder Bay’s river-based natural areas. The ongoing presence of loitering acts as an “incubator” to more dangerous situations that can ultimately bring harm to individuals attending these areas. The problem is particularly pronounced in circumstances where individuals and groups attend for lengthier periods, in locations within the overall area that are more difficult to observe by any other user.

What Causes Loitering to Establish and Continue?

The conditions for loitering to first establish itself, then be sustained over time depend heavily on four distinct risk factors which, when combined, greatly increase the vulnerability of the space and various users of that space as well. Sometimes only one risk factor is at play but if it is strong, it can still lead to a sustainment of loitering. Any combination of the 4 factors will typically increase risk and vulnerability on an ascending scale. These factors are as follows:

1. **Convenience** – The easier it is to do without having to take special measures to guard against detection and intervention, the more likely the loitering will occur and remain in place.
2. **Comfort** – If loiterers are not challenged or there are no others around to call the activity into question, the problem will continue with little or no resistance.
3. **Concealment** – If those who loiter cannot be readily observed or, if observed, no action is ever taken, the problem cannot be addressed and will persist.
4. **Canopy/Cover** – In any situation where physical protection from weather elements is present, loitering is more prone to occur and persist.



1. **Rail and road bridge and tunnel structures offer ideal conditions for the long term sustainment of loitering**
2. **Patches of thick tree cover are often targets for impromptu campsites to facilitate loitering**

LOITERING PROBABILITY MATRIX

Environmental Risk Factors: CONVENIENCE, COMFORT, CONCEALMENT, CANOPY/COVER				
Situational Context ↓	1 Factor	2 Factors	3 Factors	4 Factors
Private (Strong) Ex. School Library	Remote	Unlikely	Possible	Limited Appeal or Opportunity
Private (Weak) Ex. Apt. Bldg. Hallway	Unlikely	Limited Appeal or Opportunity	Somewhat Likely	More Likely Than Not
Public (Strong) Ex. Transit Terminal	Possible	Somewhat Likely	Likely	Very Likely
Public (Weak) Ex. Natural Green Spaces	Limited Appeal or Opportunity	More Likely Than Not	Very Likely	Highest Risk

Source: Cst. T. McKay (Peel Regional Police)

Loitering risk tends to be highest in public spaces where there is no one particular person or organization directly responsible for the ongoing monitoring and safeguarding of a particular space. On the contrary, risk in private spaces, while still a major concern, is typically less severe because of the existence of two inherent features – some element of physical access control and the presence, to some degree, of persons assigned to the space that are in a position to monitor and report activity. This subsequently limits the number and extent of unobservable access to the space.

The fewer “opportunistic points of observation capability” a particular space has, the greater its vulnerability to sustained loitering and the negative consequences associated with it. While it is typically impossible to prevent loitering from occurring outright, its impact can be minimized, with less drastic consequences, when more of the 4 risk factors can be effectively addressed and therefore mitigated. With the presence of each potential risk factor, the risk of unlawful behaviour rises logarithmically

The degree of loitering-induced risk as quantified by the Loitering Probability Matrix is measured by first assessing a particular study area’s “Situational Context” which describes the physical setting of the space or area. The situational context is then applied to the four building blocks of loitering risk (Convenience, Comfort, Concealment, and Canopy/Cover); the combination of which determines risk severity. As previously mentioned, public spaces carry more widespread vulnerability. Therefore even the presence of just one or two loitering risk factors in such environments may lead to the same, if not greater, risk than a private environment with three or four factors.

2. Land & Water Resources Form a Core Connection for Indigenous Youth

During the onsite component of this assessment, it was explained to all of us just prior to the closing ceremony, led by Elder Sam Achneepineskum along the banks of the Kaministiquia River, that the land and water carry tremendous significance to Indigenous people, including youth. Water is vital to life. These natural areas represent an opportunity to maintain a comforting and spiritual connection they have come to know their entire lives according to the teachings of their families and leaders back in their home communities. This same sentiment was conveyed by other Indigenous participants who spoke with the authors of this report. Furthermore, some Indigenous members of the study team that conducted the field audits also reinforced this same land and water connection importance.

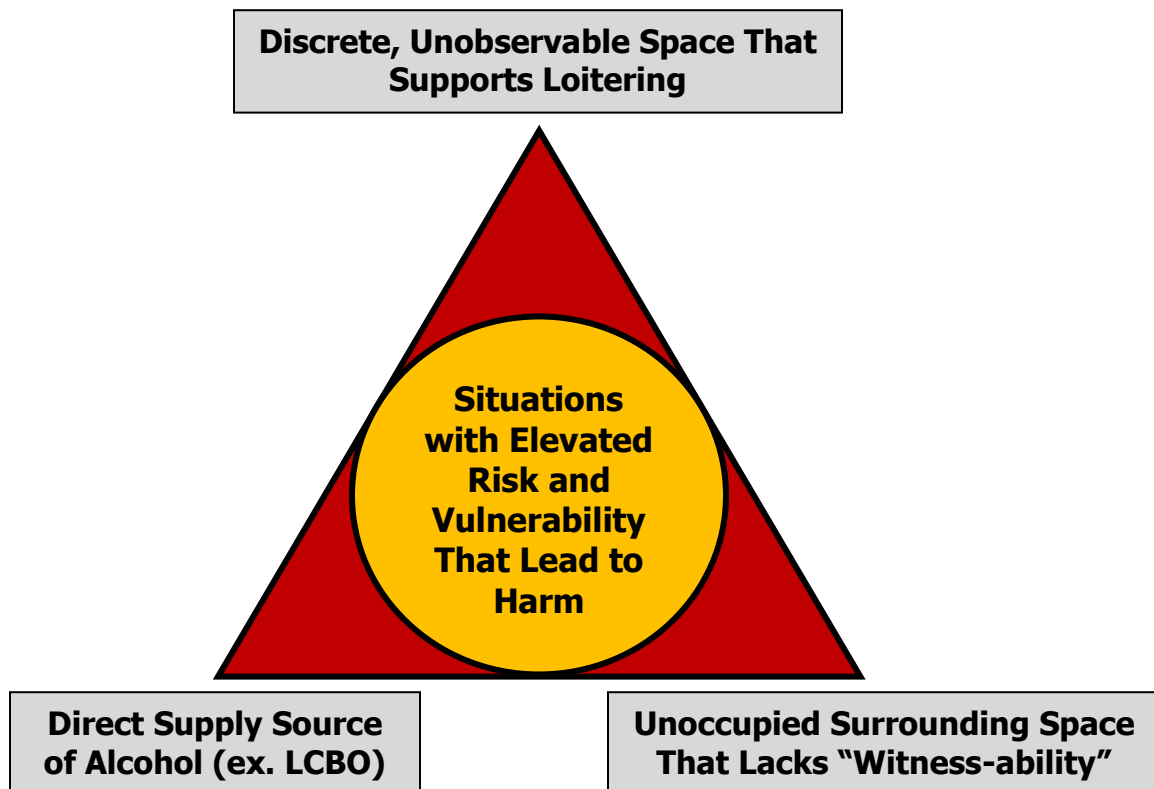
It is this strong, innate draw of the river that makes Indigenous youth feel more at ease and offers them a place to feel connected as they struggle to adjust to living their high school years in an urbanized community that is largely foreign to many Indigenous youth. This is quite possibly one reason why they frequent these river-based natural environments – because it is a natural thing for them to do. These are places they know and have had experience with, rather than most other urbanized areas of the city.

To suggest the tragedies of lost human life of younger Indigenous citizens could be circumvented by simply encouraging them to stay away from these natural areas would be naïve, ineffective, and portray a complete lack of understanding of the significance these areas play in the lives of the Indigenous youth of Thunder Bay. Recognizing the cultural and spiritual significance is key here, with any solutions to be put forward also recognizing that continued use these areas, albeit in a much safer and more accountable manner, must form part of the overall final solution going forward.

3. Thunder Bay's "BERMUDA TRIANGLE EFFECT"

A unique and highly risk-driven phenomenon exists in some of the critical locations that form the basis of the safety audits; namely, the dangerous combination of three situational elements that profoundly elevate the level of risk. These elements are:

- I. The known presence of a commercial establishment that supplies and sells alcohol (ex. LCBO) or other, easily accessible, non-beverage alcohol products (i.e. hairspray, hand sanitizer, etc.) that impair judgment when consumed.
- II. A tangible quantity of physical space with properties that afford optimal opportunities to gather/loiter: convenience, comfort, concealment, canopy/cover.
- III. A substantial amount of unoccupied surrounding space that minimizes the overall net witnessing capability of the space that is occupied for loitering. This results in unlawful users remaining unseen by others.



When conditions become ideal for the "Bermuda Triangle Effect" to establish and sustain itself, the probability for problematic behaviour and, ultimately, harm, rises substantially. Such areas, while not exclusively where harm-inducing and/or generally unlawful activity can occur, nonetheless represent the specific areas within the overall natural environments carrying the highest vulnerability and risk. The "Bermuda Triangle Effect" phenomenon is not unique to Thunder Bay and has been identified in other jurisdictions. The big difference that makes the condition unique in Thunder Bay is its occurrence in the river-based natural areas, whereas most other jurisdictions experiencing this phenomenon are largely built up urban environments. Regardless, vulnerability and risk are substantially elevated in these areas.

4. Unsafe Trespassing Opportunities

While it is acknowledged the vast majority of the overall Study Areas inspected are openly and lawfully accessible, there are a few key/strategic areas that are not. These are most notably on, under, and in close proximity to rail bridges.

Informal paths alongside some of the waterways connect to rail bridge crossings which are not intended nor designed or legally permissible to accommodate regular, safe pedestrian passage. These bridges have very little space for a pedestrian when there is a passing train, placing the trespassing pedestrian in great danger for harm. Because these rail structures invariably offer a convenient way to cross the river, they become targets for individuals to use, albeit unlawfully. This needs to be addressed.



Rail bridges such as the one pictured here are not designed or intended to accommodate safe pedestrian passage and any action as such therefore represents trespassing

Public User Survey to Gauge Perceptions of Safety

At the conclusion of the CPTED training session, participants completed a short survey before visiting the designated environments as specified in the Coroner's Inquest Jury Recommendations. A total of 41 participants completed the survey. Capturing a user perspective and perception of safety for the natural areas is essential to gain a full understanding as to how people actually feel when they visit these environments. A copy of the survey that was used can be found in the Appendix of this report.

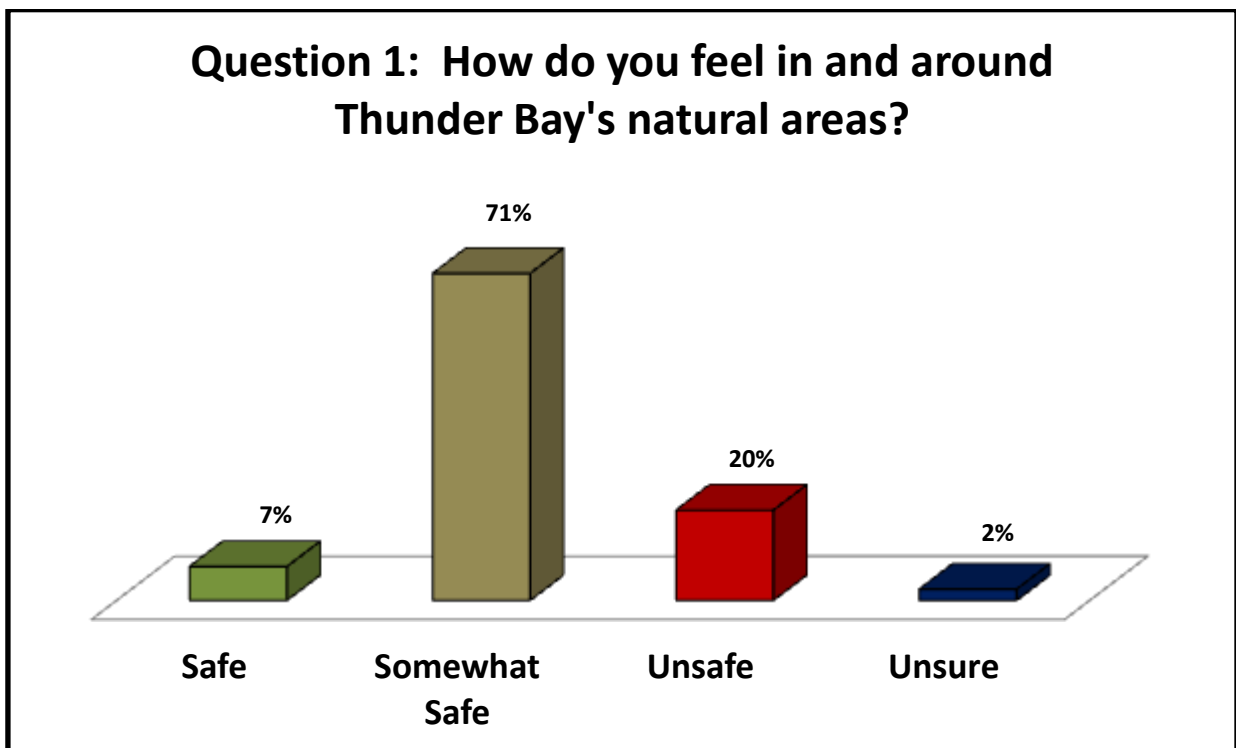
Survey Results

71% of respondents said they felt “somewhat safe” in and around Thunder Bay’s natural areas while 20% said they felt “unsafe”. The top three specific locations that people felt less safe were under bridges or inside tunnels (88%), in areas with thick forest cover surrounding the area (66%), and in the most remote sections away from homes and businesses (41%). These perceptions are consistent with the findings of the field inspections carried out by the group with the consultants.

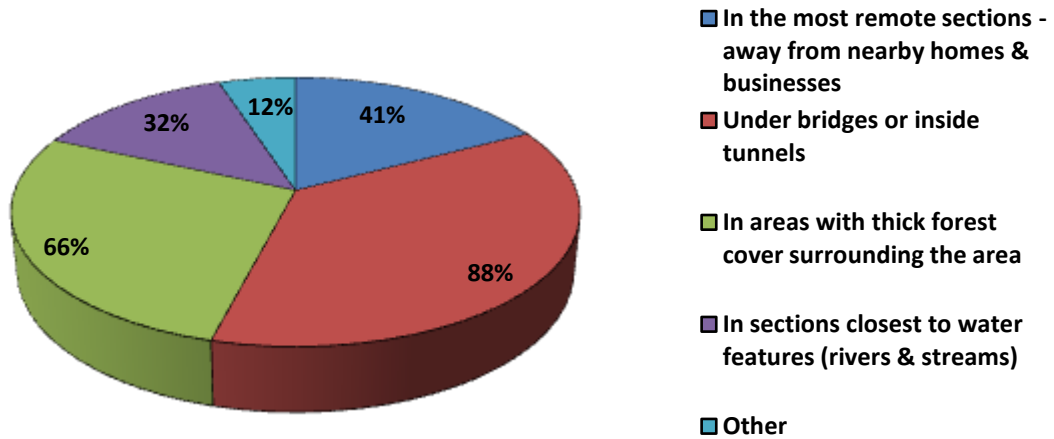
At 83% and 80% respectively, illegal drinking and loitering were the two highest crime/safety problems respondents feel currently exist while drug use/trafficking ranked third at 73%. Reported as more moderate issues were vandalism, graffiti (59%) and noise, fights, and disorderly behaviour (56%). Once again, these perceptions – captured prior to conducting the field assessments, directly correlate with what was actually observed during inspections made in the field.

Finally, 78% of respondents said they take special precautions to ensure/enhance their safety when visiting natural open space areas in Thunder Bay. The most common precautions identified were the following:

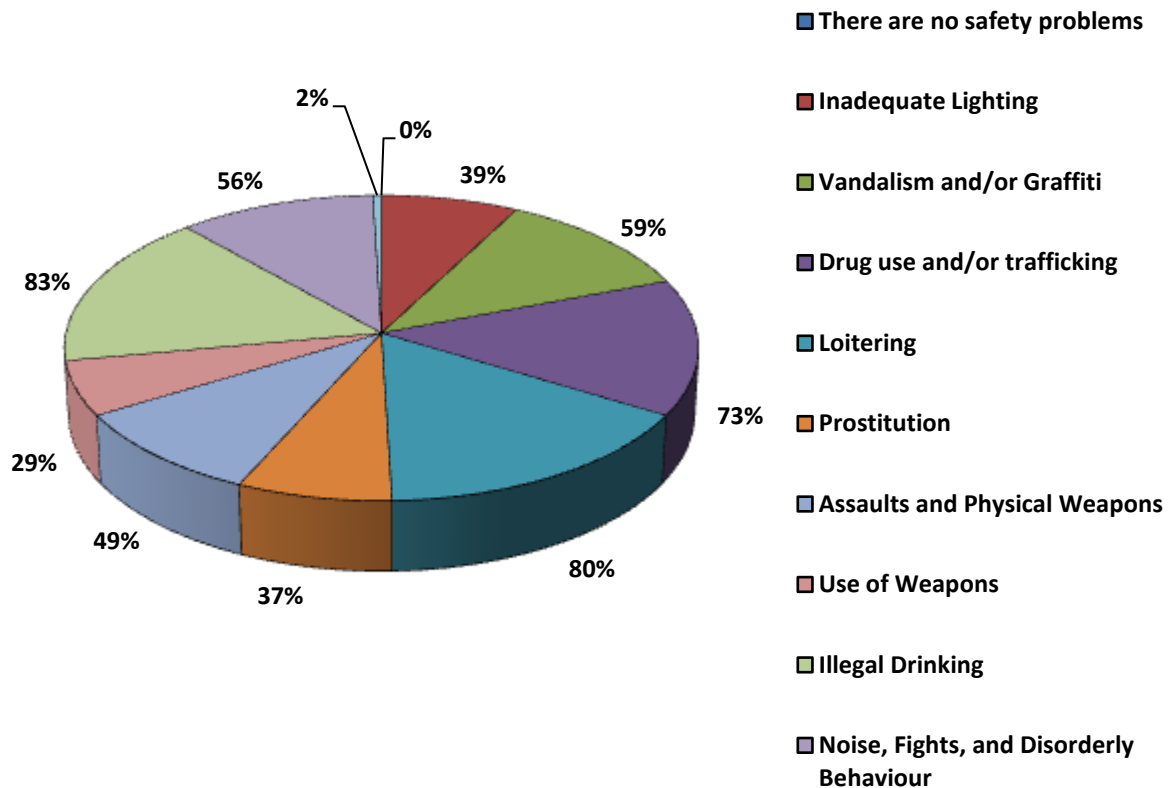
- Not go alone
- Go during daylight hours only
- Bring a cell phone
- Generally be more aware of your surroundings



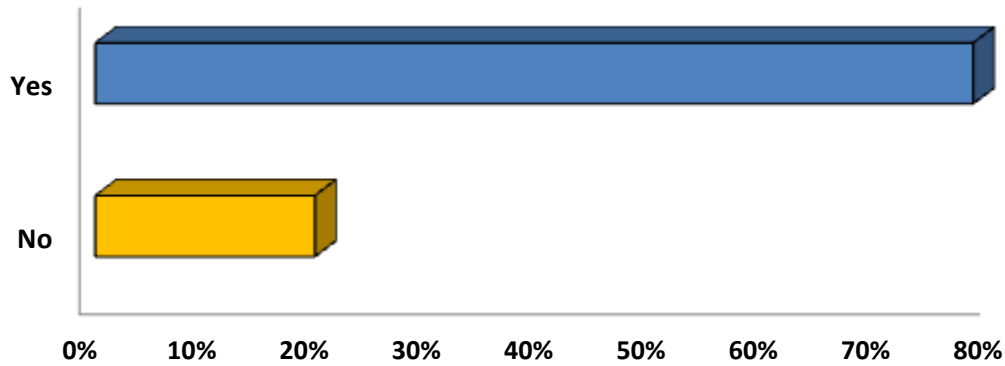
Question 2: Where in particular in natural open spaces do you feel less safe?



Question 3: What crime/safety problems do you feel exist in natural open space areas?



Question 4: Do you take special precautions to ensure/enhance your safety when visiting natural open space areas?



RESULTS OF PHYSICAL SAFETY INSPECTION

Positive Safety and Security Features

Thunder Bay’s extensive network of natural, river-based environments possess some very positive attributes from which a sound strategy for elevating safety and reducing harm can be built. A summary of these attributes include:

- The detailed, onsite “ground truthing” exercise carried out by the large stakeholder group revealed evidence of concerted attempts by property owners to physically restrict access to clearly vulnerable spaces. This shows there is recognition of the magnitude of what the inappropriate usage of these natural areas involves and a directed effort to address it.



Efforts have been made to physically restrict accessibility to higher risk areas under built structures such as bridges using fence partitioning

- A number of sections have lighting provided that offers enhanced visibility during non-daylight hours. This permits good, ongoing natural surveillance of the space, even during periods when observation capability is reduced (i.e. night time), elevating the feeling of safety for users.

When light quantity is adequate and evenly distributed, it elevates user safety



- Some sections of the Study Areas have abutting or nearby residences and businesses with relatively clear, unobstructed sight lines to facilitate natural surveillance, placing citizens in a position to be “eyes for the space”. This translates into more reliable reporting of any inappropriate behaviour more readily that can then be acted upon.

- 1. Open view corridors to some sections of the natural environments create situations whereby neighbours effectively can become “guardians” that watch over the space**
- 2. Park bench on private residential property observing trail and river**
- 3. Picnic tables on private commercial property with great visibility of the trail and river**



- The positioning of nearby schools and community centres in some locations represent excellent positive activity generators that have the ability to draw ongoing pedestrian traffic. Such abutting facilities effectively become “Trail Guardians” that offer added safety in numbers to the trail’s usage, thereby elevating its overall safe and lawful functionality. Routing that passes through active public park spaces further contributes to this safety phenomenon.
- These natural environments that include the city’s creeks and rivers, regardless of where in these areas one may be situated, have the ability to attract a high number of users, representing a broad demographic cross section. This is an ideal trait from the perspective of achieving purposeful activity management. High levels of ongoing activity management help to produce an ongoing situation of lawful users who are then capable of responsibly observing activities and watching out for one another. In this regard, any irregularities of activity that may be problematic are more readily witnessed and can therefore be reported and acted upon by authorities.



River-based natural areas are highly unique, valued community assets for any municipality and accountable usage of them will help promote “eyes-on-the-river”

Safety and Security Deficiencies

General Observations and Issues for All Study Areas:

There are some tangible “root cause” issues that directly impact all three Study Areas under this assessment. These impact directly on degree of vulnerability for all users. The issues identified here are all aligned to some degree with the principles of CPTED. In no particular order, these challenges include:

A. Generally Inconsistent or Absence of Lighting

- Many Study Area sections had lighting; however the winding configuration that typifies much of these spaces makes the effective application of lighting to produce a safe environment for users very difficult. The combination of light standard spacing with placement close to the encroaching tree canopy results in an interruption of net illumination output in several instances.

- In some cases, high pressure sodium vapour fixtures (HPS) appear to still be in use. HPS fixtures generate an amber glow which is poorer in quality and less energy efficient compared to the clean, white luminosity produced by higher quality light sources such as LED. The result is distorted colour rendering whereby true colours are not depicted during night time conditions and overall visibility is reduced as well. There are also areas where LED lights are mixed in with HPS lights on the same trail.
- Total measurable illumination that exists throughout the areas assessed is difficult to ascertain but from observation, it would appear to be less than the ideal industry minimum standard for promoting safety of 2.5 foot-candles (or approximately 26.9 lux). Lighting plays a key role in the safety of those sections where there is a formalized trail provided for users (i.e.: a paved pathway) during non-daylight hours. In such instances, the resultant effectiveness is directly correlated to the quantity, quality, timing, and placement of fixtures.
- It must be made very clear that not all sections of these environments should be illuminated. For example, there is no expectation or benefit to illuminating informal pathways (non-paved) that are found in the more remote sections where only hikers would reasonably access the spaces as this only serves to encourage activity after hours and also leads users into a false sense of security that the area is safe simply because lighting has been provided. This is not true. A secondary drawback is the negative impact adding lighting to the most natural sections will have on the nocturnal patterns of local animal life.

B. Heavily Isolated Sections Nested Within the Watercourse/River Systems

- A highly appealing aspect of Thunder Bay's river-based, natural areas is they offer users a truly enjoyable experience through 100% natural, wooded areas. However, with this incomparable natural setting which covers several kilometres comes a much higher degree of inherent seclusion.
- Many areas are oriented in such a way that most sections are below grade to some extent, impairing the ability for easy observation. This often reduces an average person's comfort level to visit and explore these spaces, which in turn leads to less positive usage overall. When this happens, the probability for loitering, assaults, illegal drinking, and other forms of crime and disorder take over and "displace" more acceptable, lawful, and intended usage of the system. Isolation potential must be fully acknowledged in order to manage it properly to achieve safe usage by intended users.



More isolated sections of river environments promote higher risk and potential for harm due to less ongoing natural surveillance capability

Specific Observations & Safety Concerns Identified in Audit:

Study Area 1: McVicar Creek (from Algoma Street to Lake Superior)

- Plenty of evidence of positive activity generation - many hikers and individuals fishing, sitting, and generally enjoying the beauty of the natural environment.
- Several culverts and other concrete structural features that exist to control incoming/outgoing water flow present opportunities to easily sit and loiter for extended periods.



Concrete structures facilitate sitting and open consumption of alcohol

- Large, "vault" style tunnels filled with graffiti, empty liquor bottles, needles, discarded clothing, etc. - this is strong evidence these discrete spaces are being regularly used for long term loitering and are very difficult to observe easily.



Trail and creek's path underneath Algoma Street Bridge is somewhat confining and unsafe with unlawful behaviour evidenced by extensive graffiti

- Nearby schools offer opportunities to create a unique educational and scientific learning curriculum and also establish stewardship partnerships.
- Rail Bridge #128.10 shows considerable evidence of long term trespassing and loitering. The space is highly discrete and not readily detectable without going out of your way to do so.
- Where the McVicar Creek pedestrian pathway crosses local roadways such as over Cumberland Street and Court Street, more significant, marked pedestrian crossings are needed to formalize the space for the safety of pedestrians. Existing pavement markings, if they do exist at all, are faded and also inadequate. The guard rail on the south side of Cumberland Street needs to have an opening created in it to allow for the safe movement of pedestrians as they cross over from the other side of the road.
- Where McVicar Creek meets Lake Superior is highly cut off from formal, lawful pedestrian access capability - there is a great need to create a safe, formalized pedestrian connection to/from the nearby park area that is frequented by many in order to introduce a stronger presence of positive activity generation to this otherwise secluded (but very beautiful) parcel of land overlooking Lake Superior.
- A compounding problem with some encroaching shrubbery/tree branches is that it appears to block out some of the illumination output from existing light fixtures along the formalized trail that runs parallel to the creek. Encroaching vegetation is an inherent challenge with trails located in natural environments and therefore commands careful maintenance attention on a regular basis – but only to the extent to keep light fixtures clear or to ensure a user's ability to walk is not inhibited. Too much maintenance is not recommended, so as to maintain

as high a degree of naturalization as possible throughout the area. This issue tends to be intensified in areas with higher concentrations of deciduous versus coniferous vegetation as the former type typically grows more rapidly and with broader foliage coverage, elevating the problem of sight line loss.

- Signs existed in some sections that indicated fishing was prohibited while other areas did not seem to have this restriction. This creates confusion for users, particularly since the posted signs were very small and significantly hidden from view by tree branches. If enforcement of “no fishing” zones is to be reasonably expected, signs need to be more prominently placed to ensure they are seen.
- Any physical conditions that encourage loitering need to be addressed. Two examples include a former paved path that is no longer in use and now only leads to a discrete, overgrown area along the creek’s route, plus a number of semi-formalized campsites created by fallen trees that have not been removed. In both cases, these risk features should be removed and replaced with natural vegetation cover as a proper method of restoration.



Former paved path is now redundant and leads to a shrouded, discrete area



Fallen trees have become converted to seating areas for loiterers to take advantage – these are often situated in discrete pockets making them difficult to detect. Removal of these “campsite” features helps eliminate opportunities for loitering to establish.

Study Area 2: Neebing-McIntyre Floodway (from Balmoral Street to the railroad tracks east of Fort William Road)

- The absence of illumination results in any degree of evening usage having a much higher degree of vulnerability for users. The darkness combined with highly reduced observation capability makes lawful users feel unsafe and gives the advantage to unlawful users. This has the negative effect of reduced positive usage of the trail by lawful users.
- Heavy evidence of loitering and illegal drinking - plenty of empty liquor bottles and lots of garbage & discarded clothing, graffiti, needles, etc. The immediate proximity of an LCBO store near the Fort William Road crossing provides "fuel" for the problematic behaviour that is obviously occurring.



Heavy quantities of litter, trampled vegetation, and empty liquor bottles line the bank of the Neebing-McIntyre Floodway behind the LCBO, reinforcing the unfortunate reality that unlawful behaviour thrives there

- A large section within this Study Area is located directly behind a major commercial plaza but of note is this section of the river is "back-of-house" to the very busy plaza, resulting in minimal natural surveillance capability from plaza users. Despite its close proximity, the lack of directly oriented sight lines effectively creates a "visual isolation" of this expanse of the river, elevating risk of harm substantially.



Concealed area behind Home Depot & near LCBO store

Risk along this area of the river is elevated due to abutting businesses facing the opposite way. This means no ongoing observability occurs.



- Electrical transformer appears to be a popular hangout - as evidenced by heavy graffiti, liquor bottles, needles, etc. and the transformer is heavily shrouded by large, mature coniferous trees clustered together which block sight lines.



Concealment of transformer facilitates unlawful activity



- CN Rail bridge crossing behind the Shoppers Drug Mart has considerable evidence of trespassing and loitering (extensive debris build up and graffiti).



Extensive graffiti and debris build up signify sustained long term loitering

Lower Neebing River Section

During the audit, a request was made to include a section of the Neebing River in the assessment as it too has a history of problematic usage. This section of the river is situated in a more built up and populated area, yet still possesses a high degree of seclusion in many respects. Its proximity to homes and businesses is advantageous from the perspective of increasing probability for greater witnessing of activity, however, a number of issues were observed that need addressing in order to improve safety; namely:

- Pedestrian bridge is covered in graffiti - both on the crosswalk path, plus on the sides and underneath on both sides at the river's edge. This is a clear sign that sustained unlawful behaviour is occurring here.
- At the time this area was inspected, three youths were observed drinking alcohol on the bridge at 3 pm.



Needing River pedestrian bridge has a considerable amount of graffiti. This is both an open sign of unlawful behaviour and a deterrent to usage by lawful users.

- The sides of the bridge on one side have been modified with chain link fence partitioning to prevent access to the underside of the bridgebut this has only been done on one side which does not prevent access entirely.



Open access facilitates loitering



Closed access prevents loitering

- Informal pathways where the natural vegetation has been trampled exist along the river bank leading up to the bridge, illustrating trespassing activity exists.

Study Area 3: Kaministiquia River (from Kam River Park to the Rowing Club)

- The inherent design and current functionality of the entire lands and structures comprising the Kam River Park property are highly unsafe for many users. First and foremost, the natural terrain is a major obstacle to establishing this space as one that is safe for pedestrians. A large berm effectively cuts off the vast acreage of the park (where it abuts the river) from the populated Simpson Street area, greatly inhibiting all opportunities for ongoing natural surveillance. The only access from the neighbourhood to the park and its extensive riverfront walkway is a relatively narrow connecting tunnel which has restricted visibility. This increases risk and compromises user safety.

- The riverfront walkway has lighting provided for it, which appears to be on all night. This is actually a safety risk in this circumstance because lighting of a public space with no source of witnessing potential (very much the case here) only benefits the perpetrator, allowing them to see their victims approach and possess the situational advantage. The lighting gives innocent users a false sense the walkway is safe to use at night when this is not necessarily the case. The situation is further exacerbated by the fact some light fixtures were found to be burnt out at the time of the audit. There is evidence the park's usage is plagued by extensive loitering, overnight camping, and alcohol and drug activities, all of which serve to greatly discourage usage by lawful users.
- Many areas exist where anyone can easily fall into the river. Intoxicated individuals are at greatest risk. In fact, a highly intoxicated person, alone and in close proximity to the river, was encountered in this location during a pre-audit inspection at 5 pm on May 15th, 2017. Numerous pockets of unobservable space exist where individuals can become positioned undetected, greatly increasing the probability of harm either by accident or triggered by a criminal act.

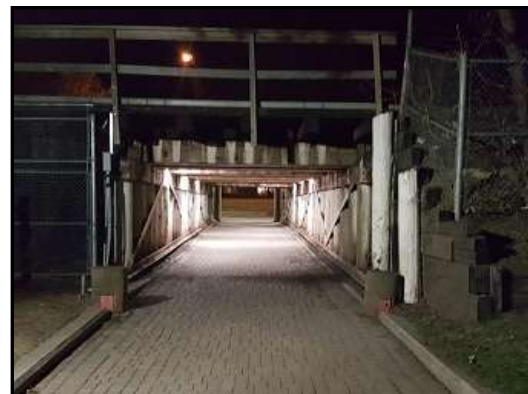


The highly secluded physical environment along the Kaministiquia River creates vulnerable circumstances that elevates the probability for harm to occur

- Pedestrian tunnel is supposed to be closed from 11 pm until 6 am daily (a sign at the entrance to the pedestrian tunnel states this); however there is no physical closing off of this access point during these hours. One positive point is the tunnel is very well illuminated, optimizing visibility at night.



Pedestrian access stays open despite sign



But tunnel is well lit for evening visibility

- Light fixtures are more of an ornamental type that seem intended to exude a "nautical" theme to match the waterfront location; there appears to be LED lights inside the frosted fixture covers.....plus fixture covers are cloudy/dirty with dead insects inside of them - this blocks a discernible quantity of illumination output.

Existing light fixtures are less practical for optimizing light output and need improved maintenance



- In addition to the aforementioned pedestrian tunnel located at one end, there is also a vehicular connecting tunnel at the other end. These are the only two truly accessible ways into and out of the park area. Like the pedestrian tunnel, this vehicular access point should also be closed during overnight hours to reduce the incidence of problematic activity.

RECOMMENDATION: A number of critical actions need to be taken *collectively* if the safety of this recreational asset is to be restored to lawful users. These include the following:

- The walkway lighting should be placed on a timer and shut off each night at 10 pm as it really serves no safe, functional purpose after this time. The public should be made aware of this to limit vulnerability.
- Serious consideration should be given to providing a locked gate at both tunnel entrances that close off access after 11 pm each day. Each would get re-opened in the morning. The challenge will be ensuring everyone is out of the park but that will be a good thing to prevent problems.
- The vegetation immediately surrounding the tunnel entrance needs to be kept trimmed back in order to optimize available lines of sight.
- The inner embankment inside the park has the potential to become overgrown and easily accommodate discrete, illegal loitering unless it is kept well maintained. There must be a firm commitment to keeping these embankment areas continuously trimmed thoroughly to deter loitering on an ongoing basis.
- A plan needs to be formulated with CP Rail who own abutting property to partner together toward a solution.

General Conclusions & Recommendations:

All River-Based Natural Areas:

The following recommendations have been carefully assembled, in no particular order, based on all information gathered for this CPTED-based safety assessment of the Study Areas prioritized for assessment.

It is important to note that the recommendations, while consistent with CPTED principles proven to be effective elsewhere, have been carefully customized here because of their unique application. Unlike built up urban environments where CPTED recommendations are often applied, natural environments examined in this study require implementable actions that fully respect and maintain natural conditions and ecosystem integrity.

While public opinion to date as to root cause of the harm that has occurred has been divided between accidental versus criminally triggered harm, the assessment's findings tangibly indicate otherwise, namely; an equally likely probability that harm was triggered by either accidental or criminally-triggered behaviour.

Evidence gathered in this assessment study, both empirically and subjectively (as perceived by those who use these natural areas) driven, seems to clearly indicate an *important revelation*; namely, that the root cause of the tragic outcomes that have taken place and which prompted this assessment are most likely some combination, with equal probability, of both criminal and non-criminal (i.e. personal accidents) behaviour. Either way, this behaviour resulted in severe tragedy to the individuals who lost their lives. The physical evidence observed/gathered through this assessment, combined with the collective knowledge of the many individuals and groups who have partnered to participate in the assessment, very clearly point to this fact.

As such, this assessment is most pointedly focused on creating a harm reduction strategy going forward that is specifically intended to be effective in situations of either criminally based or non-criminally based circumstances. The information used to generate these recommendations has come from a combination of sources including:

- The training & expertise of the consultants leading the assessment
- First-hand conversations had with a wide variety of stakeholders, most notably members of the Indigenous community, police agencies, municipal governmental organizations, community groups, individual users, etc.
- Data gathered from the user safety survey conducted prior to the audits
- Detailed field observations based on direct inspections carried out during both daytime and evening (in darkened conditions) time frames

It is critical to profoundly emphasize that the nature of what is being addressed through this study, namely; the deaths of several Indigenous youth in Thunder Bay's watercourses) is very clearly a **COMMUNITY issue**. What it is very clearly not is something tied to just a single or a handful of organizations. In stating this, it is not merely a police issue, a children & youth services issue, an Indigenous organization's issue, a school board issue, etc. – it is **everyone's issue**.

Grand Chief Dr. Wilton “Willie” Littlechild, the well known and highly respected United Nations spokesperson and advocate for the rights of Indigenous Peoples, made the following profound and highly relevant statement at the 2017 United Way Centraide Canada annual conference in Toronto: ***“We need to stop relying on using a bird’s eye view to look at important issues and instead use a worm’s eye view.”*** In stating this, Grand Chief Littlechild emphasized the need to get to the root of community issues by speaking directly with and listening to individuals instead of only relying on incident reports and media accounts of what is happening. This is a simple but key approach that should be followed to respond to complex social issues.

Any solutions that are to come out of this assessment must therefore recognize the high complexity of all the issues involved here and the need for a deeply committed, multi-stakeholder approach to fully achieve a successful outcome. The very complex nature of the issues to be addressed and resolved therefore require a full “Environmental Criminology” approach for resolution that extends beyond even the most sophisticated CPTED strategies alone. In this regard, the environmental criminology approach being taken here is the study of crime, criminality, victimization, and personal and accidental forms of harm to individuals as they relate, first, to particular places, and secondly, to the way that individuals shape their activities spatially, and in so doing are in turn influenced by place-based or spatial factors at play.

Summary of Recommended Actions

1. Formal Recognition of the Significance of Land & Water Resources by Indigenous Community Members

A formalized recognition is needed of the great significance the land and water play in the life of any Indigenous community, most notably including Indigenous youth and their appreciation and spiritual connection to natural lands and water areas. Young people are drawn to these places naturally and this should be encouraged but without the risky behaviour (i.e. consuming alcohol and other intoxicants, combined with long term loitering) that causes widespread damage and increases the risk for harm to occur. For this to be fully effective, it requires the commitment and involvement of known and respected Indigenous leaders/elders in cooperation with senior municipal, police, and community group leaders. The means by which the formal recognition can occur could vary but one possible example is a carefully worded and strongly endorsed City Council resolution, among others.

2. Construct & Install Creatively Designed Barriers to Prevent Unlawful Access Underneath Bridge & Tunnel Structures

The physical restriction for facilitating loitering and other forms of problematic activity in, around, and under all urbanized crossing points such as road and rail bridges, tunnels, and large culverts is a critical measure for reducing opportunities for harm to occur. Such areas represent the highest degree of loitering risk and subsequent level of difficulty for detection and observation. It is recommended this be achieved by employing the following measures:

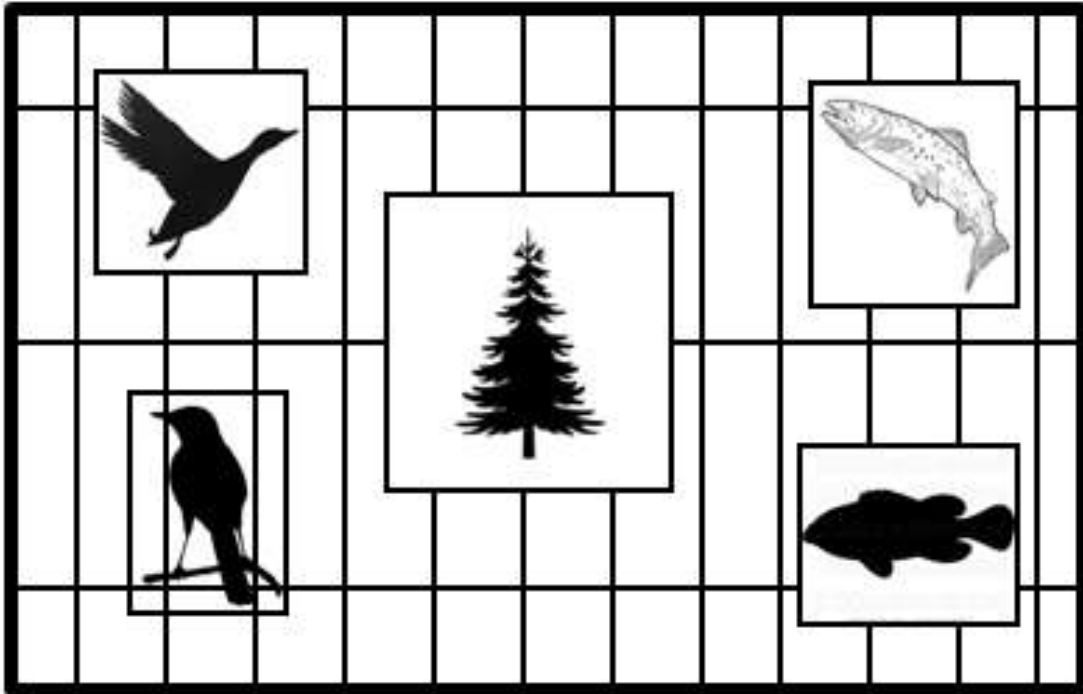
- Installation of tasteful and artistically designed but heavy gauge steel picket screens that physically prevent any person (other than an authorized individual via a locked hatch feature) from gaining access into discrete undercarriages of these structures where they cannot be readily observed. The design of these barriers can be through a partnership with Indigenous youth who demonstrate a desire and ability for artistic expression, creating an outcome that aesthetically fits more in line with the natural settings where these structures are found.
- Installation of motion-activated flood lighting, complete with industry standard vandal guards, to be installed on the underside of bridge and tunnel structures very close to the edges yet inside any installed steel partitioning. The lights will be triggered by activity from anyone attempting to attend near the hidden spaces around these structures.



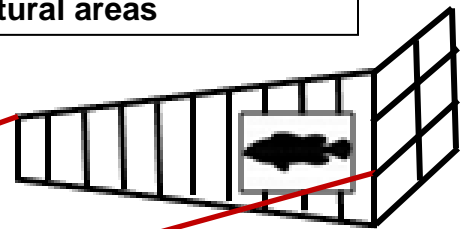
In this location, simply eliminating the access to the ledges that form part of the structural base of the bridge may be all that is needed to prevent access

- Optional high resolution, motion-activated colour CCTV cameras mounted in conjunction with lighting. These cameras would only record if prompted by activity. It should be noted this sub-recommendation should only be regarded as a secondary measure, the effectiveness of which is marginalized as an incident prevention tool without fully implementing the other recommendations and measures contained within this report. CCTV technology is a very good follow up tool, most effectively utilized **after** something has already happened. Its value as a *true prevention tool* however should not be given serious weight.

- Optional planting of “harsh” ground shrub plant species (provided they are native to these ecosystems in areas adjacent to the river closest to the edges of where bridges are situated. “Harsh” shrubs could mean something like red barberry for example, which features thorny branches that then act as a natural deterrent to discouraging someone from sitting or comfortably resting in a particular spot for extended periods.



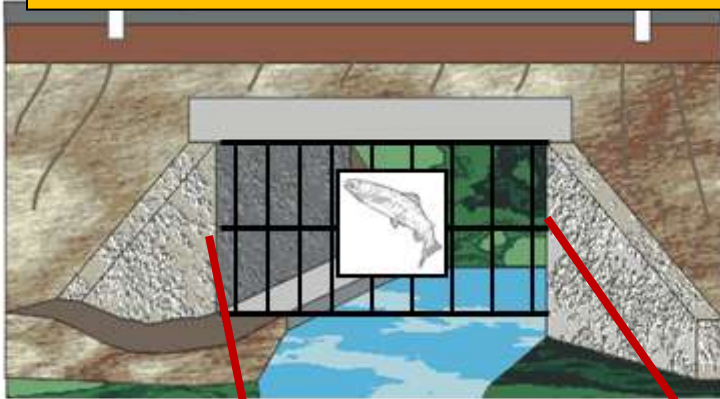
Conceptual design suggestion of what a secure partition could look like to be used to restrict access to the underside of bridges. All materials shown would be of corrosion resistant steel to offer maximum security but with an artistic element that respects these natural areas



Pedestrian Bridge Along Neebing River

An artistic steel grate properly positioned can deter physical access that triggers unsafe activity

Suggested Design Concept



Tunnels like this one show very clear evidence of long term loitering and therefore increased risk for harm. Easy access into these highly discrete spaces needs to be removed through the use of art inspired decorative grates



Tunnel Situated Within McVicar Creek

3. Formal Educational Partnership with All Local Institutions

A terrific opportunity exists for the creation of a well defined, multi-level educational partnership that includes all levels of educational institutions throughout Thunder Bay. This includes elementary schools, high schools, plus Confederation College and Lakehead University. Specifically, there are many forms this working partnership can take, all with the collective benefit of significantly increasing the amount of positive activity generation into these valuable natural assets. These, at a minimum, should include the following:

- Establishment of a regular outdoor classroom program whereby experts in biodiversity, earth science, ecology, etc. take classes on detailed guided tours of these natural areas to expand participant knowledge of natural habitats, plant diversity, and other scientific facts.

- Encouraging students enrolled in related post secondary programs at Confederation College and Lakehead University to pursue more advanced research projects, featuring direct engagement with professors, on various aspects of these environments.
- Regular clean up days involving school aged children to gather litter and debris, which will help to raise awareness of the high value of these natural assets in young people.
- Promotion of an “Adopt-a-River” initiative by schools located very close to sections of any of the various watercourses. Such a program is designed to encourage an increased degree of regular monitoring, elevating an “eyes-on-the-river” concept for an increased ability to witness and report suspicious activity. This application of applied crime prevention has been used successfully for many years by the U.S. Parks Service in many of their parks across the United States. Users become more aware of suspicious activities and take ownership for corrective action by making observations and providing police with first-hand information. Such an initiative increases in effectiveness as more individuals get involved, thereby allowing everyone to play a small part in maintaining a safe environment. Implementing a similar program here would present an ideal means for students and nearby residents to “look out for each other and the asset” effectively and in an engaging way.

4. Safety Improvements For Roadway Pedestrian Crossings

There are sections of the Study Areas and adjacent trails that require users to cross various bisecting city roadways. It is critical to ensure physical measures are implemented to allow for the safe crossing of cyclists and pedestrians in these situations to minimize any negative interactions with passing vehicles. The crossing at Court Street along the McVicar Creek system is a good example. Field observations during the audit revealed reduced pedestrian safety in that the roadway does not possess appropriate markings or physical design features to properly and safely alert passing motorists of the likelihood that pedestrians and cyclists may be present. The roadway in this area is not adequately articulated, resulting in an unsafe situation for users. Without a highly visible crossing design, passing drivers are not adequately cued to the prospect of encountering a cyclist or pedestrian, elevating the probability of an accident and subsequent harm to individuals.

RECOMMENDATION: This road crossing point, and all others with a similar context, should have very pronounced treatments to properly alert drivers to the presence of cyclists and pedestrians. A combination of highly visible pavement markings with advanced warning signage and enhanced lighting should be installed, at a minimum, to improve safety for trail users. If safety remains a concern, a traffic calming application may be worth exploring (such as a speed table) to reduce vehicle speeds for safety.



Pedestrian crossing of Court Street needs proper pavement markings, lighting, and signage to alert drivers for improved pedestrian safety



RECOMMENDATION: Installation of pedestrian crossing and signage at Court Street to improve safety

5. Working Protocol With LCBO to Minimize “Runners”

There is clearly an unsafe correlation between the probability of harm, whether by accidental or criminally triggered means, and the accessibility of alcohol. While it is acknowledged that alcohol alone is not the only means by which individuals have impaired their judgment capability leading to harm, it is nonetheless a primary source. Evidence of other intoxicants, including non-beverage alcohol (i.e. hairspray, mouthwash, etc.) was also discovered during the field assessment phase of the study.

It is recognized that restricting access to non-beverage alcohol products is not practical given such products are readily accessible from many different retail and commercial sources. Alcohol sales are different however and its sale and distribution does possess a degree of regulation. This opens up an opportunity for a unique approach to controlling accessibility of alcohol by youth.

RECOMMENDATION: A working Memorandum of Understanding (MOU) should be established between the LCBO and the group of stakeholder organizations associated with this assessment. Among other things, this MOU would identify clear steps needed for training LCBO employees to better recognize situations where “runners” (those who buy alcohol for under-aged youth) are attempting to purchase liquor. The Thunder Bay Police should be heavily involved in this protocol to ensure compliance and monitor patterns of purchases being attempted.

NOTE: It is the understanding of the authors that the Thunder Bay Police Service is currently engaged in a similar initiative as part of another recommendation from the Seven Youth Inquest which may replace or supplement this recommendation.

6. Lighting Enhancements to Promote Visibility & Safety

While some sections of the three Study Areas that parallel the river systems are currently illuminated, other areas are not and, in some cases, the quality of light is also less than ideal (for example, use of high pressure sodium (HPS) vapour light fixtures instead of LED fixtures). Since a standard seems to have already been established by the City to illuminate trail sections that are paved, this lighting approach should be applied to all paved sections throughout the study areas. In this regard, lighting to be provided needs to be consistent and properly engineered with fixturing that optimizes visibility during non-daylight hours. A minimum range of illumination of between 2.0 – 2.5 foot-candles using LED fixtures should be the standard to promote a safe environment. Doubling up fixtures on each light standard and trimming back tree branches will optimize the amount of illumination output, thereby further improving safety.

Bridge underpasses where access is permitted to allow for the continuation of a paved trail that is adjacent to a creek or river require higher levels of illumination to maintain safety. Therefore to minimize the risk created by the confining and increasingly darker conditions found under bridge structures, lighting within these darkened spaces needs to be increased to a minimum illumination level of 5.0 foot-candles. To optimize quality and quantity of visibility and conserve energy, LED fixtures should also be used and fixtures need to be maintained in vandal-proof housings to prevent damage and loss of illumination. The brightening of these spaces will help to eliminate them as areas with increased attractiveness to unlawful behaviour.



High intensity motion-activated floodlighting should be installed here to effectively illuminate the underside of the Algoma Street Bridge

7. “Celebrated” Pedestrian Connection to the Mouth of McVicar Creek at Lake Superior

The lands adjacent to McVicar Creek, on both sides where the creek flows into to Lake Superior, revealed particularly significant and entrenched evidence of long term loitering and unlawful activity. A likely reason that has facilitated this is the somewhat remote and physically challenging accessibility to this section of the system by a majority of potential users. The result is a semi-privatized domain that is largely controlled by unlawful users for undesirable purposes.

The fact is.....this is an aesthetically significant section of this natural environment culminating with the confluence of McVicar Creek with Lake Superior. This is ecologically unique and valuable and warrants a deliberate process to “celebrate” it through a proper connection that will allow a greater number of lawful users to access the area on an ongoing basis.

The recommendation here is for the City of Thunder Bay to conduct and oversee a formalized design review process to explore physical pedestrian connection options to this space from the nearby Marina Park area that is immediately adjacent. It is acknowledged there is a notable physical topography challenge that exists for making any connection but the outcome value to be gained is worth going through the process of exploration. Full public input into this process is critical to identifying a potentially successful design solution. The Marina Park area already attracts many users so a connection here would be logical and beneficial to everyone. If successful, the primary safety benefit of such a connection would be a significant increase in ongoing, random, positive activity generation...***a phenomenon that is a proven criminological “vaccine” for eradicating loitering and other negative behaviour.***



The natural vista that exists where McVicar Creek reaches Lake Superior is uniquely beautiful to Thunder Bay and greater accessibility of it should be pursued



8. Immediately Eradicate All Visible Occurrences of Graffiti

The physical assessment revealed numerous locations throughout the Study Areas where graffiti was prominently visible. This is a clear sign of sustained unlawful behaviour, the look of which reduces a lawful user's perception of safety and comfort. Therefore, any visible signs of graffiti need to be addressed promptly as soon as they are discovered. The ideal way to do this is to clean it up right away after discovering it.....each and every time this occurs. Attacking it in this fashion sends a message to perpetrators that such behaviour is not tolerated and that someone is in care and control of the space. An additional measure to consider is to apply a coating of a commercial grade, anti-graffiti clear coating to any physical element that is susceptible to graffiti (such as garbage cans, sides of bridge structures, signs, benches, etc.). The clear coating makes for much easier clean up of any acts of spray painted graffiti on an ongoing basis. Exceptions would be any areas approved for works of sanctioned, commissioned public art.

All situations of graffiti openly portray unlawful activity and must be dealt with promptly



9. Direct Linkage to the Northwest Community Mobilization Network

The Northwest Community Mobilization Network represents a fundamentally important risk intervention framework that serves to address the needs of individuals, families, and groups who find themselves at an acutely elevated risk of harm, including victimization, criminalization, and self-harm. It is a multi-sector partnership of agencies who work collaboratively to improve safety and wellbeing by identifying situations of elevated risk and mobilizing interventions to better support individuals and families who are vulnerable to harm. This model is an ideal fit to the findings of this study to facilitate corrective action to the issues and concerns that exist.

The Network includes a Situation Table and Centre of Responsibility which oversees the operation of the Situation Table, analyzes data and trends emerging from the Table, and identifies systemic issues that need to be addressed.

The two primary areas of emphasis for the Network include:

- 1) To provide a planning table that brings together community service providers to find solutions to community issues such as crime, victimization and/or harm in people with defined unique and diverse social and/or health care needs.
- 2) To develop a model of responsibility and accountability in dealing with people who are at risk of offending, criminalization, victimization and/or harm.

The study's findings clearly point to the application of this model.

10. Maintenance/Removal of Overgrown Vegetation in All Study Areas

It is well understood that any recommendations being made must respect the natural environments they are being applied to so that they remain as natural as possible. The assessment has identified a need for a balance to be struck however when it comes to vegetation growth, so that safety can be optimized.

Because these environments are enjoyed by citizens, and loitering has been recognized as a key contributor to harm and problematic behaviour, an adequate level of natural surveillance capability must be maintained at all times. Natural surveillance is the most critical aspect of CPTED that can actively allow for loitering to be monitored and controlled if the proper conditions are maintained for this to occur.

To achieve this, some standard of shrub maintenance must be adhered to on a regular and ongoing basis. Proper trimming and underbrush clearing must be balanced with natural growth that both sustains habitat for wildlife and also achieves a high degree of aesthetics.

A recommended course of action would be to have the appropriate organization(s) with jurisdiction conduct inspections and maintenance at least twice annually to maintain an adequate level of ongoing natural surveillance. This will help elevate perceptions of safety by all users.



Keeping underbrush and low branches trimmed where possible will help to maintain longer lines of sight, which elevates visibility and witnessing potential (left). If not, visibility is greatly diminished (below)



NOTE: Recommendations for the implementation of any physical design improvements and modifications (i.e. installation of barriers under tunnels and bridges, lighting enhancements, shrub trimming, CCTV cameras, etc.) should be assessed on a site-specific basis, after careful consideration by a broad group of community stakeholders who have expert knowledge of the three Study Areas.

Summary

The results of the Crime Prevention Through Environmental Design (CPTED) assessment point to several opportunities for exploring and implementing innovative measures to improve safety for everyone. Combined, the measures recommended in this comprehensive CPTED assessment will collectively enhance the safety and security of these environments toward re-establishing the proper respect and safe functional usage of them.

Taking the information contained within this report into serious, committed, actionable consideration will create a solid foundation for the implementation of positive safety improvements that will benefit all users over the long term.



31 July 2017