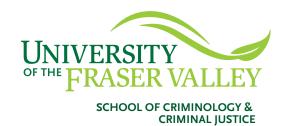


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Designing Out CRIME

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Forward

Responding to crime has always been one of the great challenges facing municipalities. Citizens expect local government to protect them from potential criminal activity and to respond swiftly and effectively when they are victimized. Consequently, law enforcement has become one of the largest cost items in most municipal budgets.

Recently, most parts of Canada have seen a decrease in officially recorded crime. At the same time, however, the cost of responding to crime has increased for all levels of government. This is often most acutely felt at the local level where municipal governments are on the front line of law enforcement. In this regard, the City of Surrey in British Columbia is no different than most other communities in Canada.

The challenge we face is how to both reduce crime to even lower levels and to find ways to reduce the cost of responding to the crime that occurs. In this book, several local crime experts draw together what we know about crime and crime reduction to identify possible solutions. The overall theme the authors speak to is "designing out crime." That is, what can local governments do to affect the physical and social structures of our communities to minimize the likelihood of crime occurring in the first instance?

Much of what is presented here is not new to criminologists. Unfortunately, much of this material has not made it from the professional literature to those of us responsible for implementing crime-reduction strategies at the local level. As the authors suggest, it is unlikely that we will ever be able to meet the utopian goal of a totally crime-free society. What we might be able to do however, is to reduce the opportunity for crimes to occur, respond more effectively when crime occurs, and reduce the overall monetary and social costs of responding to crime.

Mayor Linda Hepner

Linda Hepner

City of Surrey British Columbia



Introduction

he book *Eliminating Crime* (Cohen et al., 2014) focused on seven strategies the police could employ to reduce crime. Despite our confidence in the importance of those strategies and the ability of police to execute them, we are aware that the police alone cannot make crime go away. Crime prevention is a societal matter that relies on a commitment from the entire criminal justice system plus the community at large to be successful. Furthermore, policing is expensive. Ironically, it is even more so when criminals are caught, because the rest of the criminal justice system is likely to be engaged.

To say that responding to crime is expensive is a significant understatement. Governments in Canada, for example, collectively spend over \$8 billion a year on police services to fight crime. That is just the beginning: overall, Canada spends over \$20 billion a year on its criminal justice system (Story and Yalkin, 2013). Compounding this is the observation that total criminal justice expenditures climbed by more than 23 per cent from 2002 to 2012. As Story and Yalkin note, this growth occurred despite overall crime rates having fallen by the same percentage during that period. Moreover, there is every indication that the cost of responding to crime, at least in terms of policing, will continue to increase unless we start doing things differently (Leuprecht, 2014; Kempa, 2014: RCMP, 2015; Home Office, 2015).

We also need to be aware that the cost of crime involves more than just that attributed to the criminal justice system. There are costs to business, insurance costs, health care and social service costs, and losses to individuals in terms of missed work days, pain and suffering, legal costs, and important quality of life losses (see Cohen, 2000). There are also societal and individual costs associated with the fear of crime (Dolan and Peasgood, 2006).

The cost of crime involves more than just that attributed to the criminal justice system. There are costs to business, insurance costs, health care and social service costs, and losses to individuals

Overall, the cost to victims is exorbitant. For example, focusing on the economic impact of spousal violence in Canada for 2009, a recent Department of Justice Canada study estimated the total social and economic cost at \$7.4 billion. More significantly, at least 80 per cent of that cost was picked up by victims (Zhang et al, 2012).

Reducing the cost of crime will remain challenging because we keep changing how the criminal justice system responds to crime. Not long ago, the police investigation of a drug trafficking case involved nine steps—now it requires at least 65 (Malm et al., 2007). Similarly, dealing with an impaired driver used to take about one hour of a police officer's time. Now it takes an officer at least four hours. A domestic assault case which used to take less than an hour to process now takes at least 10 hours.

Much of this change has come from our demand that police officers work in ways that facilitate more rigourous prosecution requirements and that provide for greater accountability. It also comes from added officer health and safety concerns, improved operational sophistication, and increased oversight issues. Undoubtedly, these sometimes important and necessary changes have consumed much of the criminal justice cost savings that might otherwise have come with the recent decline in crime.

"We've had lots of good ideas about how to prevent crime and we've implemented some great strategies, but we failed to do any of it in a sustained, properly funded way" -Sgt. Brian Foote, RCMP (Ret.)

Regardless, our view is that if we are to arrest the rising cost of crime, efforts must be made to further reduce the volume of crime and the accompanying impact on victims. We need to find a way where we need fewer police, fewer court officials, fewer correctional workers, and fewer of any other worker who makes a living from the criminal justice system. We say this because the single largest cost of our criminal justice system is the salaries and benefits for people working in the system. Given the increased complexities of responding to crime in the 21st century, we should not expect the cost per criminal incident to decline soon. The only way to reduce the cost of crime significantly is to reduce our need to respond to crime, and that comes about by further reducing the incidence of crime.

Various actors within the criminal justice system and elsewhere have been trying for decades to reduce crime through one strategy or another. Some of these strategies have emphasized improving social and living conditions; creating more and better access to educational and job opportunities for marginalized groups; reducing relative poverty; and, introducing initiatives to help individuals escape from environments believed to support criminogenic or crime-causing conditions.

Other strategies have focused on hardening targets (for example, using security systems, product alarms, card chips and automotive immobilizers) to make committing crime more difficult for offenders. Yet others have led to designing buildings and living spaces to make potential crime spots less attractive to offenders.

Still other strategies involve having citizens become more involved as guardians of their homes and neighbourhoods though such efforts as Block Watch, Neighbourhood Watch, and Crime Free Multihousing. Some have focused on using surveillance technology such as CCTV and other camera systems, to deter offenders. Other strategies have focused on early intervention with at-risk youth while others have focused on people already caught up in the criminal justice system who have significant predispositions toward criminality (for example, substance abusers or habitual offenders).

The list goes on, with all strategies having the goal of either getting to the supposed root causes of crime, or creating conditions where crime is less likely to recur or happen in the first instance.

Despite the obvious importance of crime prevention, its history has not been particularly impressive. The topic of crime prevention is not a popular area of study for criminologists and schools of criminal justice. A review of course offerings at these schools, a scan of journal articles and books in the field, or a look at criminal justice conference proceedings over the past decades will show that crime prevention is one of the least studied areas in the field of criminology and criminal justice. Its treatment by the criminal justice system is not much better. As we have noted, there has been a range of initiatives aimed at crime prevention. Few can argue, however, that the issue has been pursued with any sustained vigour.

As one of Canada's noted crime prevention experts so accurately puts it:

"Everybody has always said that crime prevention is where our focus should be, but the reality is that focus has never really happened in any serious way. Rather, we've had lots of good ideas about how to prevent crime and we've implemented some great strategies—but we failed to do any of it in a sustained, properly funded way. Overall, all we have ever really done is tinker superficially with crime prevention. As a consequence most of our crime prevention efforts are now on a pile of abandoned and untested criminal justice fads."

Sgt. Brian Foote (Ret. RCMP), Winner 2004 Minister of Justice National Youth Policing Award and 2014 investee into the Order of Merit of the Police Forces

With that in mind, the purpose of this book is to refocus our attention on crime prevention-in a more serious way. Specifically, this book is about the powerful things we need to start doing to prevent crime. We focus on what we can do to "design out" crime in our communities so that it is less likely to happen in the first instance.



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Problem-Solving to Ensure Effective Crime Prevention

By Jordan Diplock

Introduction

'n the following chapters, we show that a problemsolving approach is critical to effective crime prevention. Because crime tends to predictably concentrate around risky places and activities, a problem-solving approach to crime prevention enables targeting the causes of the repetitive crimes that drive up crime rates (Eck, Clarke, & Guerette, 2007). It ensures that interventions are tailored to address the specific crime problems identified in the community. It provides a strategic and systematic way to address high volumes of crime and get the most out of community resources through effective partnerships. It also aids in determining the expectations for interventions and defining success and failure. Without adopting a problem-solving approach to crime prevention, it is likely that many of the considerations for making interventions successful will be missed.

Problem-solving can be effective for addressing crime problems through primary crime-prevention activities (directed at stopping crime before it happens), secondary activities (focusing on changing the behaviour of people who may engage in crime), and tertiary activities (responding to preventing crimes from recurring).

Problem-solving will most obviously need to respond to specific existing crime problems associated with places, products, and activities as part of tertiary crime-prevention activities. These problems will be more easily identified through crime data and community perceptions, and will likely have greater impetus from potential partners to address them. However, these crime problems will also likely have more complex causes and have many affected stakeholders to consider.

Truly strategic crime prevention requires the anticipation of future crime problems in places, products, and activities that currently appear safe and low risk

In the short-term, the greatest focus of problem-solving efforts should be to address these most pressing crime problems to assist other efforts to drive down crime rates in the community.

Problem-solving for secondary crime prevention requires knowing which places, products, and activities present a high risk for crime even when they have not yet become priority matters. Whether these high risks are represented by the establishment of new businesses, by activities that could become crime generators, or by the development of new problematic behaviours in the community, those responsible for crime prevention need to be aware of developments in their communities and understand the risk factors that lead to crime problems.

Problem-solving for secondary crime prevention has the advantage of learning from existing crime problems in the community to identify other potential risks and address them before they require more intensive interventions. It also has the potential to help sustain gains made by other crime reduction efforts in the community, ensuring that new problems do not take the place of those already addressed.

Timing is critical to these problem-solving activities, as it is necessary to identify the risks, build the community support necessary to address the risks, and ultimately implement interventions before the problem evolves.

While it may seem to be a misuse of time, effort, and resources to concentrate on crime problems that have not yet developed or show few risk factors, truly strategic crime prevention requires the anticipation of future crime problems even in places, products, and activities that currently appear safe and low risk. Primary crime-prevention strategies will require a greater effort to convince stakeholders and potential partners to invest their time, effort, and resources without a pressing crime problem to unite them.

It will also require a solid understanding of the causes of neighbourhood decay over time or the factors that make products and activities prone to crime. Most importantly, it requires vigilance in identifying opportunities to prevent crime before a problem exists and the commitment to maintaining interventions over time. In addition to investing in problem-solving to drive down pressing crime problems and prevent high risk situations from developing into crime problems, allocating some resources for problemsolving for the long-term safety of communities is necessary to ensure crime prevention and reduction efforts today are sustained.

Implementation Strategies

There are several important considerations for communities looking to implement effective problemsolving crime prevention. Importantly, problem-solving requires the adoption of a model to guide the planning of interventions and ensure that key considerations are not missed. There are several common models, including the SARA model (Scanning, Analysis, Response, and Assessment) adopted by the Center for Problem Oriented Policing, or the Royal Canadian Mounted Police's CAPRA model (Clients, Acquire/ Analyze Information, Partnerships, Response, and Assessment of Action Taken). While these models seem simple due to their short acronyms that represent the steps in the problem-solving process, the tasks that make up each component of the acronym can be complex. For example, Scott (2006) noted that what has been labelled as the response phase in the process is actually three distinct steps, each of which is critical to successfully addressing the crime problem.

The first steps in any effective model generally require those looking to prevent crime to identify the specific problem they intend to address and gain an in-depth understanding of the quantity and quality of the problem, and who and what is driving it (Cohen, Plecas, McCormick, and Peters, 2014). Additionally, these steps involve having an expectation of what success looks like to aid in the later assessment of any intervention. Subsequent steps require considering who in the community is affected by the problem and who could bring important knowledge, skills, and resources to help address it. These individuals and groups then help to solidify the problem's definition and collaborate to explore possible solutions. Importantly, prior to the adoption and implementation of any potential solution, a problem-solving approach requires consideration of multiple intervention options.

Also needed are: an understanding of the logistical requirements to implement them, knowing their relationship with the problem, and understanding the theoretical explanations of why the problem exists. These are some of the most important steps in the process and are often overlooked (Eck, 2005; Scott, 2006).

Once those factors are addressed, an intervention must be selected, planned, and implemented, making strategic use of partnerships and community capacity. A problem-solving approach also requires that an evaluation of the intervention be undertaken to assess success or failure, and to determine if any unforeseen circumstances influenced the results. This not only helps guide future responses to the community's specific crime problem, but also informs others about whether the type of intervention—and perhaps more importantly, the theory or theories used—were effective (Eck, 2005). Finally, a problemsolving approach always represents a closed loop. It requires those implementing crime prevention tactics to continuously re-evaluate the appropriateness of any ongoing interventions based on the changing nature of the crime problems they are meant to address.

Identifying Roles and Partners

Problem-solving in crime prevention is commonly viewed as a role of the police in a community. Goldstein's (1990) work recommending the police move toward a problem-oriented approach to policing has been one of the main reasons for this. In fact, police are often well suited to using a problem-solving approach to address crime problems in communities. They have access to crime data to help identify and understand the issues, and have the credibility in the field of crime control to build partnerships to address crime problems. The police also have the necessary law enforcement authority to implement strategies and have, as their purpose, the goal of reducing and preventing crime. Importantly, as Scott (2006) highlighted, policing is also an action-oriented profession, and when police want to get something accomplished, they generally do, despite the myriad of challenges that they face.

Steps in developing an effective crime-prevention model:

- 1. Identify and understand the problem and who/what is driving it
- 2. Define what success will look like
- 3. Determine who is affected by the problem, and who could help address it
- 4. Consider multiple intervention options
- 5. Get below the surface: Fully understand the logistical requirements of the proposed intervention(s), their relationship with the problem, and the theoretical explanations of why the problem exists
- 6. Plan and implement the intervention
- 7. Continually evaluate the intervention's success or failure, and adjust as needed

It is also true that police forces face mounting resource challenges and ever-changing priorities, often making them quick to implement short-term projects (Scott, 2006) and ill-suited to taking the lead role on long-term crime-prevention projects. Therefore, communities need to work with their police to develop effective problem-solving partnerships to address many of the facets of their most pressing crime problems.

The idea that effective crime prevention requires community partnerships is a staple of crime prevention and is often over-relied upon but not explored critically (Hastings, 2005). Partnerships are often necessary, but they can actually be more cumbersome than effective if they are not used strategically, if the collaboration is poorly managed, or if the conditions are not right for collaboration (Kelman, Hong, and Turbit, 2012). Effective partnerships need to be established to address the needs presented by the specific problem, and they should not outlast the problem (Chamand, 2006).

It is critical that all partners share a clear vision of what success looks like and how it is intended to be achieved

Partnerships need to be led by individuals representing credible organizations in the community that understand problem-solving, have the skills to manage projects, and are backed by the authority to make the necessary decisions. Different members of a partnership may be needed at different times throughout a problem-solving process. It will not always be necessary for those who contributed to identifying the problem to participate in developing intervention options, or in implementing the chosen intervention. Members should participate because they bring insight into the problem, expertise, skills, access or authority, and resources, in addition to being driven to address the problem.

When it comes to partnerships during the implementation of an intervention, the members of the partnership must be able to do their part and be committed to following through. It is also critical that all partners share a clear vision of what success looks like and how it is intended to be achieved, to ensure no partner operates counter to the goals of the partnership or has different expectations of the desired outcomes.

Common Pitfalls

The challenges to effective problem-solving for crime prevention are many, as there are multiple steps and many uncertainties. Some theories, and the interventions developed from them, do not end up working to reduce crime despite well planned and executed problem-solving approaches. Scott (2006) identified the main reasons that these efforts fail.

Identification of the Problem

The first reason is that the problem was not accurately identified. This usually relates to one of two issues: whether or not what was selected is indeed considered a problem by enough stakeholders to garner the interest necessary to address it; and, whether or not the reality of the problem matches the perception of the problem. To overcome these issues, problem-solvers must bring multiple stakeholder perspectives together with comprehensive crime data to form a clear definition of the problem. It is important to have a willingness to redefine the problem when evidence of the need to do so arises.

Understanding of the Problem

Another potential issue is that the problem was not understood well enough to develop an effective intervention. If crime prevention is to be informed by theory, it is necessary to know enough about the nature of the crime problem to apply a theory. This enables the targeting of the intervention to the factors that are believed to produce the crime problem.

According to the Community Oriented Policing Services (COPS, 2010), adequate analysis is often skipped because the causes of the problem seem obvious, the pressure to respond quickly is too great, or the effort required to get an in-depth analysis of the problem is not valued. Similarly, communities and police have a tendency to rely on tactics that have been used for other situations or adopt responses that have been used in other jurisdictions, without taking the time to analyze whether such a response matches the needs of the problem (COPS, 2010). Much like identifying the problem, proper analysis of the problem requires capturing information from multiple sources and being willing to re-analyze the problem from a new perspective if necessary.

Implementation of the Intervention

Another way in which problem-solving crime prevention often fails is through improper implementation. Scott (2006) argued that this is often overlooked because people believe that once they had selected a response to the problem, the implementation would be simple and straightforward.

Scott's (2006) work focused primarily on this common failing, identifying ways in which the implementation of responses can be improved, including:

- Having effective and continuous leadership from those managing the implementation;
- Having the support of those with the position and authority to get the project implemented;
- Developing ownership of the project among those implementing it;
- Having effective communication between those implementing the project;
- Ensuring those responsible for implementation tasks are capable of doing them;
- Having the legal and organizational authority to accomplish all the tasks;
- Obtaining sufficient and flexible funding and
- Having the support of the community and the media;
- Having the cooperation of necessary partners;
- Sharing a consistent vision of the goals for the project with all partners;
- Backing up the response with adequate evidence to support success;
- Reducing the size and complexity of the project;
- Avoiding delays in implementation.

It is at the stage where a selected response is to be implemented that effective problem-solvers need to become effective project managers.

Project Management

While most research literature has focused on police leading the efforts to incorporate problem-solving into crime prevention, this leadership and coordinating role for the police may not always be feasible in communities with limited policing resources. Local governments also need to take an active role in building the capacity for problem-solving crime prevention. The police need to be included but not relied on solely to take the lead.

An appropriate task for local government may be to establish an office for crime prevention whose role is to work with police and other community partners to establish crime-prevention priorities and use a problem-solving approach to address those priorities. Several Canadian municipalities already have established community crime-prevention offices and some have even implemented collaborative community mobilization councils to address social development issues. For example, the efforts of Community Mobilization Prince Albert (2013) in Saskatchewan have been widely reported in their effective response to that community's safety issues, specifically those related to risk factors for serious health consequences and criminality. Collaborative crime-reduction approaches between local level organizations have also been common in the United Kingdom (Kelman et al., 2012). Similar coordinated efforts could also be undertaken in communities to address problems associated to crime events and the places, products, and activities that generate them.

Such efforts could be led at the municipal level by individuals with a strong knowledge of crime prevention, problem-solving, and project management, who would collaboratively establish crime-prevention priorities and develop partnerships to address specific crime problems as they arise on a case-by-case basis. These partnerships would be composed of different stakeholders than those typical of collaborative efforts directed toward criminality and social development, and would likely address issues over which municipal governments can have greater influence.

Also, as the problems would focus on places, products, and activities, many of the challenges faced by collaborative social development efforts would be less pronounced, particularly those related to information sharing (see Plecas, Bass, Bemister, Busson, Dandurand, and Fournier, 2014). Such an approach, if appropriately positioned, staffed, and funded, would be an effective complement to other crime-reduction efforts that focus primarily on criminality.

Conclusion

Governments, regardless of level, should encourage problem-solving for crime prevention. This could be accomplished through shifts to the funding schemes for crime prevention. Currently, most crime-prevention funding in Canada is intended as secondary criminality prevention to address risk factors among children and youth. Little is going toward the prevention of crime events at any level (Hastings, 2005). Opening up resources to address crime problems of places, products, and activities would bolster other efforts to reduce overall levels of crime and would enable a greater variety of organizations to contribute to crime prevention.

Funding requests should require those seeking support to demonstrate clearly the use of a problem-solving approach to develop responses that are tailored to community crime problems and informed by theory. Governments could work to develop and test a checklist, as Sidebottom, Tilley, and Eck (2012) proposed, to assist problem-solving crime prevention. This would help to ensure that important considerations were not missed or given only superficial thought. Furthermore, governments would serve the interests of all involved if they required proper evaluations of the interventions they fund and provided adequate support for those evaluations.

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Administrative and Regulatory Approaches

By Yvon Dandurand with Trevor Johnson, Julia Shuker, and Gurvir Brar

Introduction

problem-solving approach prevention often involves resorting regulatory administrative and measures to address specific issues and reduce opportunities for crime and victimization. Administrative and regulatory approaches can be part of broad strategies to reduce crime, by limiting opportunities for crime and contributing to a problemsolving process relating to urban crime issues. In that sense they can be understood as a form of situational crime prevention.

Situational crime prevention is based on the notion that certain types of crime are largely opportunistic and can be prevented by modifying and planning contextual factors in a way that limits the opportunities for offenders to commit certain types of crime. Situational crime prevention activities may include improved security, more intensive surveillance and the deployment of surveillance technology, reducing the reward for committing certain types of crime (taking the benefit out of these crimes), and better planning of spaces and movement of people to remove opportunities for crime. A regulatory scheme is often necessary to underpin these efforts.

At the local level, administrative services and programs can bolster law enforcement and other community-based partnerships to prevent various forms of crime and public disorder. For example, services responsible for urban development and regeneration can contribute to improvements in housing and housing design, transport and road safety, and the use of public space that will influence opportunities for crime (United Nations Office on Drugs and Crime, 2010).

The impact of administrative and regulatory crime-prevention measures is not always as great as was expected, and sometimes includes unintended and undesired effects

Fair and inclusive regulatory and administrative measures to manage public spaces, movement, products, and activities can help create a safer environment for all and contribute to crime-reduction initiatives (Plecas et al., 2015). They can also contribute to citizens' quality of life, greater public feelings of safety, healthy community development, as well as local social and economic development.

Regulatory and administrative measures in support of crime prevention rest on two basic assumptions: (1) that public administration should not facilitate crime; and, (2) that responsibility for combating and preventing organized crime lies not just with criminal justice agencies but also with administrative authorities in collaboration with communities, the public and private sectors, and law enforcement agencies.

Such measures can be applied at many levels (including municipal, regional and provincial), although it is generally assumed that they have a greater impact when developed and applied at the local level. They can be designed for and applied to the prevention of various forms of crime, not only to street crime, public disorder or low-level property crime.

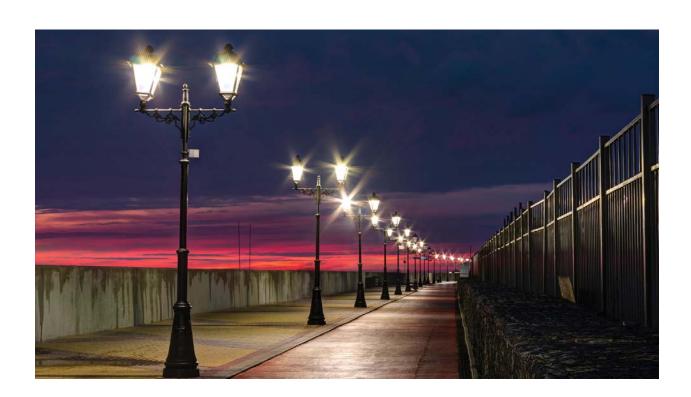
They can, for example, play a role in preventing robberies, sexual aggressions, or corruption. They can even help guard against the proliferation of organized crime in a particular urban environment.

The fact that these regulatory and administrative measures are now considered an essential part of effective local crime-reduction strategies does not mean that we always understand the merits and limitations of such measures. Unfortunately, at this point, their effectiveness is more often assumed than demonstrated and rarely the subject of a rigourous evaluation. In truth, the impact of administrative and regulatory crime-prevention measures is not always as great as was expected and sometimes includes unintended and undesired effects. However, the many promises of this approach and the experience acquired to date in implementing it certainly deserve our attention.

Some of the key stakeholders in local crime-reduction initiatives tend to be unfamiliar with alternative approaches to crime prevention and need therefore to be informed about the advantages, limitations and potential success of these approaches and methods.

They also need to be presented with concrete examples of successful initiatives. It may even be possible to offer them some general suggestions about the optimal use of that approach and the potential pitfalls to be avoided when experimenting with it.

This chapter examines the promises and potential pitfalls of regulatory and administrative approaches to crime reduction. It reviews some of the key aspects of this approach, including urban planning and the management of public spaces, regulatory schemes to govern and sometimes interdict various activities, methods for crime-proofing legislation and regulations, bylaw enforcement and other administrative measures. The chapter concludes with some suggestions on how to identify opportunities for applying these crimereduction measures and how to measure their impact on crime and public safety.



Promises and Potential Pitfalls

Modern regulatory and administrative schemes are numerous and varied. There are now many examples of formal and less formal administrative and regulatory approaches that purport to reduce crime and public disorder. Some of these approaches can alleviate the pressure on the justice system, and have the potential to be less cumbersome, less expensive, and more expeditious. They can reduce the burden placed on the police, by helping reduce the number of calls for service, the number of situations in which the police must intervene, and the incidence of certain crimes. To the extent that criminal opportunities can be shown to actually be reduced through regulatory and administrative schemes, there is a valid costeffectiveness argument to be made in favour of this approach as compared to relying simply on traditional law enforcement and the criminal justice system.

In Canada, the federal government has exclusive jurisdiction over the criminal law. However, provincial and municipal governments also have the legislative and regulatory authority to govern various sectors of activity that are crucial to crime prevention. Their respective areas of competence and authority sometimes complement each other, other times they overlap and even compete with each other. However, the effectiveness of most regulatory schemes can only be enhanced by greater collaboration and coordination between the efforts of all levels of government.

Concern is sometimes expressed about provincial and municipal forays into quasi-criminal law. The concern is not simply about protecting the respective legislative competence of the different levels of government. It concerns also the fact that provincial and municipal legislation and regulations sometimes attempt to control or interdict certain conducts in ways that obviously weaken the procedural guarantees associated with the criminal law (Baker, 2014). Chief Justice McLachlin remarked that western democracies, including Canada, have moved from a traditional rule of law model of governance to governance in the modern regulatory state.

Potential pitfalls for administrative or regulatory approaches to crime reduction include:

- · Policies and procedures that limit the information-sharing necessary collaboration
- Impact on the community's most vulnerable citizens
- Project is proposed for short-term political gain or to primarily benefit one interest group
- The problem is displaced to other areas not employing the same approach

This transition has confronted the Canadian legal system with the challenge of insuring that all official power and authority are exercised within the framework of the law - "fairly, reasonably and in accordance with the powers duly conferred on the body exercising them" (McLachlin, 2013).

Administrative or regulatory approaches to crime reduction are meant to complement law enforcement and depend on information from the police and judicial authorities to be effective. Therefore, effective information exchange between administrative authorities and law enforcement agencies is a prerequisite for any coordinated response to crime problems. However, information exchange sometimes encounters difficulties (Spapens et al., 2015). For example, a recent study on the prevention of human trafficking for labour exploitation in Canadian cities, highlighted the importance of promoting greater collaboration among all relevant regulatory and law enforcement agencies in preventing and detecting labour trafficking (Dandurand and Chin, 2014; see also, Sikka, 2013).

However, the study also revealed the many obstacles that hinder such collaboration, in particular the restrictions imposed on information-sharing by existing policies and privacy protection laws. In addition, in Canadian law, the use of the powers of inspection given to regulatory agencies must be confined to the purpose for which these powers were granted to the regulatory authority.1

Additionally, there may be issues resulting from the fact that any regulatory scheme is likely to have a differential impact on various segments of the community and that some segments may suffer from certain measures that are ostensibly adopted to protect the community as a whole. The impact of a regulatory or administrative scheme on some of the most vulnerable groups of citizens needs to be analyzed carefully and honestly. Whenever possible, this should lead to concrete measures that mitigate any detrimental effect a scheme may have on these groups.

There is also the fear that, in some instances, some regulatory and administrative measures are proposed or adopted irrespective of their crime-reduction merits and simply to pursue short-term political gains. There can be a concern that some of the measures adopted may be discriminatory, may unjustly or unfairly benefit the interests of some groups, or may reflect a lack of integrity in local government. There may also be a concern about competing interests in the community and the possibility that the regulatory measures may be unfairly exploited by speculators, developers and others to increase their profit at the expense of the broader interests of the community. Notwithstanding whether or not there is a basis for any of these fears, the adoption of new regulatory schemes to contribute to crime reduction is something that can quickly be politicized and eventually hamper other crimeprevention efforts.

Finally, there is the pervasive issue of the displacement of crime that may result from various administrative or regulatory measures. Crime displacement is defined as the relocation of crime from one place, tactic or offender to another as a result of a crime-control or crime-prevention intervention.

The displacement may occur within the scheme's targeted area, displacing the problem from one part of a community to another and sometimes from a fairly resilient part of a community to a more vulnerable one, less able to protect itself from crime or promote its own safety. Displacement is also responsible for instances in which one municipality or region inherits some of the crime problems displaced as a result of a regulatory or administrative scheme implemented in a neighbouring city or region. Displacement is generally viewed as a negative consequence of situational crime prevention, but even when it occurs it can nevertheless provide some benefits (Guerette, 2010: 36).

Sadly, some local governments find it politically expedient to adopt measures that will do little more than simply displace their problem to another municipality or area. This is obviously a short-sighted attitude, because in the absence of regional and even provincial collaboration in implementing crimereduction measures, every community is susceptible to becoming the unwilling recipient of its neighbour's displaced crime problems. Local responses based on short-term political gains are no substitute for the lasting benefits of well thought out and consistently implemented regional strategies. This is why in a province like British Columbia, organizations like the Union of British Columbia Municipalities (UBCM), the Lower Mainland Municipal Association (LMMA), and the British Columbia Association of Chiefs of Police can play an important role in coordinating regulatory and administrative crime-reduction initiatives.

Applying the Approach to Local Crime Problems

As is the case in virtually all local crime-reduction initiatives, the main challenges in applying regulatory and administrative measures to reduce crime reside in identifying concrete opportunities for such initiatives, setting priorities, mobilizing key stakeholders, and ensuring the effective and consistent implementation or enforcement of the measures in question.

Community support and involvement, as is well known, is also critical to their success (Hastings, 2005). It seems almost impossible to exaggerate the importance of effective partnerships, in particular between local government organizations, civil society, and the business sector (Shepherdson et al., 2014; Homel & Fuller, 2015).

The implementation of a regulatory or administrative crime-reduction initiative implies a significant level of coordination between the police and municipal officials. At the municipal level, effective leadership must be provided by community leaders, elected officials and city managers. City planners, legal staff, bylaw enforcement officers, and the managers of various services need to be engaged in the process. Among the police, leaders must facilitate the necessary linkages with elected officials, municipal leaders, and other relevant officials. They must also ensure that the police service effectively engages in an ongoing creative and productive dialogue about administrative and regulatory initiatives that can contribute to public safety and address as needed some specific crime problems.

Crime analysts must also contribute to the process, particularly as it relates to the use of crime data, police information and bylaw enforcement data to identify emerging issues, new threats, and persistent crime patterns.

The success of regulatory or administrative measures reducing crime relies heavily on community support and effective partnerships between government organizations, civil society and the business sector

They can also contribute to the ongoing monitoring of the impact of various regulatory and administrative crime-reduction measures. Finally, the private sector (business associations, chambers of commerce, local business, developers, corporate citizens), including the private security sector, can be involved in designing, improving and implementing local crime-reduction initiatives.

There is evidence that local crime control or neighbourhood improvement efforts can be bolstered by government assistance and funding to make them more effective. For example, Seattle's Neighborhood Matching Fund program provided an opportunity for local communities and social groups to develop their own crime-reduction initiatives. An evaluation showed that the program was associated with lower violent crime rates and that this effect was stronger in more disadvantaged neighbourhoods (Ramey & Shrider, 2014).

Some crime-reduction results can be achieved by simply applying some general principles to the planning of public spaces and regulation of their use

The Role of Urban Planning

Urban planning activities offer great opportunities for designing out crime. Some broad integrated planning initiatives and urban renewal projects can include a conscious effort to apply the principles of Crime Prevention Through Environmental Design (CPTED) (Landman and Lieberman, 2005). This involves consultative and evidence-based processes to make decisions and develop forward-looking plans concerning land use, zoning bylaws, traffic, public transportation, circulation, green spaces, and building standards and restrictions, inspired by the goal to make public spaces and the movement and activities of people safer. Residents should be involved in and consulted during the planning process (Landman and Lieberman, 2005). Finally, as was recommended by the B.C. Blue Ribbon Panel on Crime Reduction, much more could easily be done in the province to disseminate information on best practices to all concerned and to facilitate the systematic application of the CPTED methods during the planning process (Plecas et al., 2015).

The planning process also involves respecting private interests and investments of property owners and developers, but not at the expense of public interests and public safety. Corruption, undue political influence and interference by speculators can threaten the integrity of the planning process. As explained by Chiodelli and Moroni (2015), the threat of corruption is often a crucial challenge for land use planning theory and practice.

Municipalities can influence property developers and encourage the incorporation of CPTED principles in new developments through development bylaws. Development bylaws are typically only regulatory but usually include a requirement for development permits that can be withheld by a municipality when proposed development plans do not meet the city's standards. In this respect, regional approaches may prove important in order to mitigate the local economic impact of imposing development guidelines.

The Chesterfield Borough Council (United Kingdom) included a "designing out crime plan" as part of its local development framework. A supplementary planning document released by the Borough provides guidelines for the design of safe, successful and sustainable developments; it encourages good designs in the built environment to reduce harmful social behaviour and reduce opportunities for people with criminal intent to commit crime. It also encourages sensitively designed security measures that are compatible with existing technologies to improve safety for all users (especially minority groups) of the built environment at all times. All new purchasers and developers are held to a number of sustainability appraisal requirements that are directly related to designing out crime (Chesterfield Borough Council, 2007).

Some crime-reduction results can be achieved by simply applying some general principles to the planning of public spaces and the regulation of their use. One such planning principle, based on defensible space theory, favours physical design and layout features that can be used to obstruct opportunities for crime, disorder, and other related outcomes by creating opportunities for residents to defend their residential space (Reynald, 2015).

Other planning principles may include the promotion of land-use mix, safe and defensible street layout, street density and connectivity, access to public housing, and greater access to public transport (Sohn, 2016). Urban development projects can also focus on pedestrian-friendly designs (Sohn, 2016), improved walkability (Gilderbloom, Riggs & Meares, 2013), improved lighting and street lighting (Welsh & Farrington, 2009), the use of see-through fences and symbolic barriers, amenities, and careful planning and facilitation of circulation.

The evidence of the effectiveness of some of these methods in either residential or business areas is still limited. For example, decentralizing public housing (mixed-use schemes) is generally advocated, but as observed by Aliprantis and Hartley, "the size and even the direction of the overall effect of de-concentrating public housing on city-wide crime have, to this point, remained unknown" (Aliprantis & Hartley, 2015). Moreover, the impact of land-use diversity on crime is likely to vary by offence type due to differences in the nature of the crimes (Sohn, 2016: 91).

Some of the shortcomings of these principles have been identified (e.g., Benz, 2014). Moreover, some of these basic planning principles are still very much open to experimentation: for example, it may be that planning for greater tree canopy cover in a residential area can actually lower violent and property crime in that area (Gilstad-Hayden et al., 2015), as opposed to getting rid of dense vegetation based on the idea that it can provide cover for criminal activities and that natural surveillance opportunities should be created to enhance the control that residents have over their environment (Landman & Liebermann, 2015; Reynald, 2015).

Legislative and Regulatory Initiatives

At the provincial level, there are several regulatory areas that may contribute to either creating opportunities for crime or reducing them: health, labour, liquor sales licensing, building norms and standards (building codes), fire protection regulation, and others.

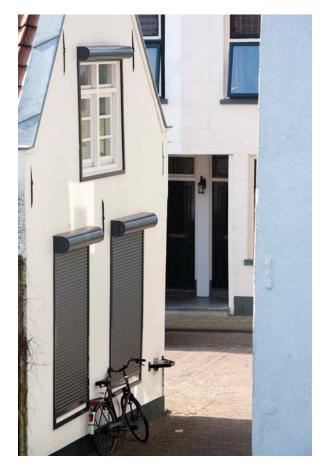
There are also examples of provincial legislation adopted specifically to support crime-control efforts. One can think of legislation adopted to target the sites of specific criminal and nuisance activities, including drug production and trafficking, prostitution, unlawful liquor sales (i.e., illegal after-hours establishments and sales of liquor to minors), and activities conducted by or on behalf of gangs and organized crime. Several provinces have adopted such laws.

In British Columbia, the Association of Chiefs of Police is strongly suggesting that a civil process be implemented to ensure that problem premises, which create a focal point for criminal activity and a safety risk, are dealt with (Plecas et al., 2015). In 2013, the province adopted the Community Safety Act,² but the legislation has not yet come into force. When implemented, it will enable people to submit confidential complaints to a new provincial unit charged with investigating, mediating and working with property owners to curb various threatening and dangerous activities. In the cases of persistent problems, the unit will be able to apply in civil court for a community safety order, which may bar certain individuals from the property or close it for up for a set period of time.

Another example is the civil forfeiture legislation adopted by eight provinces with the intention of making crime "less profitable" and providing compensation to victims (Koster 2015; Galland & King, 2013). In British Columbia, the Civil Forfeiture Act 3 was adopted in 2005. The approach has led to large amounts of seized proceeds of crime, but there is no systematic evidence that it has led to a noticeable reduction in crime. Critics of this approach have argued that civil forfeiture laws are routinely used to circumvent important procedural protections and "represent a profound reversal of many important legal rights" (Canadian Constitution Foundation, 2016).

There is some evidence that large-scale government interventions in the use of self-protective measures can lower crime. In the Netherlands, since 1999, legislation amending the Building Code requires all new-built homes to have burglary-proof windows and doors (Vollaard & van Ours, 2011). The legislation does not apply to existing homes and arguably did not target the homes that were most at risk.

Researchers who studied the impact of this law argued that, since most homes built since the adoption of the law were part of large-scale residential construction projects, protective measures were uniformly applied to large numbers of newly built co-located homes, limiting displacement of burglary to directly neighbouring homes (Vollaard & van Ours 2011: 486). They found that regulation of built-in security in homes was highly effective in reducing victimization from burglary. Through the application of better burglary-proof windows and doors, the burglary risk in new-built homes has been reduced by 26 per cent compared with homes built in the years prior to the regulatory change; the social benefits of the regulation are likely to exceed the social costs (Vollaard & van Ours 2011: 503). However, anecdotal evidence from interviews with practitioners suggested that displacement to bicycle theft had been observed, as burglars shifted their attention from the home to the garage, in which bicycles are often stored. Securing garages against theft was not part of the 1999 Building Code, leaving them relatively unprotected (Vollaard & van Ours, 2011).



This type of regulation allows governments to ensure that potential victims take additional steps to protect themselves. Since victims do not bear all the risks and costs of crime, they are not always willing to engage in the effort and accept the costs of avoiding the crime risk. This approach is apparently much more effective in reducing crime than awareness campaigns about burglary prevention or subsidies for security devices.

At the municipal level, various types of regulation (bylaws) can have a positive effect on public safety and can either contribute to reducing or augmenting criminal opportunities. Most local governments have legislation in place to regulate businesses as well as to prevent public order disturbances (Plant & Michael, 2009). Municipal legislative authority (or delegated authority) usually extends to the regulation of the use of public space through housing policies, property maintenance regulation, fire regulation, and several other areas.

Civil Forfeiture Act, SBC 2005, C. 29.

Skinnydipper Services Inc. v. Surrey (City) (2007) 287 D.L.R. (4th) 514

Local governments can require permits for various activities and attach public safety conditions to the issuance of such permits (e.g., permits for public events and demonstration, parades, etc.). Local governments are typically responsible for business licensing (including some specific businesses such as massage parlors, lap dance clubs, sex shops) (Hubbard & Colosi, 2012). When regulating and sometimes attempting to interdict specific activities, such as gambling or sex work, municipal lawmakers may face constitutional obstacles. They must also consider the impact that their bylaws have on the safety of sex workers (Craig, 2011).

Baker noted that provinces have adopted "quasicriminal" laws that are difficult to distinguish from criminal law (Baker, 2014) and might therefore be on shaky constitutional grounds. For example, section 42 of Surrey, British Columbia's Parks, Recreation and Cultural Facilities Regulation By-law, requiring "proper bathing attire" for all pools rented by the city, was found ultra vires. Since the Criminal Code only prevents nudity in public view, the court ruled that "it is not open to a municipal council to extend a definition of something criminal to include circumstances excluded by Parliament." 4

As part of its response to homelessness, the City of Abbotsford, British Columbia was applying ss. 14 and 15 of its Consolidated Parks Bylaw, and subsection 2.7(d) of the Good Neighbour Bylaw that prohibited sleeping or being in a city park overnight or erecting a temporary shelter without permits. The court found that to the extent that these dispositions applied to the city's homeless people, they violated s. 7 of the Canadian Charter of Rights and Freedoms and were of no force or effect.5

On the other hand, the court upheld Edmonton, Alberta's Public Places By-law, allowing police to fine for "public fighting" where conduct does not warrant a Criminal Code charge,6 as well as the Ottawa, Ontario bylaw⁷ prohibiting touching between dancers and customers in adult entertainment parlours and requiring all services to be conducted in open designated areas. 8

Ontario's Safe Streets Act - prohibiting "aggressive solicitation," "solicitation of captive audiences" (including solicitation of a stopped or parked vehicle – by so-called "squeegee kids"), and approaching a motor vehicle for the purpose of "offering selling or providing any commodity or service" to a driver - was upheld in court, as was the City of Vancouver, British Columbia's bylaw prohibiting "obstructive solicitation" (aggressive panhandling) on city streets.9

immediate roadside prohibition scheme originally introduced in 2010 by the province of British Columbia was also challenged but, after some amendments, was eventually upheld by the Supreme Court in 2015.10 The law had a noticeable impact on the province's law enforcement practices and on the workload of provincial courts. One study suggested that an administrative approach to drinking and driving, and the associated publicity, was more effective for minimizing alcohol-related collisions than laws under the Canadian Criminal Code (Macdonald et al., 2013).

Abbotsford (City) v. Shantz, 2015 BCSC 1909. The court's declaration was limited to overnight stays between 7 p.m. and 9 a.m. the following day.

R. v. Keshane [2011] ABQB 525 (Ross, J).

By-law 2004-353 respecting the regulating, licensing and governing of adult entertainment parlours.

Adult Entertainment Association of Canada v. Ottawa (City), (2007) 283 D.L.R. (4th) 704 (CA).

Federated Anti-Poverty Groups of British Columbia v. Vancouver (City) [2002] B.C.J. No. 493.

¹⁰ Motor Vehicle Act, [RSBC 1996] CHAPTER 318, s. 215.

Crime-proofing Existing Laws and Regulations

As mentioned earlier, one of the principles related to the use of administrative and regulatory approaches to crime prevention is to ensure that existing legislation and regulations do not unnecessarily or inadvertently create opportunities for crime. Legislating and regulating may have criminogenic effects. Legislation may inadvertently produce opportunities crime (Morgan and Clarke, 2006; Savona, 2006). Reducing such opportunities will help reduce crime and its consequences in terms of costs and victims (Transcrime, 2006; Calderoni et al., 2012).

It is only during the last 10 years or so that the idea of introducing a formal crime-risk assessment into the legislative process has been discussed and explored more systematically. From the point of view of designing out crime, it is important to try to understand the potential detrimental impact of new legislation on crime and public safety, and to proceed to some form of crimerisk assessment when new regulation is developed or old ones are amended. This assessment can help one understand how new legislation translates into real life; that is, the impact of the regulations at the level of those regulated by it (Morgan and Clarke 2006: 200).

In Europe, researchers and politicians have formalized a method for doing so. Called "crime proofing," it is a form of risk mitigation or risk management applied to crime. It belongs to the situational crime-prevention approach. Derived from opportunity and rationalchoice theory, it aims at reducing opportunities for crime produced by vulnerabilities in legislation or regulation. The method generally consists of measuring existing (ex-post facto proofing) or future (ex-ante proofing) opportunities for crime due to legislation or regulation, and delineating interventions to mitigate this risk. The process can lead to changes in legislation or regulation, or enforcement (Savona et al., 2006).

Savona described it as a process that consists of two phases: "(a) assessment of the risk that a legislative unintended measure may produce criminal implications/consequences; (b) action to close the loopholes in the legislation, thereby 'proofing' it against crime" (Savona, 2006: 222). According to Savona, the method is not prescriptive: "Its aim is to make decision makers aware that future regulations may produce, besides other negative social, economic and environmental consequences, opportunities for crime. The results from a crime-proofing assessment may induce regulators to change aspects of new or amended legislation whose effects may be an increased risk of crime" (Savona, 2006: 222-223).

Because it is clearly impossible to assess all crime risks, every indicator of crime risk cannot be discovered and measured through this method. Identifying and measuring the right indicators can be difficult and typically requires qualitative decisions by professionals in the early stages of an assessment (Di Nicola, 2006). For example, Morgan and Clarke (2006) identified characteristics of regulation that might contribute to fraud, corruption, illegal trade, or environmental crime. They argued that any regulation carries the risk of such unintended crime consequences if it:

- Introduces product disposal requirements or any other new or more burdensome fee or obligation;
- Introduces a concession on a tax, or a concession on any other fee or obligation;
- Introduces a grant, subsidy, or compensation
- Introduces or increases the tax on legal goods, or in any other way increases the costs of legal
- Prohibits or restricts a demanded product or service, or in any other way decreases the availability of demanded goods and services;
- Introduces or removes a law enforcement capacity, increases or decreases funding for enforcement activity or in any other way impacts the intensity of law enforcement activity; and,
- Provides officials with regulatory power (Morgan and Clarke, 2006: 199).

Enforcement of Bylaws

Bylaws are probably only effective when the public is informed and the regulations are enforced consistently. One can assume that administrative measures and regulatory schemes that are poorly communicated to the population-and more specifically, to those who are directly concerned—are unlikely to produce significant results. Public information is necessary to generate broad support for such measures, their implementation, and their enforcement. Local media can obviously play a role in this and should be considered as key participants in the implementation of the whole administrative and regulatory approach.

There is also a need for specific information to be conveyed to those whose business or activities are specifically targeted by a regulatory scheme. For example, the City of London published a Code of Good Practices for Licensed Premises to reaffirm the main objectives of its licensing scheme (the prevention of crime and disorder; public safety; the prevention of public nuisance; and the protection of children from harm) and to provide applicants and licensees with guidance on good practice for the promotion of the four licensing objectives (City of London, 2013).

Sufficient resources are not always devoted to enforcement.¹¹ In some instances, inadequate training and supervision, political pressure and local circumstances may render enforcement weak, unpredictable or discriminatory. Enforcement policies and strategies need to be made explicit, transparent and public; they must be reflected in the training and supervision of enforcement personnel; and, enforcement practices and outcomes must be subjected to regular review and audits.

Enforcement policies and strategies need to be made explicit, transparent and public; they must be reflected in training and supervision of enforcement personnel; and outcomes must be regularly reviewed and audited

Where considerable discretionary authority is given to enforcement personnel, measures must be in place to prevent corruption and discriminatory practices.

The Office of the Ombudsperson of British Columbia recently published a best practices guide on bylaw enforcement that emphasizes the importance of adopting bylaw enforcement practices that are based on administrative fairness principles: "Administrative fairness in bylaw enforcement begins with council developing bylaws that can be fairly and reasonably enforced" (Office of the Ombudsperson, 2016: 8). The guide also suggests that local government should adopt effective bylaw enforcement policies to establish broad guidelines for a fair and consistent enforcement process.

In British Columbia, provincial legislation gives local governments broad powers to create and enforce bylaws. For municipalities, this authority is found in the Community Charter (S.B.C. 2003, c. 26.) and, for the City of Vancouver, in the Vancouver Charter (S.B.C. 1953, c. 55.). The Local Government Act (R.S.B.C. 2015, c. 1) grants regional districts and improvement districts the authority to make and enforce bylaws, and the Islands Trust Act (R.S.B.C. 1996, c. 239) gives this power to the Islands Trust local trust committees. The Local Government Bylaw Notice Enforcement Act allows local governments listed in the Bylaw Notice Enforcement Regulation to deal with bylaw violations through bylaw notices (S.B.C. 2003, c. 60).

Other Administrative Measures

There are many examples of administrative measures used from time to time to reduce various forms of crime. Unfortunately, few of them have been rigourously evaluated and their effectiveness is still largely a matter of speculation.

One example is the Crime Free Multi-Housing Program (CFMH Program), a crime-prevention program designed to reduce crime and nuisance activity in rental properties. There is surprisingly little evidence supporting the program's effectiveness in reducing crime, increasing public safety, or reducing public fear of crime (Cole, 2015; see also: Zehring, 2014) – despite its reputation and considering that the program had spread to 2,000 cities in the United States, Canada, Mexico, England, Finland, Nigeria, and Puerto Rico. Further, a study to determine whether crime had been reduced in the CFMH-certified buildings in New Westminster, British Columbia yielded inconclusive results (Cole, 2015).

In their crime-prevention guide for local governments, Plant and Michael (2009) suggest that administrative measures considered by local governments could try to affect the situational and environmental cues associated with crime by focusing on areas such as building inspection, traffic engineering, parking enforcement, etc. On a positive note, local governments can also ensure that none of the administrative measures they implement prevent the treatment and social reintegration of individuals with behavioural issues.

As the next chapter in this volume explains, community support can make a substantial difference for those people. At the very least, a community's NIMBY¹² reaction and its opposition to affordable transitional housing, mental health treatment or addiction support and recovery facilities should not be allowed to reinforce the exclusion of these vulnerable individuals.

At the same time, local governments, both as employers and as regulators, can also work with the private sector to prevent violence and crime in the workplace. Preventive measures include workplace design, administrative practices, and work practices. Different occupational groups face different risks. Careful consideration is required for factors related to the built environment, such as workplace layout, signage, access control, locks or physical barriers, lighting and electronic surveillance, as well as building security. Administrative practices can also make the workplace safer; for example, practices relating to cash handling can make a difference.

The business processes of organized crime depend on both illegal and legal activities, with the latter potentially being subject to administrative regulations

Measures to Prevent Organized Crime and Corruption

There is some interesting research on administrative and regulatory measures to prevent organized crime. It is worth mentioning it briefly here, if only to illustrate the fact that such measures can be applied to prevent serious crime.

Administrative measures can enhance and support the criminal justice approach to preventing or disrupting organized crime. In the Netherlands, for example, a situational crime-prevention approach is implemented through a combination of legislative and policy instruments, such as applying liquor licensing schemes and inspecting fortified clubhouses (Ayling, 2014). The measures are not primarily aimed at the perpetrators of organized crime, but rather at the various circumstances and supporting activities that facilitate its criminal activities (van de Bunt, 2004). They have been praised as effective methods to reduce crime without bringing criminal law into play (Huisman & Koemans, 2008).

At another level, understanding how criminal organizations invest the proceeds of crime in the community may help law enforcement agencies or other relevant stakeholders control illicit transactions and work to reduce the attractiveness of specific areas or business sectors. For example, the real estate sector in an area may be particularly vulnerable to infiltration by organized crime groups (Dugato et al., 2015). In another instance, infiltration by organized crime into the construction industry can have some very serious consequences, as the Charbonneau Commission uncovered in Quebec (Charbonneau & Lachance, 2015). At the local level, policies and regulations can be adopted to screen potential business start-ups in specified sectors to ensure the operations are legal. Measures may also be required to prevent criminal infiltration in the legitimate economy as a part of sectorspecific business regulations (Spapens et al., 2015).

It is also important to remember that the business processes of organized crime depend on both illegal and legal activities, with the latter potentially being subject to administrative regulations (Spapens et al., 2015). The production of synthetic drugs also requires legally available chemicals, such as acetone and methylamine. Human traffickers may require transport, housing and a business where they can put victims to work (Dandurand and Chin, 2014). An outlaw gang may need a clubhouse, or a fortified house in which to safely conduct business. In all these examples, regulatory schemes can play an important role. For instance, the Chatham, Ontario "excessive fortification" bylaw (June 23, 2003) was enacted to deal with one particularly notorious motorcycle clubhouse in the city. It prohibits the "excessive fortification of land" and allows for city building inspectors to search the premises.¹³

A recent study examined administrative approaches used by 10 different European Union countries to combat crime, with a special focus on organized crime (Spapens et al., 2015). Some of the best examples come from England and Wales, Italy, the Netherlands, and Sweden. Measures to combat (organized) crime included: using business regulations (i.e. licences) to stop and deter criminals or associates from entering certain legitimate economic activities, enhancing cooperation between administrative bodies and law enforcement, and "working apart together," or using committees or task forces made up of members from a variety of agencies.

Addressing and Preventing Corruption

Serious crime resulting from corruption and the infiltration of local government by criminal elements is another form of crime risk that can be addressed by risk-mitigation measures grounded in sound regulations and protected by robust administrative measures.

Corruption in local governments in the context of a major development project, for example, can also be prevented by specific administrative measures based on an assessment of the project's exposure to the risks of corruption (Dandurand & Dow, 2013). If ignored, a small amount of corruption can become systemic and, once it does, it can be very difficult to eradicate. A common theme found in the literature on corruption is the need for proactive strategies that identify areas vulnerable to corruption and that mitigate the risks of corruption identified in those areas.

For example, government agencies that oversee and regulate land use have been identified as one of the most vulnerable areas of government in regards to risk of corrupt practices (Chiodelli & Moroni, 2015).

Often, corrupt practices associated with land use and planning are the by-product of poorly designed planning/management systems, systems that have had corruption built right into them (Chiodelli & Moroni, 2015).



If ignored, a small amount of corruption can become systemic, and, once it does, it can be very difficult to eradicate.

Other areas of potential vulnerability to corruption can be found in hiring practices, perverse incentive structures, and a lack of effective accountability and transparency mechanisms (Dandurand & Dow, 2013).

Identifying Issues and Opportunities for Successful Initiatives

Administrative and regulatory initiatives are not always the most appropriate response to a crime or public safety problem. There are, however, frequent opportunities to use this approach as part of a broader crime-prevention strategy. Local consultations and official crime data can help identify issues and consider some possible administrative or regulatory responses. Depending on the crime problem to be addressed, combining regulatory and bylaw enforcement information with police data to generate actionable intelligence can be quite useful.

There are also other tools. For example, a safety audit is useful means of collecting and analyzing information about crime and public perceptions of safety to inform local crime-reduction strategies (Gilling & Barton, 2005). In other words, it is a method of assessing personal safety concerns, and a tool people can use to evaluate different features in their neighbourhood with the goal of reducing crime and improving everyone's personal safety.

Through this tool, local groups can provide useful information to planners, designers and service providers. A safety audit, using an existing checklist, can help map places where people feel unsafe and identify improvements in the physical environment that may reduce the opportunities for crime and make public spaces safer for everyone. Anyone who wishes to take action to make public and semi-public spaces safer can use the process. Some cities, like the City of Toronto, Ontario, actively encourage local groups to use the tool.

When warranted, a specific safety audit can also be conducted that focuses on a particular public and semi-public space, such as a school, playground, major shopping area, community and recreation centre, or health centre. Also, because women and girls often face violence in public spaces due to poor urban design and poor management of public spaces, tools have been developed to gather information on their experiences.

The original Women's Safety Audit was developed in Canada in 1989 by the Metropolitan Toronto Action Committee on Violence against Women and Children. This tool allows participants to identify safe and unsafe spaces and to recommend how unsafe spaces can be improved (Whitzman et al., 2009). It exists in many different forms and can be adapted to the local context. Several guides and handbooks are available for those who are interested in learning the methodology (Kerr-Wilson & Phillips, 2011, Tandon Mehrotra, 2010, Women in Cities International 2011, O'Leary & Viswanath, 2011). Safety audits can be conducted to focus on the specific vulnerabilities of a certain group of women, for example nurses and healthcare workers (Fédération des infirmières et infirmiers du Québec, 2003). The main strength of this tool lies in its participatory process and the fact that it supports the use of women's knowledge in local decision-making (UN-HABITAT, 2008). methods can also be adapted to canvass the experience of children and youth, as well as that of elderly citizens and other potentially vulnerable groups.

Public surveys (see for example: Homel & Fuller, 2015) and local victimization surveys (UNODC & UNECE, 2010) can also be used. Surveys of local business owners can provide important information as well. When conducted regularly, all these surveys can help monitor the impact of administrative and regulatory schemes already in place. Similarly, systematized interviews with practitioners about crime issues and the perceived impact of existing regulations and administrative measures and practice can also be useful. It has been suggested, for example, that criminal justice practitioners are often able to provide information about existing regulation and legislation, and whether they are a help or a hindrance (Intersol Group, 2010).

Regulatory or administrative initiatives should not be adopted in the absence of a well-articulated plan to monitor their impact

Monitoring and Evaluating the Impact of the Approach

Unfortunately, the impact of regulatory and administrative measures to reduce crime is rarely measured systematically. The expected crime-reduction outcomes of such schemes are often poorly articulated and there is no serious attempt to measure whether the expected public safety outcomes are achieved or to what extent observed changes in criminal patterns and behaviour can legitimately be attributed to the impact of these schemes. It should go without saying that all new legislative or administrative initiatives developed to design out crime should be evaluated. In fact, such regulatory or administrative initiatives should probably not be adopted in the absence of a well-articulated plan to monitor their impact, and any unintended adverse effect that may result from their implementation.

A high standard of evaluation is rarely applied in measuring the impact of problem-oriented policing and situational crime-prevention approaches (Knutsson, 2010). Guerette reviewed 200 evaluations of situational crime-prevention initiatives carried out between 1997 and 2007, and reflected on how evaluation design had evolved to account for crime displacement, the potential diffusion of crime control benefits (diffusion of crime-reduction effects to areas that are close to the targeted area), and the presence of anticipatory benefits (Guerette, 2010). Few studies were conclusive and very few of them included a costbenefit analysis.

Evaluating the impact of situational crime-prevention programs aimed at reducing opportunities for crime offers some interesting challenges. Because it is difficult to distinguish between the effects of various variables that may affect an observed change in the incidence of crime, attributing an impact to a specific change in the environment or "opportunity structure" is often impossible. As discussed in a study by Eck and Madensen (2010), "opportunity blocking" is designed to alter the opportunity structure; evaluating the impact of such interventions implies measuring whether the changes in the opportunity structure actually occurred, and occurred in the intended direction.

It is probably fair to assume that it is the lack of commitment to the rigourous evaluation of the impact, the intended and unintended effects, and the cost effectiveness of administrative and regulatory measures to design out crime that has most severely impeded progress in the further development of that approach.

Conclusion

There remains much to learn about how to successfully and responsibly integrate administrative and regulatory approaches into local crime-reduction strategies. The research on the actual effectiveness of such approaches is unfortunately quite limited, but some general observations can already be made to guide further experimentation with these promising methods. As was explained in this chapter, these crime-prevention approaches hold a genuine promise of success. They can be applied to the development and management of our cities and contribute to the safe development and use of public spaces. We just need to learn a lot more about how they can be applied most effectively.

The experience to date indicates that a certain amount of caution needs to be exercised when deploying administrative and regulatory crime-prevention initiatives. First, with respect to the regulatory approach, at least in Canada, it seems that the regulatory authority of local governments is generally on more solid ground when it is applied to the regulation and management of the development and use of public spaces, through licensing and other methods, than when it is used to attempt to prohibit certain conducts. Second, precautions are necessary to ensure that a new regulatory scheme does not have a detrimental impact on some segments of the community, particularly on those that are especially vulnerable or disempowered. Third, regulatory initiatives should not be improvised or used as a politically expedient substitute for more effective action. They should be based on an understanding of the criminal behaviour they are designed to reduce and evidence on proven methods to do so.

They must also guard against the possibility of displacing the problem or generating some other unintended adverse effect. Crime-proofing regulatory schemes can ensure that they do not unnecessarily or inadvertently create opportunities for crime and victimization. To do so, a process must be in place to assess and mitigate the risk that a regulatory initiative may produce unintended criminal consequences.

It is crucially important to avoid making simplistic assumptions about the nature and causes of the crime problem at hand. New administrative and regulatory initiatives must be evidence-based and strategic. They should be built upon a good risk assessment, wide consultation, and whenever possible, some careful experimentation. Finally, because of the ever-present risk of crime displacement, local initiatives can gain immensely from being coordinated at the regional and even provincial levels.

A good way forward for local leaders wishing to explore the full potential of the administrative and regulatory approach to designing out crime would probably involve the following steps:

- Integrating relevant CPTED principles in all urban planning and development activities and carefully monitoring the impact of designs and development plans adopted on the basis of these principles.
- Using safety audits and other surveys, together with crime data and police information, to identify opportunities for administrative and regulatory crime-reduction initiatives.
- Identifying potential synergies between policing policies and strategies, and administrative and regulatory approaches.
- Facilitating effective information exchange between administrative authorities and law enforcement agencies, and promoting coordinated responses to crime problems.
- Developing a policy framework for effective and fair bylaw enforcement and for cooperation between police and bylaw enforcement officials.
- Monitoring the impact of a regulatory or administrative scheme on the most vulnerable groups of citizens and adopting concrete measures to mitigate any detrimental effect a scheme may have on these groups.
- Building community support and engagement at every stage of each initiative.

As mentioned before, many key stakeholders in local crime reduction initiatives are unfamiliar with alternative approaches to crime prevention. They need better information on the advantages, limitations and potential benefits of various regulatory and

administrative approaches. This chapter hopefully provided some of that information even if, at this point, that information remains limited due to a lack of systematic research on the impact of these approaches.

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Transitions and Social Programming

By Adrienne Peters

Introduction

here are periods in an individual's or an offender's life when they are more vulnerable to engaging or continuing in deviant or criminal behaviour. These include becoming homeless, experiencing mental illness, returning to the community after a custodial sentence, making the transition between service agencies, transferring from the youth to adult criminal justice systems, or "aging out" of the foster care system (foster care services in North America discontinue at age 18).

The police, government, intervention programs, and communities have begun to turn their attention to these and other critical turning points to use them as opportunities to better support and respond to at-risk populations and offenders.

The police, government, intervention programs and communities have begun to turn their attention to the critical turning points in people's lives when they are more vulnerable to engaging in criminal behaviour.

Since most offenders mature away from their criminal lifestyle (Brame, Bushway, & Paternoster, 2003; Maruna, 2001; 2004), these transitions can present critical intervention points for criminal justice systems and community services to design out crime.

Getting the Homeless off the Street

Every year in Canada, approximately 200,000 Canadians rely on homeless emergency services or sleep outside (Gaetz, Donaldson, Richter, & Gulliver, 2013). Although the majority of cases of homelessness are temporary, it is estimated that 4,000 to 8,000 people, or two to four per cent of the overall homeless population in Canada, are chronically homeless (Aubry, Farrell, Hwang, & Calhoun, 2013; Gaetz et al., 2013). Homelessness is a chronic social issue that has been framed as a public health matter because of its notable overlap with physical and mental health ailments, and substance abuse.

The combination of these conditions with homelessness has been found to increase the likelihood of an individual's involvement with the criminal justice system. Among incarcerated adults, individuals who are homeless and also have a mental health condition or substance use disorder are found to experience longer periods of incarceration (see McNiel, Binder, & Robinson, 2005). A major study found that a large proportion in a sample of homeless adults in Vancouver, British Columbia had co-morbid mental illness, early substance use onset and daily use, as well as a history of foster care placement (Patterson, Moniruzzaman, & Somers, 2015).

These associations not only have detrimental effects on the individual, but also result in substantial costs to various social agencies.

In addition to mental health problems, an important factor associated with homelessness in Canada, among both youth (e.g., Evenson, 2009) and adult populations (Patterson et al., 2015; Roos et al., 2014), is placement in the foster care system or a group home. Unfortunately, many young people find themselves without a home during the transition from foster care into adulthood (e.g., Dworsky, Napolitano, & Courtney, 2013). The findings from one large study examining young people formerly placed in care in the United States revealed that 40 per cent encountered continued barriers to housing for the two-year period following this transition, while 20 per cent experienced chronic homelessness (Fowler, Toro, & Miles, 2009). Although this proportion may seem small, it presents serious concerns from a social, health, and crime prevention and reduction perspective. It is the chronically homeless who are at the greatest risk of "criminal victimization, sexual exploitation, and trauma ... and involvement in the justice system" (Gaetz et al., 2013: 28).

Research has demonstrated that the reverse association can also be true. Identified risk factors for homelessness among a sample of Vancouver, British Columbia street-involved youth included recent incarceration, regular consumption of alcohol and crack cocaine, and difficulty accessing housing (Cheng et al., 2013). Male youth in general (Segaert, 2012), and males who have been placed in foster care in particular, are also at an increased risk of becoming homeless, as are young people who frequently ran away from their care placements. The same is true for those who experienced high mobility or instability in their placements, had previously experienced physical abuse, had exhibited more delinquent behaviour, and had displayed mental health symptoms (Dworsky et al., 2013).

Each of those factors may present challenges to attachment building and bonding between these young people and their caregivers, which could contribute to the higher likelihood of homelessness (Dworsky et al., 2013).



This instability affects the youth's participation in community-based resources and access to housing assistance because of difficulties enrolling in the programs. Other challenges they face include finding transportation to needed services, and obtaining support throughout this process. Moreover, while habitual drug users face challenges related to finding substance abuse treatment and housing, a recent incarceration can also impede the process of moving out of homelessness. Conversely, individuals in stable relationships have a greater likelihood of moving out of homelessness (Cheng et al., 2013).

Young people in North America become ineligible for foster care placement when they reach 18 years of age. Research based on data from The Midwest Evaluation of the Adult Functioning of Former Foster Youth has suggested that governments could improve outcomes for young people by expanding the services during this critical time and, more importantly, by raising the cutoff age for foster care system involvement to 21 years of age (Courtney et al., 2007).

A study by Sergaert et al. (2013) suggested that Canada should reconsider its approach to managing the homelessness problem and integrate ideas from the United Kingdom and Australia-two countries that have already spent several decades investigating strategies to most effectively address the problem. The United Kingdom and Australia launched national initiatives to end homelessness in 2006 and 2008 respectively, with a particular focus on youth homelessness.

The strategies rely on a combination of collaborative approaches integrating all levels of government in the provision of early prevention services, affordable housing, and support services for youth after they have "aged out" of care.

Several larger initiatives and programs have been put in place across many North American cities to address the issues associated with homelessness. Pathways to Housing (PTH), which began in the United States in 1992 and has since expanded to Canada, connects homeless individuals to permanent housing as an intermediate strategy. This is done before identifying and targeting their other risk and needs areas, such as physical and mental health, substance use, and psychosocial problems (Surood, McNeil, Cristall, Godbout, & Zhou, 2012). By providing housing stability, this program focuses its efforts on the underlying causes of the social problems and criminal behaviour of individuals. A 2009 evaluation of the Housing First Pathways to Housing program in Edmonton, Alberta found that it resulted in several improvements for participants. After 12 months in the program, major impacts were demonstrated for reductions in self-injury behaviours, cognitive problems, hallucinations and delusions, with the most pronounced changes associated with improvements in living conditions and work and leisure activities (see Surood et al., 2012).

As part of the PTH programs in Calgary, Alberta, there are Assertive Community Treatment (ACT) teams that offer clinical and support services to over 100 clients who require varying levels of assistance. The ACT teams rely on the collective efforts of an interdisciplinary team—medical, mental health, and legal professionals; nurses, vocational, housing, and recreational specialists; and substance abuse counsellors—who work regularly with individuals in the community and in their homes to support the needs of each client (Holloway, 2012). Research shows that these teams can reduce peoples' reliance on hospitals and their interactions with the criminal justice system, while also assisting the person to maintain stable housing and a healthier lifestyle (Phillips et al., 2001). In Calgary, in addition to supporting housing stability and connecting clients to vocational or educational activities, or actual employment (achieved for 87 per cent and 63 per cent of clients respectively), the PTH program reduced police contacts by 67 per cent and emergency medical service contacts by 32 per cent (Holloway, 2012). Moreover, 10 per cent of clients successfully completed the PTH program in Calgary within a year and secured a job and an independent residence.

In 2009, Medicine Hat, Alberta set the ambitious goal to end homelessness throughout the city. By 2015, this goal was reached, at least provisionally, and it became the first city in Canada to eliminate homelessness. Homes were provided for over 885 individuals during the previous six years (Off and Douglas, 2015). The Housing First program, delivered through the Medicine Hat Community Housing Society (MHCHS), places individuals in homes within 10 days of identifying their housing need. In doing so, the city saves money, since it is estimated to cost only \$20,000 to \$35,000 per year to house someone in Housing First, compared with approximately \$100,000 per year in emergency service-related costs associated with hospital visits and police contacts among the chronically homeless population (Ferreras, 2015).

The number of court appearances increased within this group, but this was primarily the result of individuals attending their overdue court appearances from previous incidents. It is anticipated that this trend will stabilize once the program has been running for a while and fewer individuals fall into homelessness. A key way that a community can reduce crime is to develop and implement an effective solution to address the needs of the chronically homeless and to establish communitybased programs, such as ACT teams, to prevent people from becoming homeless in the first instance.

Mental Challenges and Substance Abuse

Assertive Community Treatment teams, discussed previously, are also critical in responding to many individuals with mental disorders and substance addiction. ACT teams provide community-based, client-centered, recovery-oriented outreach services to people with specific needs, but who have not been successful in connecting with, or responding to, traditional intervention services. While British Columbia has implemented 16 such teams across the province, a recent review suggested this is not enough. To support adequately the volume of individuals living in the community with serious mental health and substance abuse needs, approximately 44 additional ACT teams would be required (Plecas et al., 2015).

Some police organizations in British Columbia continue to serve these needs in conjunction with their traditional roles. Others have created dedicated positions to respond to incidents and individuals with severe mental health needs who come into conflict with the law. Although youth probation officers often maintain good relationships with the police, this more direct focus and contact is valuable in cases where persons have significant mental health issues and are involved in the criminal justice system.

Addressing Employment

Successful Program Models for Criminally Involved Youth

Kim Marcotte, a youth probation officer in Vancouver, had been working closely with gang-involved youth for approximately eight years when she and members of the PLEA Community Services Society of British Columbia developed an idea for a unique employment program for young people. In 2009, they started a project called Career Path in response to the increase in youth, particularly young males, active in organized crime groups in Metro Vancouver and surrounding region. The primary goal of the program was to match criminally involved young people between the ages of 15 to 18, who were at risk or already associated with criminal organizations, to people in the community in an employer-mentor capacity. The program went beyond offering the young person a job and an income. It aided in establishing a relationship between the young person and a purposefully selected employermentor.

When Career Path was first proposed, PLEA was already delivering an established youth employment program known as Creative Urban Employment, or the Q Program. The key objective of the Q Program was locating and placing young offenders who were not enrolled in school and had little or no work experience in jobs. During their participation in Q, youth were supported and trained in employment readiness, were offered work experience, and were given employmentbased life skills training. PLEA's Career Path program was rooted in helping young people identify their personal interests and assisting them to reach their long-term goals through meaningful employment. The objective was to offer potential career opportunities that could be pursued into adulthood, rather than simply securing short-term employment.

Given that unemployment is a known factor associated with criminal behaviour, other programs offering employment readiness and other related training have been implemented. For PLEA, a missing component was developing something that could help keep youth connected to the job. Career Path was about mentoring as much as employment assistance.

The most common referring offences for youth into Career Path were robbery and failure to comply with a sentence or court ruling. As PLEA staff came to recognize, many of the youth who were referred to the Career Path program never had a job and came from homes where their parents also did not hold conventional, lawful employment. In light of this multigenerational unemployment and gang involvement, it was clear that many of these young people did not have access to models of legitimate work. The challenge, therefore, was to provide skills and experience in legal ventures. Many of these young people also struggled in the traditional school environment and were not interested in attending or completing school.

Under the Career Path model, young people receive a 10-week job placement, intensive one-to-one support and supervision, and employer mentoring. During the time between intake and job placement, youth participate in various pre-employment work-related skills training, such as job readiness, résumé writing, interview skills, conducting job searches, and safety training. Youth could also complete First Aid training, food-handling training (Food Safe), as well as more specialized training such as forklifting training, as Career Path and Q have developed relationships with various training companies.

Instead of drawing from a pool of possible employers and fitting the young person into a particular job, Career Path engages in a collaborative process with youth to identify areas where they may wish to work. Career Path staff then explore job advertisements or contact individuals working in those areas and essentially sell the program to them.

While there are some employment areas that Career Path staff try to avoid for safety reasons, in most cases, the program is able to accommodate youth's interests and tailor positions to their aspirations.

Examples of successful employment programs for criminally involved youth in British Columbia use practical, collaborative, and multidisciplinary approaches to help the youth learn responsibility and accountability, and become more connected to their community

In all cases, PLEA assumes a certain degree of risk because, during the first 10 weeks, the youth are under the program's care and safety. The program staff engage in open conversations with the employers to ensure that they were complying with work safety standards and delivering suitable orientations to the youth, and that the workplace has a good safety record.

In addition to the supplementary support that Career Path staff offer, another advantage of the program is that Career Path pays the young people for their work during the first 10 weeks of the program. This arrangement offers youth the opportunity to verify whether this is a career path they would like to pursue. At the same time, employers can also benefit from this experience; it reinforces their desire to participate and mentor participants as they can use this time as a probationary period to determine whether the young person fits with their organization. Moreover, most of the employer-mentors that Career Path staff approach are incredibly receptive to the program, despite the offending profiles of the youth clientele. This is just one way that employers can give back to the community and support young people in their development. Some employers want to be a part of assisting youth in becoming successful.

Career Path, and now Creative Urban Employment (or Q Program), provide youth a chance at an alternative life outside of organized crime and illegitimate activities.

By participating in conventional activities, developing attachment to an adult role model and their community, committing themselves to their new role and identity, and developing a sense of safety external to the gang subculture, many youth who have completed the Career Path and Q have desisted offending and have detached from their gang associates. The Q Program today has also evolved to take some youth who are

in school part-time and need part-time employment, and youth who need assistance securing employment over the summer. The lessons that should be adopted from PLEA's employment program models are rooted in the programs' practical, collaborative, and multidisciplinary approaches through which youth learn responsibility and accountability, and became better connected to their community.

Jobs for Offenders

While we know a lack of employment has a strong relationship with offending, securing a full-time, permanent job is a significant challenge facing those who return to the community following a custodial sentence (Pager, 2003). Those returning to the community face the stigma associated with being a convict (Harris and Keller, 2005). Additionally, many former offenders have a low level of education or training, and limited or non-existent work experience. Many individuals who re-enter the community following incarceration are further prevented from attaining a job simply because they have a criminal record. It is becoming more common for employers to request job applicants submit criminal record checks, which influence their hiring decision-making (Kurlychek, Brame, and Bushway, 2006).

There is a widespread belief in companies and by human resources personnel that individuals with criminal records will be more likely to reoffend. This is despite findings suggesting that ex-offenders' and non-offenders' risk of offending become comparable once they reach the age of 25 or 26 (Kurlychek et al., 2006), depending on the seriousness of the offence (Blumstein and Nakamura, 2009). The consequence for many offenders is that they face continued stigmatization following the successful completion of their sentence, which greatly decreases their chances of findings legitimate, gainful employment.

Although employers may be more willing to hire exoffenders during periods when economic conditions are poor, in general, the percentage of employers who are willing to do so is small (Holzer et al., 2002).

Studies evaluating post-incarceration recent employment program models reveal promising results. For example, offenders who enrolled in and completed the Center for Employment Opportunities (CEO) in New York within the three months following their release from prison, had less recidivism than offenders in the control group. That is, they were 16 to 22 per cent less likely to be re-arrested, convicted of a new crime, and re-incarcerated (Redcross, Millenky, Rudd, and Levshin, 2012). The long-term impact of the program was less certain, particularly for those who were unemployed after participating in the program. Nevertheless, a cost-benefit analysis revealed that the costs of the program to taxpayers, victims, and participants were outweighed by its ability to lower costs associated with managing these individuals in the criminal justice system.

In reviewing the program model, the reductions in reoffending suggest that this decline may not only be the result of the employment, but of the collaborative services offered from work supervisors and program support workers as a component of the CEO's model (see Bushway and Apel, 2012).

It is critical that employment programs consider the overall risk factors and needs of their clients, and provide a wraparound of support across multiple areas of their lives

Therefore, it is critical that employment programs consider the overall risk factors and needs of their clients, and provide a wraparound of support across multiple areas of the offenders' lives. In one study that examined parolees' re-entry experiences—living arrangements, financial situation, employment, leisure activities, family relationships, substance use, and so on—recidivism was found to be significantly associated with antisocial attitudes, poor problemsolving and coping skills, and unrealistic post-custody expectations (Bucklen and Zajac, 2009).

Many parolees in the program were found to have experienced more difficulties in maintaining a job than in finding one, which the researchers indicated could be explained by attitudinal problems and poor decision making. The researchers further identified the presence of social capital mechanisms, such as having a network of family members and peers, as contributing to the lack of parole violations. Traditional offender employment programs do not explicitly address these additional issues related to offenders' re-entry, so it is not surprising that they are less successful in preventing future recidivism.

Career-oriented program models using a mentoring framework, such as that described in PLEA's Career Path and Q Program, can be valuable to offenders who are returning to their communities, particularly for offenders who have exhibited early signs of criminal desistance and a desire to conform.

Employment Strategy Recommendations

A series of broader offender employment strategy recommendations has been made by The Center for the Study of Social Policy (2012). The first of these is to "enhance workforce preparation during incarceration," by expanding educational training programs that can be offered to offenders before and during incarceration, and that can continue post-release.

The second recommendation is to "improve placement services." This includes the continued development of partnerships with employment services and agencies, as well as potential employers.

It is also important to seek employment opportunities that are diverse and can meet the needs of a unique population of reintegrating offenders. Furthermore, these services should be accessible to offenders through the introduction of centralized "one-stop-shop" service centres that can provide a range of supports for the offenders. A component of this strategy includes providing government financial support to employers to encourage their participation in mentoring programming and employing ex-offenders.

The next strategy they recommend is to "remove barriers to employment for ex-offenders." One key part of this strategy is eliminating bans on hiring former offenders, and the licensing restrictions placed upon offenders, particularly for arrests and criminal records related to minor offences.

Finally, "improve access to work supports" is recommended. This recommendation highlights the need to attach offenders to employment services; to make jobs more accessible for ex-offenders; and, to ensure that released offenders have access to appropriate housing, physical and mental health care, and other services necessary for maintaining a job (e.g., attaining a driver's licence) (The Center for the Study of Social Policy, 2012).

Exiting Gangs

In 2010, after becoming involved with members of a high-risk criminal organization, a teenager committed a violent robbery that posed serious public safety concerns. The young person was charged with several firearms and robbery-related charges, and despite the fact that it was his first youth justice involvement, the seriousness of the offences and the gang involvement led to three years in youth custody. This is the maximum sentence available for a young person committing a crime of that type under the Youth Criminal Justice Act.

The experience of custody was incredibly difficult for this youth and had an exceedingly negative effect. Initially, the young person encountered several challenges in the detention centre and received several incident reports for behavioural problems. He was eventually transferred to another youth facility in the province as a means to temper these conflicts. With time, the young person recognized that he faced three years in the facility and that his actions would not benefit him during his incarceration. It was at this time that he made a conscious effort to modify his outlook.

After a pattern of documented behavioural improvements, the youth was returned to the custodial facility closest to his family home. Upon his return, he continued to exhibit positive changes in his attitudes and behaviours, and realized that he did not want a future of criminal justice system involvement. He also understood that this would involve discontinuing his associations with his criminal peers. As the rapport between this young person and his youth probation officer strengthened, the youth began to speak more openly about his future aspirations. He indicated that he would like to pursue any available options to be granted an early release. The youth's probation officer had worked with several young offenders who had similar offending profiles. She believed that a range of community-based supports for gang-involved youth in a setting that removed the young person from his conventional environment and negative influences could present a more realistic opportunity for rehabilitation and reintegration.

This was based on the notion that the youth could distance himself from the gang affiliates and be afforded training and employment opportunities based on his individual interests and capabilities.

While in custody, he was able to complete his high school diploma and the counselling programs, and he also received a personal training certificate. The youth's release plan specified his relocation to another community. The probation officer also approached PLEA, one of the agencies that delivers a range of community-based services for at-risk and criminally involved young people and their families. PLEA was in agreement that a relocation strategy had great potential to be a successful model for gang exiting, and began to develop a highly structured and individualized case management plan for the young person. The main features of this plan comprised obtaining a safe and stable living arrangement, securing employment, and selecting a one-on-one worker to assist in supporting the young person in the new community.

The process also included meeting with representatives from each of the respective agencies, sharing the youth's story, and ensuring that all parties were aware of their roles in the young person's rehabilitation. At numerous stages of this case planning, the probation officer faced significant opposition from professionals in the criminal justice system and community organizations who were not as confident and invested in the youth's case. Several people challenged the probation officer's requests for assistance and advised that there were insufficient resources available to assist the young person. Fortunately, the probation officer persisted, and ultimately convinced the respective individuals that this young man was fully committed to and capable of complying with the conditions of his exit plan.

Overall, it required more than a year of effort from the youth probation officer, community programs, and members of the youth criminal justice system to fulfill each component of the exit strategy.

The payoff, however, has been immeasurable. Most recently, this young person was accepted into a college program, has moved into his own apartment, and has remained focused on conforming to his non-criminal lifestyle. To this day, he credits his probation officer for his success. He has overcome the early hurdles following his custodial sentence, has obtained the skills to be able to move forward independently, and has overcome the obstacles that continue to arise.

Keeping Young People from Becoming Gang Entrenched

Youth gang involvement has been an ongoing concern in Metro Vancourver and the surrounding region in British Columbia, and has included the distribution and sale of drugs and group-reciprocated violence. Younger gang-associated teenagers typically have parents who work long hours; have immigrated from another country and are new to their community; have family members who are also criminally active in gangs; or, are from lower socioeconomic families and want to make a living for themselves. A common thread in many of the cases is that these young people lack adult role models and are enticed by the solidarity, opportunities, and power that are offered by the gang.

Older, criminally entrenched and gang-involved males are perceptive to these circumstances and seek out younger, vulnerable teenagers. They offer them rides in luxury vehicles, large sums of money, and access to drugs, which leads to the young person incurring debts to the gang. The young people are expected to work for the older gang members and have few courses of escape from this lifestyle. Youth who express a desire to leave are warned of the serious consequences of this decision for themselves and their families. For these reasons, gang-targeted interventions have recognized that skill-building, career-orienting, and mentoring programs are essential for youth involved with these organizations. However, one of the continued shortcomings of these interventions is they do not prevent young people's sustained exposure to antisocial norms and illicit activities. Gang relocation programs can provide a comprehensive range of services free from competing value systems.

A key strategy for designing out crime is to interrupt young people's connections to antisocial peers and criminal opportunities

Given this, one key strategy to designing out crime is to interrupt young people's connections to antisocial peers and criminal opportunities. To this end, services can respond to antisocial behaviours and even prevent the development of incipient at-risk behaviours. If programs rooted in this model were more formally developed, some of the time required to carry out these preparation phases of the exit plan could be reduced, and there would be a clearer framework to guide the requisite planning for individualized case management.

One explanation for young people becoming criminal and gang-involved is that exposure to antisocial attitudes and activities leads individuals to model and adopt similar motivations, skills, behaviours, and rationalizations of those acts (Akers, 1998; Pratt and Cullen, 2000; Sutherland, 1947; Tracy and Kempf-Leonard, 1996). Through repeated exposure to and reinforcement of criminal activities, individuals have a greater likelihood of offending with gangs (Thornberry et al., 2003).

Additional research has relied on a developmental approach to understand how and why individuals join a criminal organization and include elements from the individual, family, peer, school, and community domains (see Maxson, Whitlock, and Klein, 1998). The evidence suggests that there are micro (individual) and macro (structural) correlates of gang involvement, such as low self-control and self-esteem, as well as living in a low socioeconomic neighbourhood, experiencing discrimination, and being exposed to violence in the family and in the community (Howell and Egley, 2005).

In a report for the Government of British Columbia on preventing youth gang violence, Mark Totten (2008) noted that while most gang members are male, females are becoming more visible in gang contexts, and that gangs in Canada are ethnically diverse.

Criminal organizations in British Columbia have required concentrated police efforts for some time. In 2008 and 2009, after experiencing the greatest increase in gang-related homicides, police agencies in the province enhanced their responses (see Cohen, Plecas, McCormick, and Peters, 2014). Despite the importance of these enforcement and suppression responses, early primary and secondary crimeprevention strategies are also needed to discourage young people from joining gangs.

The identification of early risk and protective factors, and the implementation of preventative programs for children and younger adolescents, as discussed elsewhere in this book, can have a positive effect on discouraging gang involvement (see Smith-Moncrieffe, 2013). Once youth and young adults have undergone certain life experiences and have been exposed to gang involvement, it can be very difficult to dissuade them from becoming more entrenched. Tertiary programs designed to target gang involvement, therefore, necessitate approaches that address its underlying causes.

Successful Gang Exiting Strategies

Although the process of gang desistance can be complex, exiting strategies have been successfully employed to disengage young people from criminal organizations and the related offending.

Since many gang members have been found to lack legitimate social capital and conventional social ties, an important part of assisting offenders to leave a gang involves helping them establish positive social relationships (Bovenkerk, 2011).

In his paper on the origins of definitions of social capital, Alejandro Portes (1998) outlines that, in addition to positive social capital, there is also negative social capital that creates even greater challenges for gang members because they have to become disacquainted from not only the members of the group, but also the values and practices of the gang. Due to the severe constraints placed upon them, individuals in gangs lose some of their autonomy. As well, the shared experiences of the members strengthen their cohesion and segregation from the larger society. According to the developmental or life-course perspective, the majority of offenders will age out of offending once they enter their early and mid 20s as they seek more conventional relationships and roles (Sampson and Laub, 1993). This can be true of gang members whose membership is typically for short periods of time (Thornberry, Lizotte, Krohn, Farnworth, and Jang, 1994). Nevertheless, for those young people who are more embedded in criminal organizations, this transition may be more difficult and lengthier.

The primary reason why gang relocation strategies, such as the one described above, can be successful is that they remove the individual from the settings in which they are continually exposed to attitudes favourable to offending. Furthermore, this environment is replaced with one that is safe and stable, through a consistent living placement, positive social supports and mentoring, employment assistance, and any other treatments or services based on the identified needs of the offender. These are areas recognized as essential services for successful gang desistance (Hastings et al., 2011). Relocation strategies can also serve as a developmental turning point that, in combination with employment, can assist the desistance process (Kirk, 2012; Laub and Sampson, 2003). Similar to offending generally, as explained through a developmental perspective, gang exiting has been described as a "process similar to their entry into the gang—in a gradual series of steps and commitments" (Hastings et al., 2011: 5). Another suggested approach to responding to gang involvement is to initiate interventions at the earliest stage possible.

"Gangs in Ottawa are very intimately involved in the drug trade and they are making money off of it. And so there need to be real, viable options for them to have hope for a decent life going foward"

> - Nancy Worsfold, Crime Prevention Ottawa

Since much of the policy focus has been on preventing and interrupting gang affiliation, Crime Prevention Ottawa has also developed a strategy to respond to young adults who are active in criminal organizations (CBC News, 2015). The estimated number of gang members in Ottawa is smaller than in other large Canadian cities. Many of these members, however, began their criminal involvement as adolescents and have remained active as they moved into adulthood.

In June 2013, the Crime Prevention Ottawa (CPO) Board approved a three-year strategy that brings together stakeholders such as Ottawa Police Service, Youth Services Bureau, Ottawa Community Housing, Youturn Youth Support Services, Coalition of Community Heath and Resource Centres of Ottawa, the John Howard Society of Ottawa, and Local Agencies Serving Immigrants. The plan's four overarching goals include: building resilient children, families and communities through positive relationships in gang-affected neighbourhoods; taking inclusive and preventative approaches through social development, situational measures, education, awareness and community policing; identifying intervention opportunities for children, youth and adults, including those at-risk, on the edge of joining a gang, or looking to leave gang life; and conducting targeted, sustained and effective enforcement. (CPO, 2014: 1)

Through continuous, intensive case management, Ottawa's exit strategy has pledged to provide a safe way for gang members to desist from the gang lifestyle. This is done through the strengthening of family relationships, the acquisition of positive social capital, and providing education, training, and employment, with a particular focus on presenting job opportunities



that can support individuals so they do not rely on gang-related criminal activities for money or identity. This latter piece is a critical element of the strategy. Aside from companionship provided by the gang, opportunities for financial and material rewards are one of the greatest challenges in deterring youth from joining gangs or encouraging them to leave (Cloward and Ohlin, 1960).

Nancy Worsfold, Crime Prevention Ottawa's executive director, revealed in a CBC News interview (2014) that, "Gangs in Ottawa are very intimately involved in the drug trade and they are making money off of it. And so there need to be real, viable options for them to have hope for a decent life going forward." The strategy also provides gang affiliates with behavioural and lifeskills, as well as supports to address other underlying issues, such as mental health or substance use needs. The plan incorporates realistic goals and seeks to assist about 30 young males annually, which represents about six per cent of Ottawa's gang population.

In its first year, the strategy successfully reached out to community members and stakeholders to provide information on gangs in Ottawa and also created training programs for parents reporting information related to the youth criminal justice system. Also, referrals to existing gang services improved for members as they reentered their communities after a prison sentence. Although the data thus far is only descriptive and related to policing activities, Ottawa Police Service's Direct Action Response Team (D.A.R.T.) increased the number of arrests of gang members in 2014, while the number of shootings and guns seized in the same year decreased (OCP, 2014).

Interrupting Crime Consistency

It is well established that a small population of offenders are responsible for the majority of crimes (Piquero, Farrington, and Blumstein, 2003). Moreover, among convicted offenders, many have at least one prior youth or adult conviction, while approximately 75 per cent of those who reoffend have multiple prior convictions (Griffiths, Dandurand, and Murdoch, 2007). The incapacitation of offenders by placing them in jail is a central part of crime reduction and interrupting offenders' crime consistency.

Based on the research, programs that focus on deterrence, while successful in some cases, have not been found consistently to effectively reduce offending or recidivism (see Webster and Doob, 2012). Studies have found that more than two-thirds of offenders who are released from jail will reoffend (Durose, Cooper, and Snyder, 2014). The majority of offenders who serve time in prison are eventually released and most of those offenders are sentenced to less than six months in custody (Correctional Services Program, 2015). More strategies aimed at preventing criminal behaviour and encouraging desistance are needed to prevent continued offending once those offenders complete their sentences. Furthermore, governments can save millions of dollars by averting high-risk offenders from continued criminal behaviours (Cohen and Piquero, 2009).

Many offenders cannot be supported adequately in the short time that they spend in custody, and this is especially true for offenders who have substance addiction or mental health issues. Judges should be provided with a greater range of sentencing options for offenders who do not require lengthy custodial stays.

One such option currently available is a conditional prison sentence, as set out in the *Criminal Code* under section 742.1, which allows for sentences to be served outside of jail under strict conditions. To effectively employ this sanction in a greater range of cases, amendments should be made to federal and provincial legislation to increase its availability.

Strategies for reducing offending or recidivism include:

- Increased use of conditional sentences, coupled with community-based services and an integrated approach to supervision
- Increased support services to address substance use and mental illness
- Integrated teams to manage high-risk, high-need offenders

Moreover, community-based services should enhance their offender management supervision and rely on an integrated approach between probation officers, the police, judges, and the courts to ensure that the conditions imposed are being followed (Armstrong, McIvor, McNeill, and McGuinness, 2013).

The provision of intensive community supervision and increased support services that address offenders' substance use and mental illness can improve the likelihood that agencies can better support offenders in their rehabilitation and reintegration, and ultimately in the difficult process of criminal desistance. The existence and use of diversion programs should be expanded so that more offenders can be referred to the needed services and treatments. Prolific Offender Management (POM) programs have been delivered successfully in a similar manner in British Columbia (see Cohen et al., 2014). A paper on crime reduction for the British Columbia government asserted that this approach could provide a cost-effective alternative to problem-solving courts (Plecas et al, 2015). Existing POMs need to be expanded so that service providers and the criminal justice system can implement integrated teams to provide a concerted effort in managing certain high-risk, high-need offenders.



Supporting Parents' Transition during Incarceration

The experience of entering custody is another critical transition period. Reports indicate an increase in the rates of women being incarcerated in Canada through a sentence or pre-trial detention (Sapers, 2013), suggesting that a greater number of families with children are being affected by parental incarceration.

What is important is that prison sentences imposed in Canada are very short. The majority of women found guilty are sentenced to less than six months in custody. Overall, 67 per cent of women who are convicted of a crime are sentenced to one month or less of custody; 25 per cent of convicted women are sentenced to one to six months; and only two per cent of convicted women receive federal sentences of two years or more (Public Safety Canada, 2012). However, the implications of this separation, even if only temporary, can be traumatic and difficult for everyone connected to the offender. Additionally, few female offenders receive continued support after they return to their communities and family homes.

This raises important questions regarding the use of incarceration for individuals with dependent children (see McCormick, Miller, and Paddock, 2014). The incarceration of parents can result in negative consequences for both the parent and the child. It can also trigger other transition problems discussed previously, such as a child's placement in foster care. Research has revealed that a majority of women sentenced to two years or more had children who were 18 years of age or less (Barrett, Allenby, and Taylor, 2010). Studies have also demonstrated that, often, women who are incarcerated were the primary caregivers prior to their sentence (Hissel et al., 2011).

Despite Canadian federal and provincial policies that attempt to encourage correctional visits between family members, such visits are often difficult to achieve. Difficulties include transportation costs, security requirements, sterile and potentially hostile environments of detention centres, visiting hour constraints, and restrictions on physical contact and affection (Blanchard, 2004; Derkzen and Taylor, 2013; Knudsen, 2011; Withers and Folsom, 2007). Each of these factors can heighten the anxieties people may already experience when visiting someone who is incarcerated (Nesmith and Ruhland, 2008; Poehlmann, Dallaire, Loper, and Shear, 2010).

Research shows that parents who receive regular visits from their children while incarcerated are able to sustain stronger relationships with their children, and experience fewer challenges as they reintegrate into their families and communities. Moreover, they have reductions in, and longer intervals between, reoffending and additional jail time (Bales and Mears, 2008; Derkzen, Gobeil, and Gileno, 2009). While continued research is needed, it is recommended that communication and visitations should be made more available during a parent's, in particular a mother's, time in custody (McCormick et al., 2014).

The United Kingdom's Pact Program

One agency that could provide a model is in the United Kingdom and is known as Pact. Pact's Time to Connect Program, which began in November 2012, offers parenting courses to incarcerated parents with the goal of improving parent-child relationships. As a result of the training they receive on healthy child development, positive relationships with their children during this time can be reinforced (Children of Prisoners Europe, 2013).

Although the first sessions in this program are educational, the program also incorporates visits between the parents and their children so that parents can practice using the skills they developed in the program. Following these visits, the parents meet with other program participants to share their experiences and learn from one another.

An important component of Pact's services is the availability of child-friendly visitor centres that parents and families can use either before or after their incarceration to obtain material that may be helpful to maintaining family and child relationships and supporting the parent's involvement in fun activities with their child. Importantly, Pact offers programs for both incarcerated mothers and fathers.

Evaluations of Pact's services have found that these programs have improved incarcerated parents' relationships with their children and also led to a decreased likelihood to reoffend (see Pact, n.d.). This is attributed to its focus on the multiple stages in the process of entering and exiting custody, as well as the inclusion of both parents and children in the program design.

Supporting Parent-Child Relationships

In a paper for the BC Centre for Safe Schools and Communities, Amanda McCormick and colleagues at British Columbia's University of the Fraser Valley (2014) noted that improvements are needed in several areas related to the relationships between incarcerated parents and their children.

These include using information-sharing protocols from the point of arrest by the police, and working closely with social workers. Better protocols for placement decision-making are also required to ensure that incarcerated parents who were the primary caregiver are informed of their child's placement.

There is also the need for additional awareness, education, and training for social workers, youth care workers, and teachers related to supporting youth with incarcerated parents, as well as training for correctional staff and parole workers to assist further during transitions out of custody.

Further, there is a need to maintain communications and visits between incarcerated parents and their children, and to provide supportive programs to assist in this. We also need more data on the prevalence of these issues, along with research into the effect of these experiences on young people and the potential benefits of programming and practices to address these concerns. The appointment of a national advocate responsible for overseeing children and youth's rights more generally within Canada would be useful.

Conclusion

Many individuals experience events in life that influence their paths toward or away from offending. Community support can make a substantial difference for those people. There are, however, several important factors to consider about whether members of our communities are being supported sufficiently during these turning points. These start with an examination of the underlying reasons why people may be undergoing transitions at particular points in their lives. Transitions may be associated with entering a new life stage, ongoing personal challenges, or already established criminal behaviours. As a result of these changes, a person may be transferred between one or more social or justice-based services, become homeless, lose a job, enter the criminal justice system, or reintegrate back into the community following a period of incarceration.

Appropriate community-based agencies need to engage in collaborative case planning with the individual in need. An essential element in the success of a person undergoing any of the above-outlined experiences is the ability of service providers to deliver consistent, collaborative responses that address the primary needs of the person at each stage of the transitioning process.

Finally, there is a need for the individual experiencing these transitions to be open to the supports that are being offered and to commit personal effort to participating in these supportive intervention strategies. Accordingly, it is extremely important that professionals and others helping to engage offenders have the skills to inspire that kind of profound willingness in offenders. It is through successfully matching a motivated person with the appropriate services and programs that communities can prevent and reduce crime. To effectively design out crime, communities must be committed to implementing and maintaining those programs that have demonstrated success in assisting people to either not transition from a law-abiding lifestyle to a criminal lifestyle, or to move from offending to becoming a law-abiding citizen.

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Designing Out Opportunities for Crime

By Jordan Diplock

Introduction

ne way to begin thinking about what we might do to design out crime is to consider the distinction between our efforts to address the factors that lead people to commit crime, and those that exist in the environment that facilitate the commission of offences. The former addresses what Brantingham (2010) called the domain of "criminality," while the latter addresses the domain of "crime" or the "criminal event."

Efforts to prevent criminality can cover such diverse strategies as drug awareness education presented to children by police, anti-gang programs targeting teens, community restorative justice programs, sentences of incarceration, and rehabilitation programs. Efforts to prevent the crime event can cover a similarly diverse range, including requiring crime-prevention principles to be embedded in city planning processes, establishing informal neighbourhood surveillance programs, hiring private security companies, installing locks and alarms, and enacting laws to prohibit behaviours that encourage or lead to crime.

Crime-prevention activities addressing both the criminality and the crime event can cover the spectrum of risk levels for future crime. Paul Brantingham and Frederic Faust of Florida State University's School of Criminology organized the range of crime-prevention activities into a model with three separate categories: primary, secondary, and tertiary (Brantinghan and Faust, 1976).

Activities grouped under primary crime prevention are intended to address broad risk factors within individuals and the environment to prevent crime before it happens.

The effective design of environments, products, and activities is key to designing out opportunities for people to commit crimes

Secondary crime-prevention activities target specific individuals and places or situations exhibiting known risk factors that make them likely to be crime problems in the near future. Tertiary crime-prevention activities address the risk factors inherent in those individuals, places, and situations that are already causing crime. Effective strategies will inevitably require coordinated responses incorporating both criminality and crime-event prevention at all three levels.

With the above in mind, this chapter will focus specifically on how to improve crime-prevention efforts that address the criminal event. This involves preventing opportunities and changing the perception of the existence of crime opportunities through the effective design of environments, products, and activities. To set the stage, this chapter presents an overview of the explanations that most closely address the majority of activities designed to prevent crime events. Using theory-informed problem-solving, this chapter examines the overarching strategies of what criminologists call Crime Prevention Through Environmental Design (CPTED) and Situational Crime Prevention to make specific suggestions for designing out opportunities for crime.

Theoretically-Informed Crime Prevention

Various explanations have been developed, tested, and revised to explain what, how, and under what circumstances crime is caused. These explanations point to several ways to prevent crime by targeting the causal factors. While no panacea has been or is likely to be discovered for eliminating all crime, collectively there exists a strong understanding of what factors come together to put individuals and places at risk for criminality and crime respectively.

The goal for those looking to implement effective crime prevention should be to use this collective knowledge to tailor strategies to the specific crime problems in their communities. Too often, it seems that crime-prevention activities are adopted from what has shown promise in other jurisdictions with an incomplete understanding of why they worked or were expected to work, what theories informed their development, and how the crime problems differed in the jurisdiction in which the activities were originally implemented. It should not be assumed that what worked in theory or practice in one jurisdiction will automatically work in another.

The Importance of Theory

While there is no guarantee that a rational, theorydriven crime-prevention activity will produce the intended results or won't have negative unforeseen consequences associated with it (Grabosky, 1996), failure and other negative consequences are much more likely without consideration of the theories and their limits to guide the selection of appropriate crime-prevention activities. At best, crime prevention uninformed by theory may contribute to reductions in crime, but the results will be more difficult to evaluate and nearly impossible to replicate. More likely, the activities will waste the time, money, and effort of those involved, and weaken motivation for further crimeprevention efforts. At worst, these poorly conceived activities may actually contribute to more crime.

Example: Neighbourhood Watch

One example of a program that can be effective in many situations, but has often failed as a result of not considering theory and proper problem-solving, is neighbourhood watch. Many communities around the world adopted these programs, some effectively and some not, after the reported success of the Block Watch program in Seattle, Washington.

The original program was targeted specifically at residential burglaries and seemed best designed to meet the short-term needs of the community in which it was implemented (Bennett, 1992). While the program was originally found to be very successful, the effect waned over time in Seattle, and many other similar programs were also unable to achieve prolonged results, perhaps because of the neglect of an underlying theory for the program (Bennett, 1992). When other communities adopted the program, few considered the specific needs of their communities and how the underlying program theory should be adapted to the new context. These applications often failed to incorporate many aspects of the original program that had led to its short-term success (Muller-Cheng, 2009).

While watch-type programs continue to be popular in many communities, many have lost their problem focus, are under resourced, are difficult to sustain, and operate primarily in neighbourhoods that have a low risk for crime. These factors also make the programs difficult to evaluate and raise questions about the future for these programs. While there is some evidence that these programs can reduce crime, there are relatively few high quality evaluations, particularly recent ones (Bennett, Holloway, and Farrington, 2008). This is likely because these programs are either assumed to work or there is a lack of interest in taking on the challenge of evaluating them. Without a strong problem focus and theory to link the intervention to the problem, many of these programs struggle to remain relevant despite their track record and general appeal.

While many theories explain why some individuals or groups exhibit higher levels of criminality than others, few theories seek to explain criminal events. These are the theories that commonly inform types of strategies for designing out opportunities for crime, which are the focus of this chapter. Other criminological theories that explain criminality will form the basis of many of the strategies suggested elsewhere in this book. The explanations that are discussed in this chapter include routine-activity theory, the rational-choice perspective, and the broken-windows theory. The common thread linking these theories is that they focus on how opportunities and perceptions can ultimately lead people to make the decision to commit a crime.

Routine-Activity Theory

Theories that explain crime events build upon the classical notion that crime is a choice made by people who rationally weigh the benefits and costs of their actions. In their research of social change and crime rate trends, Lawrence Cohen and Marcus Felson of the University of Illinois introduced the idea that offenders decide to commit a crime when they are presented with an opportunity to commit one (Cohen and Felson, 1979). The busy modern environment presents numerous opportunities for crime to occur in everyone's daily lives. The theory suggests that if a motivated offender comes in contact with a suitable target at a time and place where guardianship that could prevent an offence is absent, the result will most likely be a crime event. The "opportunity" is the chance coming together of these three elements.

As routine-activity theory continued to develop, it proposed that opportunities can be removed by "controlling" at least one of the three elements of the offender, target, or location, which will prevent the crime event (Eck, 1994, as cited in Felson, 1995). Controllers are those who handle motivated offenders, guard suitable targets, and manage locations. These are the people or substituted technologies responsible for crime prevention.

Crime-prevention activities informed by routine-activity theory will focus on removing opportunities for crime by "controlling" the offender, the crime target, and/or the location

The type of controller a person or technology represents is based on their role in the crime element, rather than on the individual. One person can be all three types of controller by, for example, being a guardian to personal belongings while out in public, being a handler while monitoring a child's behaviour in a shopping mall, or being a manager while taking steps to create a home environment that removes opportunities for crime.

Although controllers may exist generally in the environment as bystanders going about their business, they are thought to be most effective if they have a personal stake in preventing crime or are specifically assigned/designed for the purpose of handling, guarding, or managing a situation (Felson, 1995).

The theory is not concerned with the causes that actually make someone a motivated offender. Instead, it assumes that the presence of motivated offenders is constant, that anyone could be a motivated offender if the right opportunity is present, and that if a motivated offender is willing and able to commit a crime, he or she will.

Therefore, crime-prevention activities informed by routine-activity theory will not try to identify and change offenders or their motivations, but will require a focus on getting controllers to adequately play their role. This can be a challenge, even for those who should have a vested interest in preventing opportunities for crime (Sampson, Eck, & Dunham, 2010). Those who should be responsible controllers may not know what interventions are effective or they may feel that implementing effective interventions requires too much effort or expense.

Crime-pattern theory says that offenders commit crimes along their typical daily routes between their homes, places of work or school, and other hang-out areas

Controlling the Controllers

To account for this, Rana Sampson, John Eck and Jessica Dunham of the University of Cincinnati's Division of Criminal Justice described the importance of incentives in controlling the behaviour of the controllers (Sampson, et al., 2010).

They argued there is often a need for other individuals, groups, organizations, and governments to use their influence to accomplish one or more of the following five goals: reduce the effort required by controllers to implement effective crime-prevention activities; add a risk of penalties for not complying with rules that require the adoption of crime-prevention activities; add rewards for adopting effective crime-prevention activities; remove excuses by controllers to not implement crime-prevention activities; and, reduce the likelihood that controllers will be provoked, which may increase the problem.

Those responsible for influencing controllers were labeled "super controllers" (Sampson et al., 2010). There is wide applicability for these super controllers. For example, in Australia, Michael Townsley, Benoit Leclerc, and Peter Tatham (2015) demonstrated how the concept of super controllers was effectively applied to the problem of modern maritime piracy.

Crime-Pattern Theory

Inherent in routine-activity theory is the assumption that most offenders are opportunistic and simply come across easy criminal opportunities in their daily routines, generally without going out of their way to commit crime (Brantingham, Brantingham, & Taylor, 2005). This assumption has been built upon by crime-pattern theory, which says that offenders will commit crimes along their typical daily routes (known as paths) between their homes, places of work or school, recreational locations, and other hang-out areas (known as nodes) (Brantingham & Brantingham, 1993a,b).

These tendencies distribute crime in predictable patterns spatially, with the greatest likelihood of offending occurring in locations along paths of motivated offenders. Often crimes take place a short distance away from nodes and gradually decrease as the distance away from the node increases. This understanding of crime distribution emphasizes the importance of knowing the places where crimes most commonly occur and offenders most commonly travel, to strategically target the placement of crime-prevention interventions by guardians and place managers.

Although the theory presents a simple and effective way to understand crime events and suggests ways to prevent them, it is not without its limits. Just as it assumes offenders do not go out of their typical daily routines in search of crime opportunities, it also assumes that most offenders are generally not adequately specialized or prepared to overcome instances when opportunities are not present. While this may accurately represent the majority of offenders, some crime problems are the result of offenders who create their own opportunities, putting much more effort and preparation into their criminal behaviour. These offenders will maintain their motivation for crime despite the general implementation of crimeprevention interventions used by guardians, managers, and handlers, and will actively seek out new targets if their planned opportunities become blocked. Much more intensive efforts are required to handle those offenders and address their underlying motivations.

Rational-Choice Perspective

Even when an opportunity for crime presents itself, a crime is not guaranteed to occur. The offender must make the decision to do so, and this decision will largely be based on the offender's perception of reward and risk.

The rational-choice perspective was developed by Derek Cornish and Ronald Clarke in the United Kingdom (1986) to help explain how situational crime-prevention activities affect the choice of an offender to commit a crime. This theory assumes that all offenders, in making this choice, use their perception of the environment and the situation to calculate the likelihood of reward and risk. Ultimately, they commit the crime if doing so would result in more expected pleasure than expected pain. The goal of crime prevention activities informed by the rationalchoice perspective is to alter offenders' perceptions so that the perceived benefit from crime is minimized and the perceived consequences are maximized.

Importantly, the rational-choice perspective recognizes that the true risks and rewards from a potential crime are almost never known to offenders, and that offenders themselves are rarely accurate calculators of the outcomes of their behaviours. This means that they operate using what Cornish and Clarke (1986) referred to as bounded or limited rationality, relying on their perceptions and beliefs about risk and reward, which may not reflect reality. In fact, the perception of risks and rewards may be more determined by factors such as drug use, personal experience, stories from other offenders, over-confidence, and impulsivity than by the real risks and rewards.

If a crime has occurred, regardless of how random or ill-conceived it may seem to outside observers, the theory argues that an offender has perceived some gain to overcome the costs. Crime-prevention interventions informed by this theory must consider how both risk and reward of a specific crime opportunity are perceived by most potential offenders. This limited rationality has the potential to make dissuading offenders easier in some cases and much more difficult in others.

While the rational-choice perspective can be used to explain an offender's decision to be willing to commit crime—weighing factors such as the social and legal costs of crime against other factors such as the If a crime has occurred—regardless of how random or ill-conceived it may seem to observers—the rationalchoice perspective argues that the offender believed the rewards outweighed the risks involved with commiting that crime

potential for quick gains, a tough reputation, and other perceived benefits-it generally concentrates more on the immediate factors of the crime event than the consequences in the distant future (Cornish & Clarke, 1986). The rational-choice perspective suggests that once an offender is ready to engage in crime, the choice to commit a specific crime is based on their assessment of several immediate factors, the perceptions of which crime-prevention activities look to alter. These factors include the number and accessibility of targets, the offender's familiarity with the method required to commit the crime, the monetary yield (or other value) of the crime, the expertise needed, the time required, the physical danger involved, and the risk of apprehension.

The important limit of the rational-choice perspective is the notion of bounded rationality—in other words, it cannot account for the wide array of factors that may affect an individual's decision-making. This presents a challenge for crime-prevention interventions. For example, if a person's perception of criminal opportunities and the risk involved is influenced by such factors as intoxication or addiction, it may be more difficult to prevent the crime than by simply altering the risk. In these situations, addressing the factors that impair rationality may be more effective than trying to predict and alter the offender's perceptions of risk and reward at the time of the opportunity.

Broken-Windows Theory

Another theory that is important in understanding crime events is broken-windows theory, introduced by U.S. social scientists James Wilson and George Kelling (1982). This theory underlay the practices that reduced crime in New York and Los Angeles in the latter part of the 20th century and allowed the cities to shed their reputations for being unsafe. While the theory did influence those practices, the theory has since largely been misunderstood as consisting of zero tolerance for disorder with a focus on strict enforcement and punishment (Engel et al., 2014). While it does emphasize the need for crime and disorder to be addressed, the theory is more about perceptions of risk and the opportunities created because of those perceptions, than about enforcement and punishment.

Broken-windows theory was influenced by an earlier experiment performed by Stanford University psychology professor Philip Zimbardo (1969) and also borrowed concepts from U.S. architect and city planner Oscar Newman's (1972) concept of "defensible space." Bringing together the concepts of perception and opportunity, the theory explains that how an environment is perceived can not only increase the likelihood that crime will occur there, but also lead to more opportunities for crime. The main premise of the theory is that offenders make decisions about crime based on their perception of what is normal or acceptable in a particular location. When there are obvious signs of disorder, even a broken window, it signals to potential offenders that criminal behaviour is not monitored and is acceptable in that area. This is believed to lead offenders to commit more serious offences. The subsequent deterioration sends a similar message to legitimate users who could be potential guardians of targets and managers of the location, scaring them off, and leaving the area susceptible to further crime and disorder.

Zimbardo's (1969) experiment provides a strong example for the theory. In the experiment, two cars were abandoned, one in a poor, "rough" neighbourhood in the Bronx, New York, and another in a safer, more affluent neighbourhood in California.

Building a sense of ownership, removing even small signs of disorder, and having the capacity to respond with vigilance and sanctions are critical in implementing brokenwindows theory

The car in the Bronx was stripped bare within a day, while the other car was left untouched for a week. The experimenter then smashed the window of the car in the safer neighbourhood, and within a short time, that car too was destroyed. In the Bronx, there were already signs of disorder that supported further crime, while in the California neighbourhood, the car's broken window became a signal that further crime would be accepted.

Incorporating broken-windows theory into crime prevention would suggest that, to prevent crime, a location needs to be perceived as protected by its users, which increases the perception of risk to offenders. Importantly, improving the perception of safety in a location can actually improve safety, because a place that feels safe will deter offenders when an opportunity for crime may be present. It will also bring more people who could act as guardians to that location, and prevent the opportunity from developing in the first place.

It is this overall theoretical mechanism that has often been overlooked by the public understanding of the theory. According to experiments of broken-windows theory conducted and reviewed by Christoph Engel of Germany's Marx Planck Institute for Research on Collective Goods and his colleagues (2014), while increased vigilance and sanctions are necessary to reverse social disorder, they alone cannot sustain low levels of crime without the management of a neighbourhood's image. Therefore, building a sense of ownership, removing even small signs of disorder, and having the capacity to respond with vigilance and sanctions are all critical elements of this theory and in preventing crime and reversing neighbourhood decay.

Spotlight on CPTED

One way in which communities can adopt theoryinformed crime prevention is by effectively incorporating CPTED into their plans for future growth and development. CPTED, meaning Crime Prevention Through Environmental Design, is a multidisciplinary approach to preventing crime that asserts that the proper design, effective use, and maintenance and management of the built environment can reduce crime (Crowe, 2000).

Building on theories and knowledge from several fields, including criminology, policing, behavioural sciences, architecture, and urban planning, the goal of CPTED is to eliminate crime problems, ideally before they exist, by designing the physical environment in a way that removes or reduces opportunities for crime and disorder. Research has shown that CPTED can be an effective strategy for reducing and preventing crime, both in the immediate area of the designed space and around it (Cozens & Love, 2015). However, because CPTED is a complex and variable approach to preventing many types of crime and disorder, evaluative research cannot unequivocally conclude that it has been effective or that findings from one project can be generalized to others (Cozens & Love, 2015).

The Seven Main CPTED Strategies

There is no one internationally recognized standard framework for the concepts, principles, and terminology for CPTED (Gibson & Johnson, 2013). This has meant that the implementation of CPTED has differed by location and is understood differently among those who attempt to study and apply it. However, in their 2015 review of the status of the CPTED concept, Australians Paul Cozens and Terence Love identify seven main types of strategies for CPTED that appear to exist in some capacity in much of the literature. They are: territoriality, surveillance, access control, image management, legitimate activity support, target hardening, and geographic juxtaposition.

Territoriality

Territoriality was perhaps the primary concept of CPTED upon which the other strategies were built (Cozens & Love, 2015). Territoriality strategies involve using real and symbolic barriers, such as signs or changes to landscaping, to separate public and private or semi-private spaces. When done effectively, territoriality strategies create the perception of ownership and protection without giving the impression of fortification. The strategies are informed by the goals of broken-windows theory, reducing opportunities for crime by influencing the perceptions and, thus, behaviours of offenders and legitimate users. Potential offenders should feel that there is increased risk in venturing illegitimately into semi-private or private space because of the perception that it is guarded by those who control the space. At the same time, legitimate users still feel the space is safe and welcoming, so they use it and act as capable guardians.

Surveillance

Surveillance strategies are all about creating physical design that enhances a person's perception that they could be seen. Often this is achieved through the use of clear sight lines, open space, and well-placed windows. Effective surveillance, either naturally from other users or mechanically, creates the perception of increased risk to potential offenders, as it could mean that capable guardians could be summoned if the offender looks suspicious, or that the crime would be witnessed or recorded. These strategies require both actual surveillance and the appearance of surveillance to be effective; therefore, it is important to make it clear to users that they are being watched and to limit spaces for which there is no surveillance.

Access Control

Access-control strategies require the use of paths, doorways, and real and psychological barriers to influence the movement of people and vehicles through the space.

From a routine-activity theory perspective, effective designs would predict people's movement and keep illegitimate users away from suitable targets in unguarded locations. In terms of the rational-choice perspective, effective access control should increase the perception of risk for offenders by making it clear and conspicuous to others when they are loitering, moving through the space improperly, or are present in a place where they are not a legitimate user. At the same time, proper access control allows legitimate users to move as naturally and safely through the space as possible.

Image Management

Image-management strategies are again informed by broken-windows theory, seeking to prevent or quickly address early signs of disorder. Because small amounts of disorder can signal to potential offenders that ownership of the space is weak and the risk to offenders is low, it is important to maintain the appearance of the space to preserve the sense of territoriality. Also, because the benefits of territoriality, natural surveillance, and access control require the presence of legitimate users willing to intervene if needed, proper maintenance and management of space is necessary to continue to make those legitimate users feel safe and want to use the space. Typically, these strategies are: to use design and landscaping that are easy to maintain and look aesthetically pleasing; to use materials that are resistant to wear, damage, and vandalism; and to schedule regular maintenance of the space.

Legitimate-Activity Support

Legitimate-activity support represents strategies to draw in more legitimate users to the space and create the impression that it is not a suitable environment for criminal activity. Having more legitimate users is intended to enhance the perception of risk and increase guardianship. Therefore, this strategy seeks to design safe spaces and use other incentives to encourage users to come and use the space as it is intended. These strategies can also bring more potential suitable targets of crime to the space, so adopting this strategy requires consideration of how to ensure that the increase in users actually increases the perception of risk to offenders rather than provide anonymity that would decrease the perception of risk (Cozens & Love, 2015).

Target Hardening

Target hardening, though its inclusion as part of CPTED strategies is debated (Cozens & Love, 2015), represents strategies intended to make crime more difficult or less rewarding. It employs the use of locks, gates, fences, and other physical barriers to not just create the perception that accessing a target will be more difficult, but to actually make it more difficult. Target hardening is required in all design to some extent, and is a staple of crime prevention.

However, if this strategy is relied upon too heavily, it can create a fortress mentality, reducing the effects of other CPTED strategies by deterring the presence of legitimate users (Cozens & Love, 2015). Additionally, an over-reliance on target hardening at the expense of other strategies can encourage offenders to escalate their use of technologies and improve their skills in what psychologist and crime-prevention researcher Paul Ekblom of the United Kingdom called the arms race or innovation race of crime prevention (2005).

Geographic Juxtaposition

Finally, geographic-juxtaposition strategies are those that take into account the effects that nearby locations can have on crime in the space under design. Because no space exists completely in isolation from other spaces surrounding it, there is a need to consider what is in the immediately surrounding area. Since—according to routine-activity theory and patterns-of-crime theory—offenders commit crime when opportunities arise during their daily routine activities as they move between nodes, any locations near the designed space that attract offenders could put the space along an offender's path, increasing the likelihood of crime opportunities. Cozens and Love (2015) suggested that this was one aspect of CPTED that has often been neglected.

Effective Applications of CPTED

CPTED is perhaps most effective if it is implemented at the planning and design phase for a space. This enables developers, architects, city planners, police, and other partners to consider how to prevent crime that has not yet occurred. Ideally, CPTED would not only be implemented for select spaces in isolation, but for all new development in a community. This would allow CPTED to act as primary crime prevention, preventing the development of future crime before any of the risk factors are able to be established.

Incorporating CPTED into new designs allows for the freedom to use many of the CPTED strategies without the limits of existing design. The recommended approach would be to first establish general strategies to prevent commonly occurring crimes, and then apply the concepts of CPTED through strategies specifically designed to address the potential risks related to the intended use of the space and its changes over time.

One example of CPTED at the level of primary prevention is that of Tumbler Ridge, British Columbia. CPTED was incorporated into the design of the entire town from its inception in the 1980s as a new mining town. More than 30 years later, the original mine has closed, so the design features will continue to be tested in ways that may not have been imagined when the town was built. The design's long-term effect on crime has not been empirically evaluated, although crime rates have been low and reported satisfaction has been high (Gill, 2002).



This is a unique example of CPTED as primary crime prevention, as there are few opportunities to implement CPTED for the entire design of a new town. Communities could, however, strive toward an overall community CPTED plan, requiring new developments to be designed with crime prevention in mind, and then gradually redesigning older parts of the community according to the plan.

In existing spaces, CPTED design strategies may be applied to features that contribute to crime or the risk of crime. Using CPTED as secondary and tertiary crime prevention in this way can be aided by effective problem-solving, and, in fact, should be considered as a potential solution for community crime problems that have become the target of problem-solving crime prevention (Zahn, 2007). However, relying only on generalized, prescribed strategies will likely be insufficient to address specific problems and risk factors, so CPTED strategies should primarily be guided by its underlying theories and a strong understanding of the problem and how the environment contributes to the problem.

Governments, particularly municipal governments, have the potential to make better use of CPTED in the designs of communities and other spaces at risk of crime. They can do this by taking on the role of super controllers, as described earlier in the discussion of routine-activity theory.

Governments can make use of regulations or incentives to encourage place managers to design crime prevention into the spaces where they live and work. Many communities in Canada and around the world have already established CPTED guidelines for new developments, suggesting or requiring the consideration of CPTED strategies into designs prior to approval by the municipality for some or all new builds. Some have made commitments to incorporate CPTED into the design of governmentowned buildings or have provided guidelines to private developers.

Communities looking to implement CPTED would benefit from having individuals or groups who could undertake thorough assessments of proposed CPTED projects and work with community crime-prevention problem-solvers

As part of its Crime Reduction Strategy, the City of Surrey, British Columbia had initially intended to mandate that all businesses applying for a new business licence submit to a CPTED audit of their premises and then complete the recommended changes (City of Surrey, 2007). The challenges of such a requirement led the city to change its strategy and instead offer new businesses the opportunity to have a CPTED review done (City of Surrey, 2009). Additionally, other communities have offered training and awareness on CPTED to encourage members of the community to do their part, in addition to any strategies developed by the municipal government (see City of Surrey, 2007).

The key to making CPTED effective is not just in applying the design elements listed under the seven strategies, but in knowing how to apply those design elements to match the specific identified or predicted crime problems (Cozens & Love, 2015). This means that effective CPTED is essentially a problem-solving approach to crime prevention and not simply a set of design ideas that will work for every space.

A CPTED assessment should be undertaken prior to starting any project in order to identify and analyze the problem. Effective assessments gather information from multiple sources, such as crime data, land use data, demographic information, actual observations of the space, and surveys or interviews with residents and other relevant stakeholders. Those undertaking these assessments should have a strong understanding of the community's potential crime problems, the CPTED design strategies, the theories supporting CPTED, and general design principles.

Some municipalities, such as Saskatoon, Saskatchewan, have established CPTED review committees to provide CPTED guidance on new developments (City of Saskatoon, 2015). Communities looking to implement CPTED would benefit from having individuals or groups who could undertake thorough assessments of proposed CPTED projects and work with community crime-prevention problem-solvers.



Spotlight on Situational Crime Prevention

Just as CPTED provides potential crime-prevention strategies in terms of the design of locations, situational crime prevention provides strategies to address identified crime problems in a community. Situational crime-prevention strategies are influenced by the theories discussed earlier in this chapter to prevent or reduce crime events (Brantingham et al., 2005). These strategies were initially presented by Clarke (1980), but have continued to evolve over time.

The main strategies for situational crime prevention can be divided into techniques that:

- Increase the effort required to commit a crime;
- Increase the risks of committing a crime;
- Reduce the rewards obtained from a crime;
- Reduce the provocations that can incite crime;
- Remove excuses for people to engage in crime (Cornish & Clarke, 2003).

According to research by criminologists Patricia Brantingham, Paul Brantingham and Wendy Taylor (2005), these types of techniques can be used as primary, secondary, or tertiary crime prevention.

Strategies that increase the effort required to commit crime will likely prevent offenders who lack specialized skills and simply commit crime when the opportunity easily presents itself. To increase the effort required to commit a crime, one must have a good understanding of how the crime is committed.

Situational Crime-Prevention Techniques

In their research published in 2003, the U.K.'s Derek Cornish and Ronald Clarke present a table of 25 situational crime-prevention techniques (including target hardening, controlling access to facilities, screening exits, deflecting offenders, and controlling tools and weapons) as ways to increase the effort required to commit a crime.

Increasing the Effort

For example, a 2008 report for the Fire Chiefs' Association of British Columbia by Len Garis suggested that indoor marijuana growing operations and their inherent public safety hazards could be reduced if the hydroponic equipment retail industry were licensed and regulated. Regulation would require retailers to collect and report customer information, or customers to obtain a permit to purchase and install the equipment, or require both buyers and sellers to obtain licences, for which background checks would be mandatory. By making it more difficult to obtain the equipment necessary to successfully grow marijuana indoors, the report asserted that some potential growers would be prevented from engaging in this activity.

Increasing the Risk

To affect an offender's perception that he or she will be caught, hurt, or otherwise negatively affected if a crime is attempted, any interventions will need to make the risk obvious to offenders in order to be effective.

Options for increasing risk include: extending guardianship, assisting natural surveillance, reducing anonymity, using place managers, and strengthening formal surveillance (Cornish & Clarke, 2003).

For example, although installing a covert surveillance camera may aid in solving the crime and ultimately convicting the perpetrator, it will not likely deter the crime if the offender is unaware of the increased risk. This is why retail stores often post signs warning potential offenders about their surveillance and the risk of getting caught and prosecuted. Increasing the risk is important, but to prevent crime, creating the perception of increased risk is the key to optimizing these strategies.

Reducing the Rewards

Another technique is to reduce the rewards of crime, to make the offender believe that the crime would either not result in benefit, or that the benefit would be so low it would not outweigh the inherent risks. To reduce the rewards of crime, the situational crime-prevention table lists options such as concealing targets, removing targets, identifying property, and disrupting markets (Cornish & Clarke, 2003).

The 2013 launch of an International Mobile Equipment Identity (IMEI) blacklist database for cellular telephones represents an example of a technique aimed at reducing the rewards for a specific crime: cell phone theft (Canadian Wireless Telecommunications Association, 2013).

The database records the unique identifying number of a cell phone reported stolen and then enables service providers to block access to their networks to those stolen phones, rendering them much less useful to thieves or those who have obtained a stolen phone. The Canadian Wireless Telecommunications Association (2013) has also launched a website so that potential legitimate buyers of used cell phones can check the database and make sure they do not buy a reported phone. If both potential thieves and buyers become aware of this crime-prevention intervention, the perception of reward for stealing cell phones will be reduced, which should prevent many future thefts.

Reducing the Provocations

Reducing the provocations that incite people to commit crime is another strategy. Commonly, these strategies are designed to reduce the chances of interpersonal violence, although property crimes may also be "provoked." Based on the situational crime prevention table, options to reduce provocations include reducing causes of frustration and stress, avoiding disputes, reducing emotional arousal, neutralizing peer pressure, and discouraging imitation (Cornish & Clarke, 2003).

One example of an attempt to remove provocation to prevent crime is a section in Canada's controversial anti-terrorism bill from 2015, Bill C-51, that gives judges the power to deem internet content to be terrorist propaganda and have it removed (Schwartz, 2015). Terrorist groups, particularly the Islamic State of Iraq and Syria, have become skilled at using social media to spread their messages to potential followers. If a thorough problem analysis confirms that individuals are inclined to act out violently as a result of their exposure to this internet propaganda, then removal of such material may prevent others from becoming radicalized and committing acts of terrorism.

Reducing the Excuses

The final technique is to reduce people's excuses for engaging in crime by either making it more obvious that rules exist, or making it easier for people to follow the rules than to commit offences. This technique may help to prevent crimes of ignorance, or crimes of innovation when legitimate ways to meet one's needs are not apparent. This is done by explaining why the rules are in place and highlighting the potential harm caused by breaking the rules. According to the situational crime prevention table lists, options for reducing excuses include setting rules, posting instructions, alerting the conscience, assisting compliance, and controlling drugs and alcohol (Cornish & Clarke, 2003). These techniques may also make it more obvious to potential handlers, guardians, and managers when an individual is breaking the rules and give them certainty that intervening or reporting an offence is appropriate.

While criminologist Brantingham and her fellow researchers argued that municipal governments largely fail when using techniques intended to reduce excuses (2005), higher levels of government can use these techniques to target crimes that are under their authority.

For example, tax evasion through cash transactions between businesses and buyers is not only illegal but costs governments billions of dollars per year. Yet, many Canadians have reported feeling that paying in cash to get a better price or avoid paying sales taxes is not problematic (Hansen, 2014). This enables both the purchaser to pay less tax and the businesses to claim less income while making it challenging and costly for governments to audit.

An example how a government may attempt to remove excuses would be implementing tax credits for expenses paid on services most at risk for this type of tax evasion, such as the home renovation tax credits targeting the construction industry. Contractors can feel pressured to take cash-only projects from buyers in a competitive market or enticed to pay less income tax, and buyers can also be enticed by a discount for cash payments offered by contractors (Goodfield, 2013). If there are incentives to buyers to report transactions honestly, such as getting tax credits, these excuses should be reduced for both parties.

The Need for Innovation

Whether the goal is to prevent crime in places, against products, during activities, or against people, the challenge is to do so while still enabling law-abiding people to meet their needs with those places, products, and activities (Ekblom, 2005). Finding the right balance of the trade-offs between crime prevention and other factors-such as aesthetics, usability, legal and ethical issues, safety, environmental sustainability, convenience, and cost-requires crime preventers to be innovative and design-focused (Ekblom, 2005). Ideally, the balance should occur at the initial design phase, with a thorough consideration of crime prevention before the design is finalized, enabling crime prevention to be built into the whole system.

Government's role in situational crime prevention may include:

- Considering how new and existing locations, policies, products, services could be exploited by criminals
- Providing incentives for crime-prevention innovation
- Promoting consideration of crime prevention into designs for places, products, and activities
- Enticing companies or non-governmental regulatory bodies to address places, products, and activities with identified design flaws

However, more often, places, products, and activities are identified as crime problems after their initial design phase, requiring solutions to the design flaws that are exploited by criminals. Ekblom (2005) warned against crime prevention add-ons that are either superficial at best or too cumbersome to balance the trade-offs described above. Therefore, innovation needs to be fostered for interventions at the design phase and afterwards.

Again, governments have an important role to play in situational crime prevention and encouraging innovation in crime prevention. First, governments should consider how their new locations, policies, products, and services could be exploited by criminals, and identify where there are design flaws in ones that already exist. It would then be important to establish problem-solving processes to address identified problems. For example, issues with the welfare and health systems in British Columbia led to a proliferation of unregulated drug recovery homes that caused problems in some municipalities (Sinoski & Pemberton, 2014).

Collaborative problem-solving approaches between the levels of governments involved can be used to find solutions that address the existing design issues within the provincial systems and bolster regulations through municipal actions. These solutions could seek to implement one or more of the five techniques for situational crime prevention.

Another way governments can aid in situational crime prevention is as a super controller—providing incentives for innovation and promoting the consideration of crime prevention into designs for places, products, and activities. Awards or grants could be used to help foster innovation, perhaps even guided by a province's priority crime problems. Governments could also identify and entice companies or nongovernmental regulatory bodies to address places, products, and activities with identified design flaws.

The CLAIMED Framework

Research by U.K. psychologist Paul Ekblom (2005) described CLAIMED, a framework that could be adopted by governments to aid in the promotion of efforts to design out crime.

The steps from the CLAIMED framework include:

- Clarifying the crime-prevention tasks or roles that are needed,
- Locating the individuals and organizations best suited to undertaking them,
- **Alerting** them of the risk or opportunity present,
- **Informing** them of the nature of the problem/ risk/causation,
- Motivating them through incentives and other super controller techniques,
- **Empowering** them through training, information, and tools, and if necessary,
- **Directing** them through specific standards and targets.

To do any of these steps, governments would need to put greater priority on crime prevention and assign a branch of the government or another organization to identify the real and potential crime problems and develope the strategies necessary to help others find solutions.

Conclusion

This chapter has focused on ways to develop effective strategies to prevent crime events by learning from the existing theories and applying a problem-solving approach. These are certainly not new ideas, but they deserve to be restated, as they are often not given their due consideration as part of an overall crime reduction strategy. Effective crime prevention can be complex, but it is also an area that has benefited from much research attention and lessons from decades of successful and failed projects. While innovation and approaches tailored to specific crime problems are necessary, there are popular frameworks, such as CPTED and situational crime prevention, which closely adhere to the theories and a problem-solving approach.

Those looking to prevent crime in their communities could benefit from understanding these types of approaches and developing the capacity to implement them as part of their overall crime-reduction strategies.

Other chapters explore complementary strategies that can address criminality in individuals. These strategies may also be influenced by the theories presented in this chapter and would benefit from an effective problemsolving approach. For example, many crime-reduction strategies focus on increasing the role of handlers of at-risk individuals or prolific criminals as suggested by routine-activity theory, while also being influenced by other theories related to risk factors for criminality.

Additionally, strategies for using innovative new technologies to control criminal behaviour are likely to use many of the concepts discussed in this chapter. Effective crime reduction requires a multifaceted approach that makes use of both crime event and criminality prevention strategies at the primary, secondary, and tertiary levels.

While this chapter deals primarily with crime events and the individuals who can prevent crime as handlers, guardians, and managers, it is important to remember that many of the people who can benefit most from taking on these crime-prevention roles effectively are crime victims themselves. Without turning the blame for crime onto victims, communities should look to the strategies discussed in this chapter to insulate repeat victims from the risks inherent in their lifestyles.

One needs to recognize the crime-prevention potential of helping these victims make effective changes to the locations where they live and work, their use of risky products, and their activities. Moreover, there is often a great deal of overlap between victims and offenders, meaning that those who cause crime are also those at the greatest risk of having crime done to them (Schreck, Stewart, & Osgood, 2008).

As those looking to address crime problems in their communities consider the other strategies aimed at reducing criminality outlined in the other chapters of this book, they should be cognizant of this fact and consider the benefits of placing additional focus on using crime-prevention knowledge to help these individuals reduce their risks of victimization.

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Designing Out Crime through the Use of Technology

By Irwin M. Cohen, Kevin Burk, and Adrienne Peters

Introduction

apid and constant advances in personal and business technology have improved the lives of all Canadians. They have also increased the likelihood of people becoming victims of crime. The use of online banking and shopping, social media, and the proliferation of mobile devices, for example, have increased the rate of fraud, identity theft and property theft, and have led to the introduction of online bullying.

At the same time, a range of crime-prevention strategies and techniques that rely on current technology to increase public safety have helped to reduce the fear of crime for individuals, and served to diminish our reliance on the police and other agencies of criminal justice to keep us safe. We have introduced technology into our homes, our businesses, on our person, our

The effective design of environments, products, and activities is key to designing out opportunities for people to commit crimes.

vehicles, in public spaces, and online to reduce the opportunities for crime and to protect ourselves as we go about our daily lives. We adopt and integrate public and private technologies to protect us against motivated offenders.

This chapter will outline some of the technologies we have implemented to help design out some of the most common crimes affecting individuals and their communities.

Locking Technologies

One crime that frightens people most is a break-andenter of their residence or business. This is seen as an intrusive and personal violation. People have been using locks on their doors for centuries to protect their families and their belongings. And, while the quality of both locks and keys has improved through the use of stronger materials and more complex locking mechanisms, modern technological advances make locks even better and much more difficult to circumvent. Criminals typically focus on "soft" targets or homes with a general lack of guardianship. To increase the challenge to offenders, the use of good lock technology is an effective crime-prevention technique. However, even good key-based locks have a risk of the key being stolen or copied without the owner's consent or knowledge.

Keyless Entry

While there are some lock and key sets that restrict the ability of the key to be duplicated, technology exists to circumvent this concern by producing keyless entry locks. As the name implies, these locks do not require a key. While they have been long used in apartment buildings and condominiums, they are less commonly used in homes.

There are a number of different options for keyless entry locks, such as biometric, keypad, radio-frequency identification (RFID), or mobile phone applications. Biometric locks use a genetic marker (typically a fingerprint) to unlock the lock, while the keypad requires the owner to enter a series of digits. These type of systems can store a number of different codes, so that each member of a household can have their own code, and temporary codes can be given to visitors (or workers, in the case of businesses) that can later be removed from the system. This allows people to have temporary access to the premises without the fear that copies of keys may be made by others. RFID is very similar to a traditional key in that the user swipes a card or has a fob that unlocks the lock. However, while it is much more difficult to copy than a key, RFID allows access to anyone in possession of an active fob or card without any other type of authentication.

With the widespread use of smartphones, application designers have developed a number of Bluetooth and web-based solutions to keyless entry that work in conjunction with a phone. In addition to the option of using a traditional key, keypad, or fob with the system, users install an app on their smartphone that connects to the lock through the internet or via Bluetooth. Using the security already installed on the smartphone, the user simply activates their app to unlock the lock. Of course, as part of any home or business security system, it is important that the lock system be of sufficient quality to make it difficult for thieves to either break the door, remove the lock, or get around the mechanism by breaking a window.

Wireless Doorbells

In addition to technological advancements in locks, there are interesting advancements in wireless doorbells that come with cameras that send a video feed from the doorbell to the owner's smartphone.

This technology, while primarily designed for convenience, can serve as a deterrent to burglars who ring the doorbell and listen for activity to determine if anyone is home before breaking into the home or business. Even if the home or business owner is not on the premises, when their doorbell is activated, they can receive and record video of the person at the door and interact with them, thus deterring a would-be burglar.

Alarm Systems

A more common way people protect their homes is with an alarm system. Research in the United States indicates that a home without an alarm is more likely to be the target of a burglary, and that potential thefts are deterred by the presence of an alarm (Blevins, Kuhns, & Lee, 2012). There are many other low-tech target-hardening options (in other words, measures that improve the security of a building or area), such as a fence around the property, a gate barring entrance, and landscaping and lighting that allow the property to be viewed from the street. However, good locks on doors and windows, bars on windows, the presence of a dog, or a monitored home alarm system also remain excellent deterrents.

Technology continues to improve the effectiveness of home alarms by making them more customizable to the needs of the user and linking the alarm system to the user when they are not at home. For example, modern home alarm systems can be accessed by the user remotely through a computer, smartphone, or tablet that allows the owner to check the status of the alarm system, turn on or off the alarm remotely, and be notified by email, text, or phone if the alarm is tripped. Some provide a live feed from security cameras both inside and outside the premises.

In addition to providing greater control and information about the residence when the owner is away, the technology can also be used to reduce the number of false alarms. This is important because, in many jurisdictions, false alarms make up the largest proportion of police calls for service, which results in a waste of a very limited resource and a reduction in the ability of the police to respond to actual emergencies and priority calls.

Device Security Options

As many items of value continue to get small and lighter, such as portable electronic devices, technology can also make it somewhat easier for people to recover those goods when they are stolen.

Among the most common items stolen from residences or in robberies, in addition to money and jewelry, are mobile devices, such as smartphones and tablets. To reduce the utility of stealing someone's smartphone or tablet or gaining access to any personal information stored on the device, owners can lock their screens with a password or biometric scan.

Moreover, many devices have unique serial numbers that are registered with the carrier. Notifying your carrier that the device is missing or stolen will enable them to put the device on a missing phone list.

Tracking Technologies

Most devices also have applications that allow owners to track the location of a missing or stolen device through its GPS, and to erase all information on the device. This is a useful tool because it makes the device unsellable and, thus, a less attractive target for thieves. Increasingly, technology companies and app developers are making tools to protect the personal information of users or to make the device inoperable in situations where the device has been lost or stolen.

Microdotting

For other types of property that might be stolen, such as televisions, stereo equipment, computers, pieces of art, or vehicles, microdotting is a technology that can assist in target hardening and in identifying and retrieving property if it is stolen. Microdotting involves placing a pattern of tiny dots that are not visible to the naked eye in various places on a piece of property and then registering the information so that recovered property can be identified.

Virtually anything can be microdotted and this process works best when accompanied by signage in the business or on the residence that all property has been marked and registered. While this technology is not currently in widespread use in North America, its adoption could reduce the motivation of offenders to target locations with high value, portable items.

Two of the most common types of theft in North America are theft from a vehicle and theft of a vehicle. For both of these types of offences, microdotting can be used to identify and recover the stolen property. There are existing technological deterrents to the theft of property from a vehicle, but they are often not employed. People often fail to lock their vehicles, park in well-lit or monitored areas, or remove valuables from their vehicles. While microdotting might not deter those who steal vehicles for joyriding or to use for a short period while committing other offences, it may deter them from stealing a vehicle for the purpose of selling it.

Immobilizers and GPS Trackers

There have been many low-tech attempts to deter vehicle theft, such as steering wheel locks (e.g. "The Club"), tire locks, and better door locks, but it appears that the greatest gains in designing out vehicle theft will come from advanced technology. This is because the most common way of stealing a vehicle involves tampering with the key system connected to the ignition system.

While vehicle manufacturers can target-harden these access points, technology can make counterfeiting keys and driving a stolen vehicle either impossible or useless. The most common technologies include immobilizers and GPS tracking systems. It should be noted that these technologies have existed for some time, but are often not available for older vehicles and are not always installed in new ones.

There are various types of immobilizers, but, in principle, the technology works by having a microchip in the ignition key that is matched to the ignition system of the vehicle. Without having the proper key, the car will not start, nor will it start if the ignition system is tampered with in some way. Moreover, the entire ignition system is switched off when the key is not in the proximity of the ignition, providing added protection. In addition, there are GPS systems that allow the position of the vehicle to be identified and the vehicle to be remotely disabled.

Another common form of vehicle theft is bicycle theft. In Vancouver, British Columbia, in 2015 alone, police were made aware of approximately 2,700 incidents of bike theft; a number that likely underrepresents the actual number of bikes that are stolen (The Province, 2015). GPS systems could be a solution to this issue, along with microdotting technology and the use of tamper-resistant identification decals. These latter technologies require the owner to register their bicycle so it can be returned if found. Moreover, cypher technology can be incorporated into better locks to reduce the ability of a thief to steal a locked bike.



Other offences that are much less common, but can be reduced even further using similar technologies, include common and sexual assaults, kidnapping, and abduction. There have always been low-tech attempts to deter these type of offences, from Tasers to pepper spray to self-defence education. There are also general crime-prevention strategies to reduce one's risk of being victimized, such as walking in groups, staying in well-lit areas, and having one's keys ready so that you can enter a vehicle or premises quickly.

Currently, there is a growing industry relating to mobile personal alarms and GPS tracking to protect individuals, primarily women and children, when in public. Several companies have developed panic buttons or personal alarms that people can clip to a piece of clothing or wear around their neck for easy access when confronted by an offender. When needed, the owner simply pushes a button to activate an extremely loud alarm and immediately send the device's GPS location to an emergency contact person. While these devices cannot design out these types of offences entirely, the more people have them and the more potential offenders are made aware of their widespread use, the more offenders will likely be deterred.

Electronic Monitoring

Technology is also being used to keep communities safe from some offenders once they have completed a prison sentence, but may still be assumed to pose a risk. The responsibility of monitoring these individuals in the community and protecting the public transfers from correctional agencies to the police, parole, and other community-based services.

Electronic monitoring typically takes the form of a non-removable bracelet that is attached to the individual's ankle. The bracelet sends a signal to a correctional agency that can verify its location, ensuring that the individual complies with probation or parole conditions such as a curfew or no-go areas. The intention of the program is to allow offenders to be monitored in the community 24/7, while eliminating the need to incarcerate them and reducing the need for constant visits from a probation or parole officer to ensure compliance. This technology has the ability to promote rehabilitation, reduce criminal justice costs, and enhance public safety.

Many jurisdictions in the United States have used some form of electronic monitoring (EM) to assist in the supervision of high-risk offenders in the community. Although it has been introduced in some Canadian provinces, the use of this technology in Canada is much less widespread. However, one province that does rely on EM devices to track offenders is Alberta. In 2011, the province began using ankle bracelets to track offenders' movements and to ensure they do not violate their court-imposed conditions. Calgary Police Service's High Risk Offender Program uses EM to supervise offenders who have been released from prison and who, in the majority of cases, have completed their entire sentence but are still thought to pose some risk to the public.

Since offenders retain their rights to freedom and are also often required to seek employment when they are released from prison, a predatory offender may be wearing an ankle bracelet while lawfully moving around the community to attend job interviews, for example.

While electronic monitoring can be effective in supervising high-risk offenders, it should be reserved for those who tend to commit crimes in a particular geographic area, or who have random violence or sexual offending patterns

However, the police are only able to see where the offender is, not what they are doing at a particular location. To effectively monitor these offenders, EM must be used in conjunction with other conditions and resources. EM is not a definitive solution to serious offender management, but it is a possible component.

Offenders who are supervised using EM are among some of the most serious. They typically have histories of random violent and sex offences, including offences against children. It is believed that offenders who meet this profile can benefit the most from electronic monitoring since the police are able to know where they are while they are in the community.

Someone who might not be appropriate for EM would be a sex offender who has demonstrated patterns of targeting vulnerable females with young children. Instead, for these type of individuals, it might be more beneficial for the police to request court conditions that include reporting all new relationships, so that they can ensure the offender is not gaining access to children. In effect, EM should be reserved for offenders who tend to commit crimes in a particular geographical area, or who have random violence or sexual offending patterns.

Typical EM systems work by connecting offenders to a computer system that the police can log onto anytime and anywhere to see where an offender is located. There is also a 24-hour call centre that assists in monitoring offenders by observing any alarms due to curfew breaches or atypical movements.

Due to support from the call centre, EM systems have improved considerably and require less active involvement from the police than they did originally. The technology continues to improve, with the latest being able to compile multiple forms of information on offenders and submit an alert if an aberrant movement or pattern is identified. This is a means to further guide the police in supervising offenders and ensuring they do not breach their conditions. This is an important advancement because it is common for offenders who violate their conditions or commit a new offence to do so either in a new location or at a previous location, but at an unusual time.

Aside from preventing and detecting reoffending, electronic monitoring can also be useful for gathering evidence should an offender commit another offence. Similarly, the technology may be used to exonerate offenders in cases where it was suspected they had been involved, but the EM system confirms they were not at the location of the offence. This is important, not only for avoiding potential wrongful convictions, but for allowing the police to focus their investigations in the right direction and for conserving valuable and finite resources.

Surveillance Technologies

Closed-Circuit Television

Another type of technology that is being used to design out crime is surveillance-related technology, such as closed-circuit television (CCTV) cameras. This crime-reduction strategy originated in the United Kingdom and has expanded considerably. The notion that the presence of CCTV cameras can discourage crime is rooted in rational-choice theories (Clarke & Cornish, 1985), including routine-activities theory and deterrence theory.

The assumption is that humans are rational and consider the advantages and disadvantages of engaging in certain behaviours. One assumes that criminals engage in this same cost-benefit analysis when deciding whether and how to commit a crime. Similarly, according to research by Lawrence Cohen and Marcus Felson at the University of Illinois (1979), three components are required for a crime: the intersection in time and space between a suitable target, a motivated offender, and the lack of a capable guardian. The visible presence of CCTV cameras can serve the role of a capable guardian when the offender is aware of the presence of the cameras.

Deterrence theory states that individuals will be further dissuaded from committing crimes if the resulting punishment is certain, swift, and severe enough to outweigh the benefits of the crime (Beccaria, 1764; 1986). The most critical of these three elements is the certainty of punishment, as research has consistently demonstrated that offenders are less likely to commit an offence when the certainty of punishment increases (Nagin, 1998; Piquero, Paternoster, Pogarsky, & Loughran, 2011; Pratt, Cullen, Blevins, Daigle, & Madensen, 2006). In addition to providing a capable guardian, CCTV cameras increase the odds that an offender will be identified and subsequently charged. The recording can also assist in providing evidence to guide police investigations, and can possibly assist in securing convictions (Akers & Sellers, 2009).

An example of this strategy in practice was the Crime Reduction Strategy employed by the City of Surrey, British Columbia, in 2009. The city identified a particular rapid transit (SkyTrain) station as having higher-than-average rates of crime and social disorder. Local residents and individuals who commonly travelled through this station expressed their concerns about property damage and theft, which contributed to their reluctance to use this public transit station. The city had attempted to address these ongoing concerns using various strategies, including a bicycle patrol. Surrey further addressed this issue by installing CCTV cameras, with the goal of reducing vehiclerelated property crimes in the station parking lot and increasing the public's feelings of safety at this location. For this latter initiative, the city reached out to the region's transit provider (TransLink) and transit operator (Coast Mountain Bus Company) to formulate a working partnership that would support a pilot CCTV program. Surrey RCMP and TransLink's police service were also included as partners.

For the pilot project, 12 CCTV cameras were installed at the parking lot where the crime problems were primarily concentrated. One camera was attached to a remote control, making it adjustable, while the remaining 11 were securely fastened and fixed, facing in one direction. To supplement these cameras, the lighting in the parking lot had also been enhanced, allowing the devices to capture higher-quality images during nighttime hours. Further, 17 signs were posted in plain sight notifying the public of the presence of the cameras. To assess the effect of the CCTV cameras, researchers examined the results of two victimization surveys conducted on 312 participants pre-intervention and 302 participants post-intervention. Moreover, the researchers collected police crime data, transit police data, and insurance claim data from before and after the cameras were installed.

While the data revealed little change in the public's perceptions of the cameras' effectiveness and on crime and safety between the pre- and post-surveys, victimization was significantly reduced following the installation of the CCTV cameras (Reid & Andresen, 2012). However, at the site of the cameras and the surrounding areas, there were no statistically significant declines in reports of vehicle theft. Further, there was a significant increase in reported thefts from motor vehicles at the CCTV location site. This seemingly conflicting data was attributed to higher rates of crime/ victimization reports to police, based on the public's knowledge of Surrey's efforts in this area (Andresen et al., 2011). Insurance claim data was also reflective of these findings.

CCTV camera research indicates:

- They may be better at reducing disorder crimes (e.g., graffiti) than serious crimes
- They are more effective at reducing crime when they are monitored
- The location of the camera is likely more important than the type of camera
- Cameras are more effective in highly visible locations (e.g. pole-mounted as opposed to building-mounted)
- Individual cameras may be just as effective as clusters of cameras

Despite the mixed results, overall, this evaluation provided promising results for the use of CCTV cameras based on the victimization surveys. The City of Surrey has continued its use of CCTV cameras with some minor adjustments, such as moving two of the cameras to face the entrance and exit of the SkyTrain station parking lots to enhance their deterrent power. Surrey has also maintained its relationship with the RCMP and TransLink Police by continuing to provide SkyTrain footage, which has resulted in the collection of important evidence for investigations.

The broader body of research in the areas of CCTV cameras has been growing. Some early studies indicated inconsistent findings across study sites and found that CCTV cameras may be better at reducing disorder crimes such as graffiti than serious crimes (e.g., Ratcliffe, Taniguchi, & Taylor, 2009), as well as reducing crimes that occur in public on the streets (Welsh & Farrington, 2002). The related literature suggests that CCTV camera systems are most effective at preventing and reducing crime when they are monitored (see Andresen et al., 2011; La Vigne, Lowry, Markman, & Dwyer, 2011). Furthermore, research by Jerry Ratcliffe, Travis Tanaguchi and Ralph Taylor at the Temple University Department of Criminal Justice in Philadelphia (2009) notes that camera type is likely less important than where the cameras are placed.

Accordingly, it is important that jurisdictions pursuing this approach conduct the necessary preliminary research to determine which areas will produce the greatest benefit from this technology's implementation. Similarly, research has found that the precise installation location of cameras can also lead to differential effects, with more visible pole-mounted cameras providing greater crime reduction than building-mounted cameras. What is clear is that the potential offenders' awareness of the cameras is critical for deterring crime (McLean, Worden, & Kim, 2013).

Although some CCTV programs mount multiple cameras to augment their deterrent effect, an evaluation of the effects of public CCTV cameras by Sarah McLean, Robert Worden and MoonSun Kim for the John F. Finn Institute for Public Safety in New York (2013) provided evidence that individual cameras could be equally effective at preventing crime as clustered systems of the surveillance technology. Moreover, with respect to accelerating investigations and assisting in solving cases, CCTV cameras can be more effective than traditional police calls for service (Piza, Caplan, & Kennedy, 2014b).

However, it appears that CCTV cameras should not be used in isolation or be viewed as a total solution to crime prevention. CCTV research in the United States (Piza et al., 2014b) recommended the use of policing strategies that rely on a combination of CCTV surveillance and proactive policing practices in which units work together collaboratively to respond to issues as they arise. Such technologies, when employed well, can have important preventative implications, particularly relating to social disorder problems (such as "annoying" individuals, fighting, drug sales, and parking complaints) that can lead to more serious crime problems. Cameras have also been shown to reduce property and non-violent offences (Caplan, Kennedy, & Petrossian, 2011; McLean et al., 2013), and assist police in making arrests and solving cases (Piza, Caplan, & Kennedy, 2014a).



More recent research examining the role of environmental factors on this technology's effect has demonstrated CCTV cameras' effectiveness in decreasing the incidence of violent offences and robberies around bars and other entertainment centres (Piza et al., 2014a). Although the use of CCTV cameras presents persistent concerns related to the potential for the displacement of disorder and crime problems to areas without surveillance, studies that have examined this using more rigourous methods have found limited or explicable displacement, or small diffusion effects (e.g., Cerezo, 2013; Piza et al., 2014a; Caplan et al., 2011). Overall, the research suggests that one way to design out certain types of crimes, especially those that occur in public spaces, is the carefully thought-out implementation of monitored CCTV cameras.

Automatic Licence Plate Recognition

Another successful use of cameras to prevent and respond to offences is Automatic Licence Plate Recognition (ALPR). This technology uses cameras to scan and capture images of vehicle licence plates that can be compared against a range of databases to identify vehicles and persons of interest to the police. While the technology was initially designed in the United Kingdom as a way to respond to and prevent terrorism (Gaumont & Babineau, 2008; Roberts & Casanova, 2012), its use has expanded to detect a broader range of public safety concerns, including those posed by traffic violators and prolific offenders. With this technology, it is possible to identify drivers who might have outstanding warrants, are prohibited from driving, are driving uninsured vehicles, are driving a stolen vehicle, or are driving a vehicle that is wanted by the police because of its connection to some type of criminal activity (Cohen, Plecas, McCormick, 2007; Cohen, Plecas, McCormick, & Peters, 2014).

Specifically, ALPR software is a form of Optical Character Recognition (OCR) that scans images and recognizes their characters (Gordon & Wolf, 2007). Often, the cameras are affixed to police vehicles but, like CCTV cameras, they can be placed in a specific location, such as on a lamppost near the entry to a tunnel or toll bridge (Roberts & Casanova, 2012). ALPR technology uses infrared illumination to photograph the vehicle's licence plate, while eliminating details like insurance decals. The information is then compared against lists of licence plates of interest. In addition, an image of the plate is produced and a picture or video of the vehicle occupants can also be captured (Pughe, 2006). Importantly, the officer of an ALPR-equipped vehicle is notified immediately if there is a concern with the vehicle just scanned.

Theoretically, the ALPR technology can scan thousands of licence plates per hour, regardless of the time of day, weather conditions, or the direction vehicles are travelling. Currently, the technology is not perfect. For example, many fewer plates can be accurately scanned at night compared with daylight conditions (Cohen, Plecas, & McCormick, 2007). These reductions are due to real-life road conditions, such as the volume of traffic, weather conditions, and the presence of medians that block the cameras' ability to scan oncoming vehicles (Cohen et al., 2007).

Still, the number of plates typically scanned by ALPR technology in a given hour is much higher than can be scanned manually by a patrol officer. In effect, ALPR automates a process commonly employed by police officers to detect threats to public safety, thereby increasing efficiencies (McCormick, Davies, & Cohen, 2015).

From the research conducted to date (see McCormick, Davies, & Cohen, 2015), it is clear that ALPR enhances the police's ability to focus on the right people and vehicles. Moreover, ALPR technology serves to immediately identify and stop wanted persons or vehicles (Perin, 2011). There is also a wide range of applications for plate-recognition technology, including: the identification of potential terrorists; assisting in crowd control; locating missing children or people; assisting in locating vehicles or people being sought by the police; detecting and recovering stolen vehicles; enforcing traffic laws and regulations; and, monitoring the movements of persons of interest (McCormick, Davies, & Cohen, 2015).

While the internet can be an incredible source of information and entertainment, it can also bring risk to users in many ways when used carelessly

Communications Technology: The Internet

The use of the internet has grown to the point where going online is a daily occurrence for most people. With modern advancements in mobile device technology, such as smartphones and tablets, people of all ages are accessing the internet, from nearly any location, public or private. While the internet can be an incredible source of information and entertainment, providing the user with social interactions and educational opportunities, it can also bring risk to users in many ways when used carelessly (Young, Young, & Fullwood, 2007; Moreno, Egan, Bare, Young, & Cox, 2013; Shillair, Cotton, Tsai, Alhabash, LaRose, & Rifon, 2015). As with many types of crime, basic knowledge and sensible behaviour can go a long way toward preventing victimization.

Online safety, which is often referred to as "internet safety," involves the careful consideration and mitigation of possible risks when using the internet. These can include financial risks, such as becoming a victim of fraud or identity theft, or emotional risk stemming from various forms of online victimization or bullying. These risks have become more pronounced since the beginning of the 2000s, as the internet evolved into a hub for online shopping, socialization, and entertainment (Dredge, Gleeson, & Garcia, 2014; Shillair et al., 2015). Expanding its reach, people are using the internet for daily financial tasks, such as online banking, paying bills, investing in the stock market, and shopping.

As the use of the internet grows, the variety of cybercrimes are also increasing. Over the past decade, the techniques used by cybercriminals have expanded in frequency and in sophistication, so that it is very difficult to identify some of the tricks and scams used by these criminals (Government of Canada, n.d.).

Given the increasing use of the internet, as well as the volume of sensitive information people are now storing on their computers and smartphones, it is a problem that will likely continue to exist. There are, however, several strategies that people, businesses, and governments can implement to design out cybercrime and online victimization.

Cybercrimes often involve the theft of sensitive personal information, such as credit card or social insurance numbers, that can be used for identity theft or other fraudulent activities (Shillair et al., 2015; Government of Canada, n.d.). This information can be stolen by criminals in several ways, such as by installing viruses in software, using malware, keystroke logging, or phishing. It is not uncommon for the victim to have no idea that their information has been compromised through these techniques (Shillair et al., 2015).

Methods like viruses and keystroke loggers frequently rely on an unwitting victim unknowingly installing harmful software on their computer or smartphone (Government of Canada, n.d.). Once installed, viruses and keystroke loggers can send information gathered from the victim's computer or device back to the cybercriminal without the victim's knowledge. Another common technique is email phishing—a type of scam that typically involves the victim being tricked or deceived into providing personal information on a fake website or by replying to an email (Shillair et al., 2015; Government of Canada, n.d.).

Social Media and Cybercrime

One of the most popular uses of the internet, aside from finance and shopping, is the use of social media (Mitchell, Finkelhor, Jones, & Wolak, 2010; Moreno et al., 2013). Social media allows individuals from all over the world to chat, share pictures and information, and stay connected. Unfortunately, the rise of such popular social media sites as Facebook, Twitter, and YouTube has also produced opportunities for individuals, often youth, to be harassed by other people online (Mitchell, Jones, Finkelhor, & Wolak, 2013; Moreno et al., 2013). Often, the bullying is perpetrated by members of the victim's peer group, such as fellow students, and extends into the real world.

This potential for victimization online, especially for young people, is a significant concern because internet use by children and adolescents continues to grow (Mitchell et al., 2013; Dredge et al., 2014). In effect, not only has the number of homes with a computer grown each year, but the number of houses with internet access has also steadily increased.

Currently, over 80 per cent of households with children have a computer in the home in the United States, and over 60 per cent of those homes had access to internet (Child Trends Data Bank, 2013). It is also becoming more common for youth to have their own computer. A 2013 Pew Research Centre study indicated that more than 80 per cent of young people had a computer or laptop with internet access in their bedroom (Pew Research Center, 2013).

It is likely this number will continue to grow, with youth having more and more ways to access the internet. Over one in four teens already has access to their own tablet, and smartphones with internet access are ubiquitous (Pew Research Center, 2013). Children are also starting to use electronic media devices at an earlier age than ever before. Research from the United States indicated that up to 70 per cent of children under the age of two are using electronic devices daily (Lentz, Seo, & Gruner, 2014).



Research also shows that the amount of time young people spend on a computer each day is increasing, with some spending upwards of 10 hours per day using different types of social media (Moreno et al., 2013). While entertainment, such as movies and video games, remains the most common activity, social media sites are extremely popular among youth, particularly older adolescents (Mitchell et al. 2010; Moreno et al., 2013; Dredge et al., 2014). Although these sites are excellent ways for young people to connect and socialize with friends and family, there can be significant risks to users. Teaching children and adolescents sensible, responsible and safe internet behaviour remains the best method for preventing victimization (Melgosa & Scott, 2013; Mitchell et al., 2013; Lentz, Seo, & Gruner, 2014).

There are two issues in particular that are of concern for parents of youth and adolescents who use the internet. The first is the risk of victimization, such as sexual solicitation, harassment, or cyber bullying. While there has been no evidence to support the idea that there are more predators or offenders targeting youth online than elsewhere, it can be far more difficult for parents to identify potential risks in the online environment (Mitchell et al., 2010; Wolak, Evans, Nguyen, & Hines, 2013).

The second issue is access to inappropriate content, such as pornography and graphic violence. Although software is available that attempts to block or control access to inappropriate content, the programs are not perfect and can be circumvented (Young, Young, & Fullwood, 2007; Melgosa & Scott, 2013).

While the vast majority of people on social media sites are there for positive social reasons, there are some offenders who use social networking sites to solicit or to victimize youth. Research into online predators at the University of New Hampshire and Clark University (Wolak et al., 2013) notes that most sexual solicitation of youth online starts in online chat rooms, where the offender attempts to gain the trust of the victim to arrange a personal face-to-face meeting. Once the young person starts to chat with the offender, it is not difficult for the offender to gather information from websites about the young person, such as their hobbies, activities, or other likes and dislikes (Mitchell et al., 2010).

In the majority of sex crimes against minors, the offender used social media sites to gather details about the victim's real life, such as school and home information, and the likely location of the victim at a specific time (Mitchell et al., 2010). Although most of these offenders are adults, it should be noted that around 40 per cent of offenders are under the age of 18 (Wolak, Mitchell, & Finklehor, 2006).

It has been estimated by some researchers that as many as one in seven young people have been solicited while online (Wolak, Mitchell, & Finkelhor, 2006). More concerning, one study (Wolak et al., 2013) found that the majority of victims were between 13 and 14 years of age. Young people going through difficult periods in their life, such as depression, questioning their sexual identities, or poor family relationships, are at an even higher risk, because they tend to spend more time on the internet (Young, Young, & Fullwood, 2007; Wolak et al., 2013). Due to the risk of sexual solicitation, parents are often advised to monitor online use by their children.

In the majority of sex crimes against minors, the offender used social media sites to gather details about the victim's real life, and the likely location of the victim at a specific time

Parents also need to know that using the internet to persuade anyone under 18 years of age to meet in person for sexual acts is a crime in Canada, and should be reported to the police immediately. There are also very serious consequences for sending or receiving pictures or videos of a sexual nature that contain an individual under the age of 18, regardless of the relationship between the sender and the receiver.

Although some have called for increased legislation and restrictions on the internet, many experts and teachers believe education is the most effective method of preventing online victimization and bullying (Young, Young, & Fullwood, 2007; Melgosa & Scott, 2013; Mitchell et al., 2013; Lentz, Seo, & Gruner, 2014). Many of these experts also believe that parents and teachers need to play a central role in teaching children and adolescents how to navigate the internet in a safe manner, and argue for teaching responsible internet use in schools (Young, Young, & Fullwood; Melgosa & Scott, 2013; Moreno et al., 2013; Lentz, Seo, & Gruner, 2014).

Unfortunately, this does not appear to be happening to a large extent. Research from the United States has shown that few schools offer students classes in responsible internet use, and more than half of parents had never talked to their adolescent children about safely using social media (Andrews, 2006; McQuade, 2007). In fact, in one study, more than one in three parents admitted they had never even viewed their child's social media profile (Andrews, 2006).

To increase the safety of children and youth online, there are several technological tools and practical strategies that people can use. The main way to design out cybercrime and bullying against young people is for adults to monitor the online activity of children in their care. Moreover, adults should be well versed in the risks that can compromise the privacy or safety of their children and educate their children about them, particularly the risks associated with meeting people in chat rooms or social media sites.

It is extremely common for schools to have computers that can be accessed by students. These computers should only be in locations that can be supervised by adults, and children and adolescents using the internet in school should be monitored by teachers who can ensure that the websites and interactions students have online are safe. Moreover, schools should educate all students and their parents or guardians on safe and responsible internet use.

One of the common features of social media sites or chat rooms is that users create a unique username. Adults should assist children in picking screen names or usernames that are not provocative or suggestive, and that protect the identity of the young person. Parents and teachers should also keep a careful eye out for strangers who contact children online, particularly in places like chatrooms or other social media messaging services. In addition to adults being vigilant, there are many software companies that offer tools to help block access to inappropriate content. While this type of approach can be helpful, it is important to recognize that software solutions are unlikely to block all of the websites that might contain offensive, sexual, or violent content.

It is also important for children and adolescents to understand the importance of privacy and that they should never share personal information online, especially with strangers.

Online tools and strategies:

- · Monitor the online activity of children and youth
- Learn about the risks that can compromise the safety of children using the internet, particularly social media and chat rooms
- Schools that provide computer access to students should monitor their internet use. and should educate students and parents on safe internet use
- Help children pick screen names or usernames that are not provocative or suggestive, and that protect their identity
- Consider software tools that block access to inappropriate content
- Teach children and adolescents the importance of privacy and that they should never share personal information online
- Ensure young people know what to do if anyone online asks for personal information, makes them feel uncomfortable, or attempts to meet them in the real world

Although much of our information is already online, young people should get into the habit of not sharing their names, addresses, phone numbers, or school location online. It is also critical that young people know what to do in the event that anyone online asks for personal information, makes them feel uncomfortable, or attempts to meet them in the real world.

Online Financial Transactions

Another common use of computers and the internet is for online banking and personal or corporate financial transactions. Using the internet to perform banking transactions, monitor and pay credit cards and bills, or check account balances is very convenient. Consequently, it is not surprising that people increasingly use the internet to perform these tasks, rather than going into a financial institution in person.

Unfortunately, this shift in behaviour has led to a number of cybercriminals targeting financial websites in an attempt to collect private and sensitive information from users (Shillair et al., 2015). Cybercriminals try to collect bank account numbers, pin numbers, login information, credit card numbers, and personal information such as a home address or phone numbers (Government of Canada, n.d.) to gain access to and steal from personal accounts, or to make purchases using the account or credit card of the victim (Government of Canada, n.d.; Royal Canadian Mounted Police, n.d.).

This type of crime is extremely costly to Canadians. For example, for the year 2010, losses from fraudulent credit and debit card purchases totaled over \$485 million in Canada alone (Royal Canadian Mounted Police, n.d.). Although banking institutions have gone to great lengths to ensure that their systems, including customer websites, are secure, cybercriminals have simply shifted their techniques to stealing information directly from their victims, rather than the financial institutions.

While sophisticated cybercriminals are constantly evolving their techniques to bypass new security measures, most tend to rely on a few common and basic methods. One such method is phishing, a process whereby a cybercriminal creates and distributes a fake email that looks exactly like a legitimate email one might receive from a financial institution (Shillair et al., 2015; Government of Canada, n.d.; Royal Canadian Mounted Police, n.d.).

Common financial cyber crimes:

- Phishing is when cybercriminals distribute a fake email that looks like a legitimate one from a financial institution, asking for personal or sensitive information. Never provide sensitive information in a reply to an email, even if it looks legitimate
- Spoofing or pharming is when users are redirected from a legitimate website to an identical-looking fake one, where they attempt to log in. Before typing personal information into a website, check for a green lock symbol before the "https://" of the web address to ensure the website has been verified

Some of these phishing emails are extremely well done and look identical to a legitimate email with one major difference: a phishing email will request that the recipient reply to the email and provide personal or sensitive information, such as a name, account number, pin numbers, or a social insurance number (Government of Canada, n.d.; Royal Canadian Mounted Police, n.d.). It is very important that individuals never provide any sensitive information in a reply to an email, even if it looks like a legitimate one from a recognized financial institution. In fact, financial institutions, such as banks, have made it a policy to never send an email to their clients requesting personal information. Instead, they will typically request the client visit a local branch in person to address any issues. To protect oneself, any unexpected email requesting any kind of personal information should be deleted (Government of Canada, n.d.).

Similar to phishing, spoofing or pharming refers to cybercriminals redirecting users from a legitimate website to a fake one that will look identical to the legitimate one (Government of Canada, n.d.).

The fake website will have similar or identical pictures and logos, as well as a number of boxes or fields for the user to fill with personal information. Without realizing it, a user will submit information on a fake or "spoofed" website believing they are logging in to their regular banking or financial website. However, this information will be sent directly to the cybercriminal to be used or sold for fraudulent purposes.

To prevent the theft of sensitive information on a "spoofed" website, it is important for users to look for the green lock symbol before the https:// of the website address in the internet browser (Government of Canada, n.d.). This confirms the website has been verified using the Domain Validated (DV) or Extended Validation (EV) certificate, and ensures the connection between the user and the financial institution is secure and encrypted (Symantec, n.d.). DV and EV certificates require a company or organization to identify and register their website to ensure safety and security. As this is an authentication process that cybercriminals cannot easily crack or mimic, fake or spoofed websites will not have the green lock symbol. Occasionally, legitimate websites will request personal information and have an expired EV or DV certificate, or no certificate at all. This may be indicated in the web browser's address bar by a red or yellow lock symbol. Information should only be provided to these websites with extreme caution or not at all.

Webpage vetting and anti-exploit software exist to help protect users but, again, they are not perfect, and companies producing protective software are in a constant "cat and mouse" game with cybercriminals.

Malware and Viruses

Another form of cybercrime involves malware, which is a malicious piece of software that cybercriminals use to gain access to someone's computer or device (Government of Canada, n.d.). Through the use of malware, cybercriminals can steal information directly from a computing device, can record or log the keyboard strokes of the owner, or can launch software on the device, all without the knowledge of the owner (Government of Canada, n.d.).

Common malware and virus cyber crimes:

- Malware is often hidden in useful and "free" software, such as an add-on or tool bar for an internet browser, or a movie or music program. When the free program is installed, so too is the malware, which begins to start collecting keystroke logs and other information. Due to this, only install software from trusted sources
- Viruses can be spread through websites and email attachments. Delete emails from unknown senders, be cautious about opening any email attachments, and keep your virus and malware protection software up to date
- Ransomware is a malicious form of malware or virus that locks the user's computer and then demands payment to unlock it. Contact the police if this occurs

The private information collected can then be used by criminals to steal money, commit acts of fraud, or collect personal information and passwords.

It is common for cybercriminals to hide malware in useful and "free" software, such as an add-on or tool bar for an internet browser, a movie or music player, or any number of other programs that people might use (Government of Canada, n.d.). When the free program is installed, the malware is also unknowingly installed by the owner and could start collecting keystroke logs or other information from the device. Again, while there are numerous programs that can assist in blocking harmful malware, they need to be constantly updated, and cybercriminals are always inventing new malware programs (Government of Canada, n.d.). Due to this, it is important to install software only from trusted sources, such as a reputable company.

Computer viruses, which are sometimes also referred to as malware, worms, or Trojan horses, are another method cybercriminals use to gain access to a device or to steal personal information. Viruses can be spread through websites and email attachments, particularly attachments that need to be opened by another program, such as a text or presentation document, or an executable file that installs or launches a program. Some of the most common file types have suffixes ending in .com, .exe, .vbs, .zip, .scr, .dll, .pif, .js, .doc, .dot, .xls, and .xlt (Shillair et al., 2015).

Simply receiving an email with this type of attachment will not spread the virus, because the program or attachment needs to be opened to do harm (Government of Canada, n.d.). While the safest option is simply to never open programs or attachments received through unreliable sources or emails, this is not usually a reasonable solution, as some file types frequently used by cybercriminals are also commonly used for legitimate purposes, particularly Microsoft Word files (.doc) and Microsoft Excel files (.xls).

The use of a consistently updated virus protection program (especially one with automatic update capabilities) is a recommended way to protect a computer. Any email from an unknown sender should be deleted without opening any attachments. As previously noted, users should be cautious about following hyperlinks contained in emails from an unknown user, because they may link to phishing and spoofing websites and because there may be malicious viruses on the website. Downloading files using a peer-to-peer sharing program, or other file sharing sites, should also be used with extreme caution, as cybercriminals frequently use these types of sites to spread infected software or files (Government of Canada, n.d.). These infected files can be shared with friends and family, further spreading the virus.

Once a computer is infected, a computer virus is often able to replicate itself onto other files in the computer, as well as to other attached devices, such as other computers on the same network, external drives or USB devices, or smartphones and tablets (Shillair et al., 2015).

If your computer is unresponsive, constantly crashing, or if specific programs are not responding or are unable to run, particularly anti-virus software, it is often a warning that the computer may be infected with a virus (Shillair et al., 2015). It is also common for viruses to alter the look of the computer desktop by changing wallpapers or altering internet browser homepages, again redirecting the computer to fraudulent websites. In these cases, anti-virus software should be updated and run immediately; and, in the event the anti-virus software is not responding, it is a good idea to seek professional technical assistance (Government of Canada, n.d.).

One particularly concerning type of computer virus or malware is referred to as ransomware. Ransomware infects a computer in the same ways as a computer virus, typically through email attachments and, once installed, can be very difficult to remove (Government of Canada, n.d.).

When the cybercriminal activates the ransomware program, the computer becomes locked or restricted, and the owner is often unable to perform a number of basic tasks, such as running an anti-virus program (Government of Canada, n.d.). Once the computer becomes locked, a message will appear, generally with a link to a website, which will demand financial payment to unlock the computer.

Some ransomware will also falsely state that the computer has been used illegally and payment must be made to prevent prosecution or arrest. However, even when payment is made, the computer often remains locked (Government of Canada, n.d.). Regardless of the type of ransomware being used, it is important that payment is not made and that the owner of the computer contact the police (Government of Canada, n.d.). These types of threats are illegal and may constitute fraud or extortion.

Identity Theft

A growing concern is the increase in identity theft related to the use of technology. In fact, identity theft is one of the fastest-growing crimes in Canada (Royal Canadian Mounted Police, n.d.). Often stemming from many of the issues already discussed, such as malware or phishing, identity theft occurs when a cybercriminal uses the personal information of a victim to conduct various types of fraud, such as opening new bank accounts, applying for credit cards, engaging in online gambling, making online purchases, or collecting government benefits (Royal Canadian Mounted Police, n.d.). In particular, cybercriminals will attempt to use illegal methods to collect names, birth dates, addresses, mother's maiden names (which are often used to prove ownership of an account), social insurance numbers, or any other information to compromise the identity of a victim (Royal Canadian Mounted Police, n.d.).

It is very important to monitor the use of credit cards and bank accounts, particularly for any signs of suspicious activity. Other obvious signs can include bills for credit cards or purchases that the victim was not aware of, or a creditor or collection agency contacting a victim informing them of a late payment they know nothing about. If signs of identity theft start to appear, the police, as well as any financial institutions involved, should be contacted immediately (Royal Canadian Mounted Police, n.d.). Fraud alerts are also available as a paid service from a number of credit agencies, and can be useful if there is an ongoing risk of identity theft.

Many of the same methods used to reduce the risk of banking and finance fraud also apply to reducing the risk of identity theft. Phishing and malware are frequently used by identity thieves to gather sensitive information, so it is important to maintain up-todate anti-virus and anti-malware software, as well as being cautious about opening email attachments from unknown senders (risk of virus or malware), or blindly following links to websites sent by email (risk of phishing or spoofing). Further, it is important to use strong passwords for all of the accounts and services

Protecting against identity theft:

- Monitor credit card and bank accounts for signs of suspicious activity
- Consider fraud alerts available from credit agencies
- Guard against phishing, viruses and malware
- Use strong passwords for all online accounts and services, including emails, and ideally use different logins and passwords for different services
- Do not save passwords through automatic login features
- Remove all sensitive information from a mobile device or computer before giving it away using overwriting software

used online, including email (Shillair et al., 2015). Simple combinations like "12345" or "password" are very easy for hackers to break and can compromise sensitive information.

It is also strongly recommended to use different logins and passwords for different services or websites, as some websites may store user information, including passwords, in a very insecure manner. It is not uncommon for hackers to gather login and password information from an entertainment or social media website and use it to access other services, such as financial institutions. Passwords should not be saved to automatic login features, as these can be easily exploited by a hacker who has gained access to the system through a virus or malware. Finally, all sensitive information should be removed from a mobile device or computer before it is sold or given away. This should be done through the use of overwriting software, and not simply deleting sensitive files.

Online Safety Overview

While it is extremely difficult to completely design out crimes that target the owner's computer or network, there are several easily available tools and strategies that can make one's hardware much less attractive to cybercriminals. The first thing one should do when setting up a new computer, tablet, or mobile technology, or when upgrading existing ones, is to install antivirus and anti-malware software from a reputable company, and make sure both are kept up-to-date. It is also very important to regularly run anti-virus and anti-malware scans on all devices and computers.

Additionally, it is important to verify the source of all emails before responding, and to never provide any personal or sensitive information via email. Never blindly follow links included in emails, particularly when the email comes from an unknown source. A simple strategy is that when unsure about a link, use a search engine to manually visit the website, rather than clicking on the link in the email. Moreover, never open email attachments without verifying the source, and never open them without scanning the file using up-to-date anti-virus and anti-malware software.

To avoid allowing cybercriminals to corrupt the system or take control of the computer or device, be extremely cautious about installing programs or software from unknown sources, particularly peer-to-peer or file-sharing programs. Passwords should be strong and should be changed regularly. Passwords should never be saved to automatic login features on internet browsers or saved on a document stored on a computer. Similarly, smartphones and tablets should always be secured with a strong password.

The wireless network (Wi-Fi) used to connect to the internet should be locked and encrypted with at least WPA2 encryption (not WEP or WPA1) to prevent unwanted intrusions. To make sure that you have not been the victim of a cybercriminal, regularly check bank and credit card statements, and report any suspicious spending activity to the financial institution immediately. Finally, keep social media profiles private, and do not share more personal information than is necessary, particularly addresses, phone numbers, or schedules.

Conclusion

It is clear that the use and implementation of technology will not completely eliminate most crimes; however, it is equally clear that technology can help to deter and reduce the opportunity for crime. It is also evident that the integration of technology will become even more ubiquitous in every aspect of our private and public lives in the future.

What is needed to design out crime through technology is a stronger commitment from government, industry, businesses, and the community to engage with technology in ways that enhance public safety, and to further integrate the advantages of technology into everyday crime-prevention strategies. Rather than being wary of technology or disregarding its ability to improve our daily lives, we need to be open to the potential of technology to provide effective solutions to the most common types of crimes that affect the largest number of people. Furthermore, public awareness needs to be raised on how to use existing technology safely, and how they can enhance their personal safety and protect their property with technological solutions that combine the strengths of traditional target hardening with the benefits of modern technology.

There are countless ways in which technology has not only improved our lives, but has also made us safer. Still, there are others who look to technology as a new way to victimize or exploit others. Moreover, the widespread use of technology has created new types of crimes and changed the way traditional crimes can be carried out. This is not a failure of technology, but a failure to imagine the ways in which technology will be used by some.

Given this, it is critical for both the public and public safety agencies to understand the nature of these crimes and, where appropriate, apply both traditional crime-prevention strategies and technology in the response to and prevention of crime. As mentioned throughout this chapter, a key component of this approach is public education. This education should not only focus on the benefits of the technology or how to use the technology, but on explaining clearly the risks involved in using a type of technology and how users can safely integrate it into their lives.

As technology continues to develop and evolve, it will play a larger and larger role in our daily lives. Communities that are serious about designing out crime should ensure they have the people and resources necessary to identify suitable technologies, implementation protocols, and strategies to educate the public about their use.

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Doing Something About Prolific Offenders

By Tim Croisdale and Darryl Plecas

Introduction

ince this book is about what we can do to stop crime from happening, one might wonder why this chapter focuses on individuals who are already committing crimes. Should we not focus on preventing individuals from becoming criminals in the first place? Our answer would be an unqualified "yes" except for one important fact: most crime is committed not by first-time offenders, but rather by repeat offenders (Gottfredson and Hirschi, 1986: Farrington, 1992; Home Office, 2004: Croisdale, 2007). If we are to have a real effect on reducing crime, we must focus on reducing the amount of crime committed by repeat, high-volume prolific offenders.

Research on the impact of repeat offenders, especially very prolific offenders, on crime rates is both compelling and damning. The impact of repeat offenders on the overall amount of crime has been well documented, beginning with American criminologist Marvin Wolfgang's famous birth cohort studies, which showed how a small number of delinquent youth were responsible for the majority of youth crime (Wolfgang, 1972). His findings are not isolated results. In their 1986 essay on career criminals, Michael Gottfredson and Travis Hirschi called attention to the 1977 research of Sarnoff Mednick, who found that one per cent of criminals were responsible for more than half of all crime committed. They also call attention to the 1985 work of James Wilson and Richard Herstein, who found that chronic offenders were responsible for more than 75 per cent of all crime, and to the 1984 work of Jacqueline Cohen, who provides 13 estimates identifying that a small number of offenders are responsible for the majority of all crime.

If we are to have a real effect on reducing crime, we must focus on reducing the amount of crime committed by repeat, high-volume prolific offenders

More recently, California State University professor Tim Croisdale, in his 2007 dissertation on persistent offenders, cites studies by the Home Office of the United Kingdom (2004 and 2005) and others as finding that 10 per cent of offenders commit half of all crime. Overall, he notes that the evidence to support this research is so strong that it is now recognized as a fundamental fact in the study of crime (Croisdale, 2008).

Among repeat offenders, some might be described as extreme or "super prolific" (Plecas and Cohen, 2007a; Plecas and Cohen, 2007b; Plecas et al, 2007, Otway et al, 2007; Croisdale, 2007; Parks, 2011). One example is that of Robert Osborn, an auto thief in British Columbia, who amassed 126 charges over a 17-year period. Overall, he was reported to have been responsible for more than 1,000 auto thefts in Metro Vancouver and the surrounding region in British Columbia (*Vancouver Province*, September 2006; *Montreal Gazette*, December, 2006). In the United States, a study of prolific offenders in California found that one offender had as many as 136 charges (Croisdale, 2007).

But, we need not rely on isolated cases to make the point. In their article "The Prolific and other Priority Offender Initiative in Practice," Kate Cinnamon and Jonathan Hoskins (2006) note that among the 100,000 prolific offenders in England and Wales, there is an even smaller population of 5,000 super-prolific offenders (approximately 0.5 per cent of the one million strong offending population) who account for 10 per cent of all crimes being committed in England and Wales.

Also telling is the research of Ian Parks (2011), who not only found that nearly 10 per cent of property offenders arrested in 2006 by the Abbotsford Police Department in British Columbia could be described as super prolific (to the extent that they all had at least 30 prior convictions), but also found that, on average, they had 47 convictions each.

Most of those convictions were acquired while under sentence for other crimes. Those individuals also committed crimes 10 times faster than non-prolific offenders (that is, offenders who had less than 10 convictions) and three times faster than prolific offenders (those with 10 or more, but fewer than 29 convictions). Importantly, Parks (2011) found that when compared with ordinary prolific offenders, superprolific offenders also had twice as many convictions for violence and non-compliance, and had committed their crimes in twice as many jurisdictions. Speaking before a government-appointed panel examining how to reduce crime in British Columbia, the chief of Vancouver City Police noted that his department deals with so many high-volume offenders that they created a new sub-category, which they refer to as the "ludicrously" prolific (that is, offenders with over 100 convictions each) (Bemister, 2014).

Similarly, Jim O'Rourke, who has worked with hundreds of prolific offenders and directs a program in British Columbia that focuses on helping these individuals change their lives, has this to say:

"We have lots of guys who have more than 30 convictions. But the criminal record only tells a fraction of the story. If you take into account what they don't get caught for, virtually all of them are responsible for at least 10 times what they get caught for-they are walking crime machines, committing crimes nearly every day they are free. One guy in our program self-reports to thousands of crimes he didn't get caught for. He and his buddies would pull down more than \$20,000,000 a year in credit card theft and fraud, on top of what they would make in the dope business."

Jim O'Rourke, Director, VisionQuest, 2015

Prolific offenders are not only non-violent, public nuisance offenders. They also commit violent crimes at a high rate. In an examination of 17,685 youth in California, Croisdale (2007) found that the crimes committed most by those offenders were robbery, burglary, theft, and aggravated assault. As a group of offenders who commit a high volume of crime that is both non-violent and violent, prolific offenders are causing harm in our society that results in very high financial and social costs.

What do we do with prolific offenders then? Strategies that have been researched and attempted inevitably lead to the practice of selective incapacitation. It should come as no surprise that when we consider the amount of harm that prolific offenders wreak on our society, the incapacitation of those offenders is considered a very appropriate use of justice system resources.

A reasonable conclusion from what we know from the research on prolific offenders is that, if we did not have them on the streets, we would have far less crime. In fact, if we could incarcerate all of them for life, the crime rate would likely drop dramatically, and stay that way, without our doing much else to reduce crime. That would be designing out crime in a significant way.

The problem, of course, is that our legal system and sentencing practices are such that sending prolific offenders to prison and keeping them there will not happen for numerous reasons. Furthermore, there would be no need for permanent incarceration if we could find some way to design out their propensity to commit crime.

With this in mind, this chapter will focus on what we can do to design out crime by reducing recidivism among prolific offenders.

Prison is Good

The notion that prisons are a good crime-prevention mechanism is not one that most people warm up to easily. Indeed, some argue that we already send too many people to prison. In this regard, while Canada's incarceration rate is only about one-sixth that of the United States, it still has more people in prison than most western European countries (Public Safety Canada, 2014). Moreover, some observers have argued that prisons are nothing more than schools of crime (see Gendreau et al, 1999), and are the last place we should expect rehabilitation to occur (see Hunt and Ainsworth, 2013). To a degree, these observers are right. Prisons generally do not have a particularly good track record of turning out upstanding citizens (again, see Gendreau et al., 1999). Part of this, we would argue, is because there is a big difference between what most prisons are and what they could be. No example of this is more evident than in Canada, which has a federal prison system and provincial systems in each province that are in stark contrast to each other.

The provincial prisons in Canada, among other things, handle all offenders sentenced to prison terms of less than two years. In fact, most offenders in provincial institutions are serving much less than two years. Most inmates in provincial institutions serve a term of about one month, and half serve a sentence of less than four months (Boe et al, 2004). Moreover, the majority of individuals sentenced to provincial institutions are repeat offenders.

For example, in British Columbia's provincial system, about 40 per cent of offenders have at least 10 prior convictions (Blue Ribbon Panel Report, 2014). So unless one believes it is possible to turn a repeat offender into a productive citizen within two months, it should not be surprising that these facilities have little capacity to rehabilitate people.

Certainly the statistics would support the view that for the vast majority of offenders, provincial institutions are nothing more than warehouses with a revolving door at the entrance. For example, in British Columbia, 51 per cent of provincially incarcerated prisoners return within two years of release (Throness, 2014). The same situation exists in the United States where, in one US Bureau of Justice Statistics study of 272,111 prisoners released from prisons across 15 states, more than 60 per cent were re-arrested for a new crime within three years (Langan and Levin, 2002). In the California study previously mentioned, of 17,685 youth released from the state correctional system, 14,815 (83.8 per cent) were rearrested for at least one new crime, and of those, 3,208 (57.6 per cent) were re-arrested within one year (Croisdale, 2007). In the United Kingdom, a recent Ministry of Justice report revealed that more than 70 per cent of those released from some prisons were reconvicted within a year (Travis, 2010).

In Canada and elsewhere around the world, prisoners who serve longer sentences tend to have lower recidivism rates than those who serve shorter ones

The federal prison system in Canada, however, presents a different and much more positive story. Indeed, recidivism rates from Canadian federal institutions have been remarkably low for decades. To get a sense of this, one need only look at recent success rates on conditional release from federal prison. Specifically, only 15 per cent of federal prisoners granted parole fail to complete their parole successfully, and fewer than four per cent have their parole revoked for committing a crime.

Success rates for day parole are even better, with 90 per cent completing their day parole successfully, and only one per cent having their parole revoked for a committing a crime (Public Safety Canada, 2014). More significantly, virtually all federal prisoners not deemed suitable for parole (excepting those serving life sentences) are released automatically by law on what is called statutory release after serving two-thirds of their sentence, but even they have relatively low rates of recidivism in terms of new crimes committed. Just nine per cent have their statutory release revoked for committing a new crime, and only one per cent have their release revoked for a committing a violent offence (Public Safety Canada, 2014).

It is tempting to conclude that the reason for these remarkably low recidivism rates is a consequence of rehabilitation that might be taking place in prison. There is no question that offenders sentenced to federal time in Canada have had, at least historically, access to programs aimed at reducing recidivism (such as cognitive skills, life skills, anger management, substance-abuse treatment, and employability training).

But, the outcomes may also have something to do with the fact that prisons are simply not pleasant places to be. They are boring, potentially dangerous places, and while it is one thing for someone to spend a month or two on the inside, it is yet another to have to spend a few years or more there. No doubt some offenders awake to the reality that life is significantly better on the outside.

Whatever the reason, it is clear that federal sentences are more functional than the short provincial ones. In this regard, it is worth noting the US Bureau of Justice Statistics study again. That study also found that the lowest rate of recidivism was among prisoners who had served at least three years. Moreover, those who had served at least five years had significantly lower rates yet (Langan and Levin, 2002).

Similarly, recent statistics on recidivism from prisons in the United Kingdom show that reconviction rates are decidedly lower for offenders who have served a year or more when compared with offenders who have served less than a year (Travis, 2010). Admittedly, these findings are at odds with other research showing that the length of prison sentence does not influence recidivism rates (Gendreau et al, 1999). Our view is that most of that research is not very helpful since it has generally only compared short sentences (that is, less than two years) against even shorter ones.

The finding that short prison lengths are not influential to reducing recidivism does however, strengthen the argument for longer sentences. Furthermore, those offenders with short sentences generally do not receive comprehensive rehabilitative interventions that should be expected to help reduce recidivism. The fundamental components of successful rehabilitation systems are to reduce the risk of re-offending and to meet the treatment needs of offenders. The literature on risk and needs suggests that treatment should be targeted toward offenders with the highest needs; arguably, prolific offenders. From a rehabilitative standpoint, this is another argument for prolific offenders needing to receive the types and levels of treatment more likely available during longer sentences.

Related to risk and needs is the responsiveness of offenders to treatments. Historically, prolific offenders have been resistant to any (and maybe all) interventions, short supervision periods, and shortterm rehabilitation services that have been applied to them. Longer sentences (more than the one to six months that most offenders in British Columbia currently receive), should have a higher likelihood of helping prolific offenders become unprolific because, over time, the environment of being incarcerated may help wear down resistance levels and make those offenders more responsive to the more effective treatment options available.

The Power of Conditional Release

The key to the success of the federal prison system in Canada is no doubt its integral conditional-release system. Specifically, in Canada, most offenders sentenced to a term of two years or more can apply for day parole as early as one-sixth into their sentence, and they can apply for full parole after completing one-third. Furthermore, even offenders not deemed suitable for parole are, as noted above, automatically released on statutory release after two-thirds of their sentence. There are exceptions regarding these eligibility times that apply to certain categories of offenders, such as those serving life sentences or those sentenced under the label of "dangerous sex offender," but generally most inmates have the opportunity to take advantage of early release.

Parole is a powerful corrective tool in a number of ways. To begin with, it provides a major incentive for offenders to involve themselves seriously in rehabilitation programs since, if they do not, they are unlikely to be seen by the Parole Board as being a good risk for early release.

At the same time, they have an incentive to develop a realistic plan for what they will do once released because, if they do not have one, the Parole Board is unlikely to grant early release.

The federal parole system is also a powerful check, re-check, and monitoring system. In this regard, it is important to note that the whole exercise of determining suitability for parole includes an exhaustive array of risk and needs assessments by correctional staff, psychologists (and sometimes psychiatrists), and institutional parole officers who make a case to the Parole Board which, in turn, makes its own independent assessment. In other words, much goes into the release decision-making process.

Moreover, correctional officials and the Parole Board often cascade the offender toward full parole release. Specifically, before offenders get full parole, they would commonly have moved into it gradually by first being granted lesser types of release—first escorted day passes, and then unescorted day passes, and then day parole (see Parole Board of Canada, 2011).

These primer releases are not just about testing the offender's ability to remain in the community. They are usually tied to an activity aimed at better preparing the person for full release. And, if offenders do not demonstrate success with these primers, they will not get full parole.

At the same time, when someone is granted parole, that person is rarely left unattended. On the contrary, the parole process includes prescribed community and other supports for the offenders to assist their re-integration. Further, parole includes strict, individualized conditions regarding what the offender can and cannot do. This is the all-important key: should offenders violate those conditions, such as consuming drugs or associating with past criminal associates, their parole officer will suspend them and have the offender arrested immediately for a return to prison. When this happens, a review is conducted and the offender must then convince the Board that he or she should be given another chance. The key here is that the mediating action is swift and certain, and happens whenever a sign exists that the offender is at risk of returning to crime. Needless to say, offenders have a significant incentive to stay away from doing things that put them at risk of committing a crime, never mind actually committing one.

Statutory release is also powerful because, again, the offender is bound by the conditions of that release, and as soon as they are caught violating those conditions, they go directly back to federal prison. In this sense, the process is different than for other offenders, who first go to court and, if and when they get convicted, are highly likely to get concurrent probation, a fine or, at worst, a short prison sentence.

Offenders on statutory release know that the penalty for a violation of conditions is a swift and automatic return to prison. Moreover, they do not have to commit a crime for their release to unravel: they simply have to violate the conditions of statutory release. Because statutory release amounts to the last third of the offender's prison sentence, the longer the sentence in the first instance, the more pronounced the incentive to stay crime-free for a longer period of time.

All things considered, both parole and statutory release are helpful in designing out crime because they provide support for, and supervision of, offenders in the name of being attentive to the risk of reoffending. That cannot happen if someone is released from prison "cold turkey," as is typical for offenders released from provincial prisons. It cannot work when the prison sentence is too short in the first instance, because the incentive of negative consequences is lost. That is not to say that the sentence has to be excessive. From a rehabilitative point of view, it just has to be long enough to enable the offender to complete a series of interventions deemed necessary through a risk or needs assessment to address their propensity to commit crime.

Instead of Prison

Probation vs. Federal Parole

Thus far, we have examined conditional release as it relates to a federal prison term. We might also think about how conditional release could be applied to a sentence in the first place. Currently, we have conditional release as a sentence in the form of probation, to which offenders can be sentenced for as many as three years. Further, conditions can be attached to the probation order, as is the case with federal parole. However, the fundamental difference between probation and federal parole is that probation does not provide for sending offenders to prison immediately should they violate the conditions of their probation. Rather, the offender is charged with breaching conditions, and that in turn sets off a court appearance, which rarely results in the offender ending up in custody. This undoubtedly explains why conditions for short-term offenders do not seem to make much difference in reducing recidivism (Parks, 2011).

Moreover, if they are placed in custody, it will be for a relatively short period, typically less than 30 days. In other words, there is no significant consequence to a breach of probation and, if there is one, it certainly is not immediate. Again, O'Rourke of the VisionQuest program for prolific offenders puts it into perspective:

"Why would they quit offending? Percentage wise, they rarely get caught, they spend most of their time not working and on a high, and when they do get caught, the consequences are just laughable. Don't take my word for it, ask any one of them."

Jim O'Rourke, Director, VisionQuest, 2015

To address the inconsequentiality of breaching conditions of probation, there should be some mechanism whereby breaching conditions triggers the offender to serve the remainder of the sentence in custody.

If probation is to be more successful at reducing the offending patterns of prolific offenders, we would need to re-invent it to model how offenders are supervised in the community under federal parole

The idea that we will continue to expect prolific offenders to be successful—that is, not reoffend while on or even after probation seems the weakest of the options available. That is however, if we only consider operations under the current model of probation in the provinces. If probation is to be more successful at reducing the offending patterns of prolific offenders, we would need to re-invent probation to model how offenders are supervised in the community under federal parole. Changes to the current probation system would be an attempt to create a more intensive supervision of prolific offenders in the community. However, while intensive supervision in itself aids in managing offender behaviours for the better, the most successful supervision systems (like parole in federal corrections) have the benefit of following the rehabilitative services given to offenders while incarcerated. Therefore, a probation system utilizing intensive supervision would also require extensive programming, and that programming, as previously mentioned, is most successful when an offender's resistance to treatment has been reduced.

This option suggests that if offenders breach conditions, they would serve the remainder of their sentence incarcerated. Depending on when during probation the breach occurred, the offender would return to court to be sent to either the federal or provincial correctional system, based on how many months remained in the original three-year sentence.

If offenders breach a condition within the first year of that sentence, they would be subject to serving the remainder of their sentence in federal prison. If the breach occurred with less than two years remaining on the original sentence, offenders would serve the remainder of their sentence in provincial prison.

Options for Conditional Sentencing

Re-inventing our systems of probation is not the only option available, however. We also have conditional prison sentences as a form of conditional release, to which an offender can be sentenced for a period of less than two years. Under such a sentence, offenders are supposed to be sent to prison if they violate the conditions associated with the sentence. However, the reality is that whenever a conditional sentence is awarded, it is likely to be much shorter in length than two years (typically six months) and if offenders do breach conditions, they are generally not sent to prison at all (John Howard Society of Alberta, 2000). As described in one review, in practice it is essentially like probation but with another name (John Howard Society of Alberta, 2000).

What is needed is a sentencing mechanism that gives prolific offenders a conditional prison sentence of three years, with the provision that if they fail to abide by the conditions of the sentence, they are brought before a court as soon as possible. A judge can then review the presumed violation and, if the offender is guilty of the breach, he or she would be sent to federal prison immediately. From there, the offender would be subject to the same conditional release eligibility requirements currently applied to federal inmates, such as temporary absences, day parole, full parole or statutory release. If offenders want to be released from prison prior to the two-year mark in their sentence (their statutory release eligibility date), they would have to demonstrate to the authorities that they are not a risk to re-offend.

Ultimately, such a sentence should work to the extent that it mirrors the sentences received by federal inmates which, again, have been demonstrated to be incredibly successful. The only difference is that this kind of sentence gives the offender a chance to stay out of prison altogether. At the same time, that one chance comes backed with the power of an immediate and certain consequence. That is a consequence that gives offenders serving a sentence under a provincial correctional authority something they generally do not have now—a good reason to not re-offend.

In considering the sentence just described, some might think that it is too harsh to send a prolific offender back to prison on the basis of a violation of a condition. If so, we might consider the idea of returning the person to prison in the first instance within the sentence triggered by any new criminal conviction. Doing so, however, would lessen the intent of the sentence in the first place, which was to tackle the risk of re-offending by individuals who have histories of re-offending over and over.

Labeling Prolific Offenders

An additional mechanism we could apply toward prolific offenders receiving longer, more consequential sentences is to assign a label to these offenders, much like we do with dangerous offenders. It has been established that prolific offenders cause much harm to society. With respect to that amount of harm, and the fact that they have been resistant to previous attempts to reduce or eliminate their offending, labeling prolific offenders as such could subject them to sentences beyond the short, ineffective sentences they currently receive, if any.

This is not an entirely new notion, as in the U.S., many states apply some label to, and more intentionally-corrective sentences for, habitual offenders. In Canada, we use "dangerous offender" and "dangerous sex offender" to identify offenders we determine would likely continue to be very harmful in society. A label that identified prolific offenders would enable judges to more easily apply the above-suggested sanctions of longer probation and/or conditional prison sentences. This too would involve changes to the *Criminal Code*.



Notwithstanding which sentencing mechanism is operationalized, the key to each mechanism is agreeing on sentence certainty. There must be a certainty that any offender, much less a prolific offender, will be subject to sanctions; otherwise, we have designed in continued, persistent offending.

By assigning prolific offenders to intensive probation with the possibility of incarceration or to a conditional prison sentence, or by applying a label for increased sentencing, we are designing out crime. The fact is, the current system incapacitates offenders as a response to what they have already done. However, we know that prolific offenders will continue to offend, and have continued to offend in the face of many interventions already applied. The sentence certainty of one of the above-mentioned mechanisms would not only incapacitate prolific offenders for what they have done, it would also address and serve to reduce or prevent what they will do.

Possibly the strongest argument for incapacitation mechanisms comes from the fact that the criminal justice system has finite resources. Another fact is that the more crimes an offender commits, the more crimes they will continue to commit. As stated earlier, if we simply removed all prolific offenders, we would dramatically reduce the crime rate.

From a policing standpoint, one single prolific offender could be responsible for hundreds of crimes, which results in hundreds of calls for service, arrests, charges, written reports, etc. The best scenario for policing person-hour efficiency is when multiple crimes (charges) are dealt with from a single arrest. From a government prosecutor standpoint, this single prolific offender still produces a large amount of workload stemming from hundreds of crimes. However, if that single prolific offender were say, given a conditional prison sentence, in a correctional system they are just that: a single offender. And, like any other offender, the menu of rehabilitative services can be offered to them. The cost of supervising a prolific offender, certainly sentenced to any mechanism, would be much less than the total harm they cause while prolifically offending in free society.

Thus, mechanisms like conditional prison sentences design out crime by focusing on not only removing prolific offenders so they can't offend, but also providing them with rehabilitative services with the aim they don't offend. Incapacitating prolific offenders will result in reduced crime levels. Designing out crime in this way is consistent with contemporary ideology and the reality that the criminal justice system must do more with less (Croisdale, 2012).

Defining "Prolific Offender"

For probation, conditional prison sentences, or the label of "prolific offender" to work, we would first have to agree on a definition of what constitutes a prolific offender for purposes of applying the sentence. This should not be difficult. Obviously, we would not want offenders with significant mental health issues caught in the definition, nor would we want nuisance offenders included. We would not even have to start with prolific offenders in general. Rather, we could start with super-prolific offenders. These would be individuals who have at least 30 convictions. One could even be more specific than the 30 conviction threshold, such as requiring that within the record, the offender must have multiple convictions for violence, numerous periods of incarceration, numerous convictions for non-compliance, and numerous convictions in recent years. However, nearly all super-prolific offenders already have such a collection of convictions on their records (Plecas and Cohen, 2007a; Plecas and Cohen, 2007b; Plecas et al, 2007, Otway et al, 2007; Parks, 2011).

When authorities have tried to develop prolificoffender definitions in the past, they have attempted to be highly specific. Ultimately, it gets very complicated, especially for court purposes. We need to remember that this does not have to be difficult. A basic axiom in the social sciences is that the best single predictor of human behaviour is past behaviour, especially if the consequences or rewards associated with that past behaviour are the same. A quick and simple proxy for that past behaviour and a robust predictor of future behaviour among offenders is the number of prior convictions on their criminal record. Research showed that the most persistent offenders were charged with a new crime at least once every six months. It should be obvious that without doing something different in terms of sentencing prolific offenders, we are designing in crime

Simply, if an offender already has at least 30 offences, it is a safe bet that unless you do something significantly different than has been done in the past in response to the behaviour, the offender will continue to offend. Furthermore, given what we know about super-prolific offenders, one can assume that the next conviction will most likely happen within months (Plecas and Cohen, 2007a; Plecas and Cohen, 2007b; Plecas et al, 2007, Otway, 2007; Parks, 2011).

Research by Croisdale (2008) looking at crime over a five-year window in British Columbia showed that the most persistent offenders were charged with a new crime at least once every six months. With this in mind, it should be obvious that without doing something different in terms of sentencing prolific offenders, let alone super-prolific offenders, we are designing in crime.

Programming for Offenders

Admittedly, we are not certain if the success of the conditional release system as it operates in relation to Canada's longer federal prison sentences is a function of the deterrent effect of the threat of being returned to prison for violations, the prison programs, the community support on release, the supervision on release, or some combination of all four. That said, it seems reasonable to assume that deterrence has at least something to do with it, given the success rates with respect to offenders on statutory release—those deemed to be too much of a risk to be considered for parole.

We also know from previous research that community supervision can be effective in reducing recidivism among high-risk offenders (Serin et al, 2003; Paparozzi and Gendreau, 2005; Bonta et, 2011). Further, we also know that some prison rehabilitation programs can be effective at reducing recidivism (Harer, 1994; MacKenzie, 2006; Griffiths et al, 2007; Hooley, 2010). An assessment of the Career Technical Education Program in California's prison system, for example, showed that the program produced remarkably low recidivism rates—at least 70 per cent lower than is the case for general prison releases in California (California Prison Industry Authority, 2012).

Moreover, we know that providing re-integration support to prisoners can have a positive impact on recidivism (Roman et al, 2007; Dawson and Cuppleditch, 2007: Griffiths et al, 2007). Finally, we know that we can positively influence prolific offenders when we have a re-integration initiative that brings intensive supervision and support together (Griffiths et al, 2007; Blue Ribbon Panel, 2014).

Needless to say, studies have also shown where correctional interventions, in or outside prison, have not had an impact on recidivism (again see Griffiths et al, 2007).

However, we should not be discouraged by such studies. If you examine them closely, you will find they are generally a mix of programs associated with short-term sentences and single-pronged, unsophisticated interventions that fail to capture what is needed to facilitate offender re-integration.

Re-integration programs need to be multi-faceted, beginning with specific attention to a proper diagnosis of each offender's risks and needs. This will inevitably show that most offenders need life skills, cognitive skills, job skills, attitude change, and substance-abuse treatment. These take time and only work when the associated intervention is intensive and backed up with continuing mentorship, supervision, and support. Importantly, re-integration also demands attention to the housing needs of offenders and their ability to develop and sustain supportive relationships with significant others and community stakeholders. Re-integration initiatives also need to be structured to reflect the fact that repeat offenders have demonstrated histories of being non-compliant and being resistant to change. In other words, offenders need assistance in turning the multiplicity of liabilities that place them at risk into assets that enable them to foresee themselves as law-abiding citizens.

It is not that correctional authorities and other criminal-justice stakeholders do not know what to do. They absolutely do. They just haven't been doing it in any concerted fashion. To the extent that they have not, they have been effectively re-enforcing those conditions that predispose offenders to criminality; hence, *designing in* crime.

Again, O'Rouke of VisionQuest puts it in perspective:

"The guys we get have so many issues, at first it is hard to image how they will ever function as a law abiding citizen. But make no mistake. We can get them thinking differently, we can get them clean and sober, we can give them the tools they need to stay sober, we can get them job ready, and ultimately we can help them turn their lives around completely. I have seen this happen with hundreds of prolific offenders. But you can't do it overnight. It is hard intensive work involving lots of skilled helpers, and it takes all of a year and sometimes two. Then you have to be there with and for them after they leave the program. The best part is, and this is when I know we've made it, is that these successes don't like to talk about their past because they don't want anyone to know they lived a life of crime. They are ashamed of it.

But I come back to consequences. Offenders need to know that there is a big downside to committing crimes or violating conditions. They need a motivation to not re-offend. They need a motivation to lead a different kind of life than they have in the past. I just wish the criminal justice system operated as if it understood that. If they did, we could help hundreds more prolific offenders become good citizens, and we could prevent thousands more victimizations. And don't get me started on how much money we would save taxpayers in the meantime."

Jim O'Rourke, Director, VisionQuest, 2015

Conclusion

This chapter suggests that one of the best ways to design out crime is by focusing on individuals who are predictively highly at risk of committing crimes whenever they are in the community. We have argued that to effectively reduce re-offending among these individuals, we need to be guided by the highly successful track record of Canada's federal prison system and its associated system of conditional release. In short, to design out crime as it relates to these individuals, we need a mechanism that allows us to realistically discourage and head off the offender's risk of re-offending. Further, it can be a mechanism that allows for offenders to remain in the community in the first instance. That mechanism, at least in Canada, would require a change to the Criminal Code by giving attention to prolific offenders. Such a mechanism is worth pursuing to the extent that current short-term sentencing options are generally ineffective at reducing re-offending.

Coming up with a definition of what constitutes a prolific offender or super-prolific offender is, in our view, a relatively simple counting exercise. The definition can get more elaborate by attending to an offender's recent offending pattern and types of crimes involved but, ultimately, it is still simply a matter of establishing a number threshold. Again, the premise is that the best single predictor of future behaviour is past behaviour, and the justification being that unless the conditions leading to the past behaviour are changed, the future behaviour will almost certainly include further offending. In other words, continuing to sentence as we do now is essentially designing in crime. To reduce crime levels, we need to do two things. One, we need to remove prolific offenders from the criminal event equation—that is, from the opportunity structure. Designing out crime before it can happen in the first place is the most preferred form of crime prevention.

Two, we need to increase sentence length toward providing meaningful rehabilitative services and apply consequence to re-offending or violating conditions associated with those sentences.

In making our argument, we have tried to make the point that short prison sentences should not be expected to reduce re-offending for many offenders,

let alone those who have a multiplicity of needs and require powerful interventions to address those needs. Significantly, we know what interventions work, we simply need to ensure that they are in place both with respect to prisoners and to offenders on conditional release.

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Conclusion

s we noted in the introduction to this book, the history of crime prevention has not been impressive. The crime-prevention efforts of yesterday were generally ill-conceived and, often, misguided. Commonly they lacked an appropriate theoretical background and sufficient evidence to suggest they were worthy of implementation. Few were properly evaluated. Consequently, the impact of crime-prevention initiatives has been negligible. This does not have to be the case, nor should it be. As the contributors to this book have suggested, there is a great deal we can and should do to prevent crime.

The aim of this book is to provide concrete suggestions on how crime can be reduced or prevented. Most of the suggestions offered do not require a significant reorganization of our communities, nor do they require a massive capital investment. As suggested in the introduction to this book, what we invest in responding to crime is already excessive. Current techniques for responding to a small theft can have a huge multiplier effect as the criminal justice system responds with the full weight of the police, courts and correctional systems. By using tested theories and replicated studies, we propose that virtually any community can reduce its crime rate and save resources in the process.

The discussion in this book follows a specific order: we started by looking at macro-level issues such as social policies and programs, and worked down to more specific levels of analysis, ending with doing something about repeat offenders.

The aim of this book is to provide concrete suggestions on how crime can be reduced or prevented. Most of the suggestions do not require a significant reorganization of our communities, nor do they require a massive capital investment

Chapter Two focusses on the role of regulatory and administrative actions in addressing crime. In particular, the focus is on the regulation and management of development, and the use of public spaces through licensing and other methods.

Among the key elements raised is the notion of integrating relevant crime prevention through environmental design. These principles can be effective crime-reducers through the use of compatible urban planning and development activities, and through carefully monitoring the impact of designs and development plans based on these principles. It is also suggested that jurisdictions use safety audits and other surveys, together with crime data and police information, to identify opportunities for administrative and regulatory crime-reduction initiatives. In other words, we must recognize that crime is not spread evenly throughout a community. Knowing where and when it is most prevalent helps to develop targeted strategies and provides a way of maximizing the return on our crime-prevention dollar.

It is also noted that greater coordination and sharing of information across municipal resources can have a substantial impact. Identifying potential synergies between policing policies and strategies, and administrative and regulatory approaches increases intervention effectiveness and reduces wasteful duplication in service provision. Finally, the need to build community support and engagement at every stage of each initiative is outlined. Without the support and collaboration of the broader community, most strategies to alleviate crime are doomed to marginal success at best.

While Chapter Three appears to draw attention to the problems of individuals, its primary focus is on programs. Although defining what constitutes a crime is a federal issue in Canada, responding to crime is largely a local matter. Furthermore, many of the "drivers" of crime result from gaps in the social welfare net that is primarily the responsibility of local government. For many people, there are periods of vulnerability in their lives that can determine whether they veer into criminal behaviour or remain as lawabiding citizens. Perhaps the obvious cases here are people who are moving back into the community after serving a period of incarceration.

But there are other transitions as well. Examples here include young people who might wish to exit the hold of a gang or drug users who are susceptible to walking away from the lifestyle. Other vulnerable people include those with mental illness or those suffering extreme poverty, both of which can push them into homelessness and a life on the street. A solid base of community-based agencies can often provide the necessary options to allow these individuals to avoid sliding into the grips of the criminal justice system.

Local policy making and programming determines how extensive and how well integrated the social safety net functions in a given community. A lack of core facilities such as homeless shelters, drug treatment programs or counselling services is easily identified. More often, however, the lack of coordination between those facilities and service agencies is overlooked.

As communities and the criminal justice system continue their fight against crime, they need to refocus on crime prevention and begin to see it for what it is worth in the long-term

For many, drug treatment programs are a waste if follow-up services relating to housing or employment services are not immediately available. The same applies to those who are discharged from a prison or other institution.

Chapter Four outlines much of what we know at the theoretical level about the incentives to engage in crime and how offenders often make decisions on real and perceived opportunities. Understanding these theoretical insights can help us create effective crime-prevention policies. The broken-windows theory is a prime example. Understanding why and how decisions to commit crime are made also helps to explain why many of our crime-prevention strategies are either doomed to failure or why they peter out over the long haul. As we freely admit, a community free of crime is an unlikely and unachievable utopia. However, acknowledging that most offenders are opportunistic and typically stumble across easy criminal opportunities as they pursue their daily lives suggests that simple, rational countermeasures can go a long way to designing out a great deal of crime.

Technology has long been used to minimize the likelihood of victimization. For centuries, locks and other devices have provided both a barrier and deterrent to criminal activity. As Chapter Five indicates, modern technological advances in security and surveillance systems have already had a limiting factor on certain types of crime.

Ignition interlocks on newer automobiles, for example, have made it significantly more difficult to steal vehicles. Similarly, embedded GPS trackers make it easier to locate automobiles and other products once they are stolen.

Closed-circuit cameras act both as a deterrent and a means of more readily identifying offenders after the fact. As technology advances further and as the "internet of things" becomes more widespread, technology will likely play a greater part in helping to design out crime. As the chapter notes, however, technology alone is insufficient to reduce criminal activity. In fact, technology can be a double-edged sword. As the evolution of the internet has shown, some technologies offer criminals greater opportunities to engage in new offences, such as breaking into ATM machines or committing "cyber fraud."

When used in conjunction with other techniques, such as Crime Prevention Through Environmental Design (CPTED) strategies, technological innovations can have a synergistic effect on our attempts at crime reduction.

Chapter Six takes note of the fact that most crime is committed by a relatively small group of prolific offenders. Not only do these offenders commit a large amount of crime within a short duration, they are also the most likely to reoffend after they are apprehended and sanctioned. A key element in crime reduction, therefore, is the identification of those individuals.

Once identified, the aim is to provide strategic interventions that will minimize their likelihood of reoffending. Not all offenders require extensive rehabilitative or intervention programs. Targeting prolific—and "super prolific"—offenders is a way of maximizing the return on our limited resources. This may even include providing longer and more certain periods of incarceration of those individuals.

As communities and the criminal justice system continue their fight against crime, they need to refocus on crime prevention and begin to see it for what it is worth in the long-term. It is not just about saving communities money; it is also about improving our overall quality of civic life. In this regard we are reminded that, ultimately, the cost of deterring and otherwise designing out crime will outweigh the costs associated with criminal behaviour. Small investments in the right places can result in very large returns. As the book has tried to illustrate by example, we often know what do-we just have to start doing it.

Designing Out CRIME

Citizens expect their local governments to protect them from crime and to respond quickly and effectively to criminal activity. However, costs associated with law enforcement continue to mount, forcing local governments to consider crime prevention in a more serious way.

Designing Out Crime explores a variety of possible solutions for preventing crime, covering ground that includes problem-solving approaches, administrative and regulatory methods, transitions and social programming, the design of environments and products, the use of technology, and new ways of dealing with prolific offenders.

Written by criminologists and blending both theoretical background and practical advice, this is a powerful new crime-prevention tool for local governments.

Community safety is a primary focus for all governments. In order to make our cities as safe as possible with ever-evolving challenges, we must be proactive rather than reactive. In order to do so, we must also make decisions based on analysis of strong data and a good understanding of best practices.

Designing Out Crime encourages governments to consider new crime-prevention approaches and to turn a critical eye to our traditional ones, with the view to ensuring their efforts are sustainable and truly meet the unique needs and circumstances in their community.

This book will inspire readers to look beyond short-term, traditional fixes in order to address crime problems at a systemic and holistic level. All government leaders will find value and useful guidance in this book.

- Vincent Lalonde, M. Sc., P. Eng, City Manager, City of Surrey, British Columbia



