



Australian Government

Australian Institute of Criminology

Effective crime prevention interventions for implementation by local government

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Attorney General
& Justice

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Foreword

As a research organisation, the Australian Institute of Criminology (AIC) is often confronted by the challenge of how best to facilitate the transfer of research findings into effective crime prevention policies and programs. While recognition of the importance of evidence-based crime prevention continues to grow, along with the number of quality evaluations that have been conducted, simply producing and disseminating research findings is not enough to ensure that the accumulated evidence base is used to inform decision making. Instead, it is necessary to look at ways through which those working on the ground can be encouraged to make better use of the available evidence.

One such approach is to partner with those agencies whose responsibility it is to develop crime prevention policy and support practitioners working in local communities. Continuing a long history of collaborating with crime prevention agencies, the Crime Prevention Division of the NSW Department of Attorney General and Justice commissioned the AIC to undertake a large-scale systematic review of interventions to prevent a number of crime types identified as priority areas for local councils in New South Wales.

Systematic reviews are a popular and important mechanism for drawing together the evidence base to help inform decision making. The purpose of a systematic review is, in short, to sum up the best available research on a particular topic by drawing together the results of multiple studies. Traditional systematic reviews have attracted some criticism because of their focus on outcomes at the expense of understanding where and how particular strategies work best.

The AIC has attempted to overcome some of these limitations by developing a methodology that combined elements of both experimental

and theory-based approaches to evaluation. This approach places greater emphasis on factors such as local context, the mechanisms underlying an intervention and the requirements for successful implementation, as well as evidence of effectiveness. This has the potential to better inform the process of selecting and adapting effective interventions by providing more useful information on the effectiveness of different prevention strategies and their successful implementation, helping to get the most out of crime prevention evaluation.

The value of this novel approach is already being demonstrated. Using this methodology, the AIC was able to identify and review well over 100 studies across six major crime categories—non-domestic assault, residential burglary, stealing from motor vehicles, malicious damage, stealing from person and retail theft. As well as identifying which interventions appeared to work, the review was also able to work out why and in what circumstances the programs worked. Importantly, the review was able to describe the requirements for successfully implementing those interventions supported by evidence—demonstrating how to apply the best practice principles described in important resources such as the National Crime Prevention Framework.

While the findings from this review are described in this report, detailed information on the characteristics of specific interventions, the steps needed to implement them and illustrative cases studies have been used to develop practitioner-focused resources. Working closely with staff from the Crime Prevention Division, the AIC has used the findings from this review to develop 24 practical resources, including fact sheets, handbooks and costing frameworks for eight intervention types supported by some evidence of effectiveness. These resources will help local government, along with

other crime prevention practitioners in New South Wales and hopefully other jurisdictions, to select and implement evidence-informed strategies to reduce crime.

Nevertheless, despite the wealth of information that could be captured as part of this project, it was clear that there remain significant gaps in the evidence base. While there was strong evidence in support of many of the intervention types examined as part of this review, much of this was drawn from international studies completed over a decade or more ago. It was also the case that many popular initiatives were not supported by any evidence, positive or negative. Thus, there is scope to improve both the level and quality of crime prevention evaluation, particularly in Australia, which is something that the AIC is working hard to achieve. Some ways forward have been described in this report.

Finally, I would note that this report represents one of the first outputs produced by the AIC as part of its new crime prevention technical assistance program, Crime Prevention ASSIST (ASSIST is the acronym for Advice, Specialist Support, Information & Skills Training). Crime Prevention ASSIST has been developed in recognition of the importance of building the capacity of those working in crime prevention. Current priorities for the program include targeted evaluation work, applied resource material development and training and professional development activities for government and non-government practitioners, as well as a new website presence. It is particularly through Crime Prevention ASSIST that the AIC hopes to bridge the gap between research and practice and make an important contribution to the goal of evidence-based crime prevention.

Adam Tomison
Director

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Acronyms

AIC	Australian Institute of Criminology
BOCSAR	NSW Bureau of Crime Statistics and Research
CCO	Conjunction of criminal opportunity
CCTV	Closed circuit television
CPD	Crime Prevention Division
CPTED	Crime Prevention Through Environmental Design
CRAVED	concealable, removable, available, valuable, enjoyable and disposable
DAGJ	Department of Attorney General and Justice
EAS	Electronic Article Surveillance
RSA	responsible service of alcohol
SMS	Scientific Methods Scale

Executive summary

The Crime Prevention Division (CPD) of the NSW Department of Attorney General and Justice (DAGJ) contracted the Australian Institute of Criminology (AIC) to undertake a systematic review of crime prevention interventions suitable for implementation by local government. The purpose of this project was to identify crime prevention interventions that were supported by evidence of effectiveness and that could be implemented by local government to address the following priority crime types:

- non-domestic violence related assault;
- break and enter—dwellings;
- stealing from dwellings;
- steal from motor vehicle;
- malicious damage;
- steal from person; and
- steal from retail store.

The findings from the AIC's comprehensive review of the evidence base on the prevention of these crime types are presented in this report.

Review methodology

This project aimed to address the following key research questions:

- What crime prevention interventions are effective in addressing the priority crime types?
- Which of these interventions are appropriate for, and may be implemented by, local government or the NSW CPD?
- What are the key characteristics of effective crime prevention interventions?
- What are the key requirements for the successful implementation of those interventions that have been identified as being effective?

This involved the development of a methodological framework for the systematic review of prevention strategies that combined elements of both experimental and theory-based research designs and approaches to evaluation. The AIC used the following criteria in selecting studies to be included in the review:

- The study needed to meet level two on the Scientific Methods Scale (SMS), insofar as there was a measure of crime before and after the program was implemented (based on recorded crime, survey or self-report data).
- There needed to be a measure of at least one of the priority crimes before and after the intervention had been applied or, in the absence of this measure, a general measure of crime for the target group or area (for projects that specifically target one of the priority crime types).
- Data used to measure key outcomes needed to be both valid and reliable.
- There needed to be a sound theoretical basis underpinning the intervention that had been evaluated (as determined by the research team, using the theory underpinning the different approaches to crime prevention presented in this report).
- The evaluated strategy needed to have been implemented by a community-based organisation (such as a local government) or delivered at the local level and to be appropriate to the NSW context. This included strategies for which local government were the lead agency with primary responsibility for implementation, those for which local government could contribute to in some capacity (albeit in a supporting role) and those that might be included in a local government crime prevention plan.

- There was sufficient information to enable the research team to determine the mechanisms that had been ‘activated’ by the intervention.
- There needed to be evidence that the intervention had been implemented as it was designed (ie implementation fidelity) so that outcomes could reasonably be attributed to the intervention(s) described.
- There had been some accounting for, or an attempt to reject, alternative explanations for the outcomes that were observed, based on additional supporting evidence (not limited to the use of a comparison group).

In addition to collecting basic information about the intervention(s) that were delivered, the outcomes that were observed and the research design used in the evaluation, populating the framework required additional information to be collected on the context in which the strategy had been implemented and the mechanisms underpinning the intervention(s) that were delivered. The review also identified the requirements for effective implementation for each of the crime prevention strategies examined. The AIC research team then undertook a rigorous and comprehensive review of published and unpublished research, evaluation and review studies in accordance with this framework.

The AIC provided the NSW CPD with a summary of the evidence in support of interventions for each priority crime type. A number of preferred intervention types were selected that could be implemented by local councils, with the support of the CPD, in areas with a significant crime problem. The findings from this review have informed the development of a number of factsheets and handbooks to assist local government to select, adapt and implement the preferred interventions.

Role of local government in crime prevention

A brief review of the role of local government in crime prevention was undertaken to help inform the selection of strategies that would be suitable for implementation by local government. Local government is a key player in community-based

crime prevention. Councils are responsible for a range of services related to crime prevention, including managing public space and building design, providing a range of community services and developing policies that affect local businesses. More recently, there has been increasing pressure on local government to contribute to the delivery of a variety of social services and to engage in social planning.

Local government are often involved in developing and implementing a range of crime prevention initiatives, frequently in partnership with other stakeholders such as police and non-government organisations. Local government are also a lead agency in the development of local crime prevention plans, which identify and prioritise concerns about community safety and crime prevention in a local government area, and identify key action areas and responsibility for these actions.

Non-domestic violence related assault

The review highlighted that there are various forms of non-domestic violence related assault that take place in different contexts. They differ in terms of the types of violence, the location of violence and the groups that are affected. The responses to the different forms of violence vary accordingly. The review identified strategies targeting the following forms of violence:

- alcohol-related violence in entertainment precincts and licensed premises;
- gang-related violence;
- youth violence;
- violence in Indigenous communities;
- violence revolving around a particular event or location; and
- violence in residential neighbourhoods.

There was considerable variation across the different forms of non-domestic violence related assault in terms of the number of evaluations meeting the project inclusion criteria that could be located by the research team.

In total, 41 studies met the criteria for inclusion in the review. Therefore, it was possible to draw conclusions about the effectiveness of interventions (or combinations of interventions) and their impact on non-domestic violence related assault. The most common intervention types identified among those strategies that were supported by evidence of effectiveness were:

- community-based multifaceted strategies targeting alcohol-related violence in entertainment precincts (10 strategies reviewed, 8 studies showing evidence of effectiveness);
- strategies targeting gang-related violence that combined community patrols, awareness campaigns, community mobilisation and support services with strong enforcement by police, corrections and housing authorities (5 strategies reviewed, 3 studies showing evidence of effectiveness);
- access control measures targeted at reducing violence by minimising conflict between groups in known high-risk locations (2 studies reviewed, both showing evidence of effectiveness, one of which also involved the application of crime prevention through environmental design (CPTED) principles);
- improving street lighting in locations with high rates of violent crime, particularly in residential areas with high-density housing (7 studies reviewed, 4 studies showing evidence of effectiveness); and
- brief interventions targeting violence among adolescents who attended emergency departments (2 studies reviewed, both showing evidence of effectiveness).

While there are some questions regarding the relevance of US-derived gang-related violence prevention measures to the NSW context, all of these strategies are suitable for implementation by local government, either as the lead agency or in partnership with police and community-based organisations. Further, large scale multicomponent strategies involving a number of different stakeholders (such as those targeting alcohol-related violence in major entertainment precincts), can be managed or coordinated by central agencies such as the NSW CPD.

Residential burglary

Thirty-two strategies met the criteria for inclusion in the review. Therefore, it was possible to draw conclusions about the effectiveness of specific interventions and their impact on residential burglary. The following intervention types were supported by multiple evaluation studies finding evidence of effectiveness.

- Access control measures that involve actively encouraging or installing improved security measures on behalf of residents (including security devices and perimeter security):
 - In three studies, all showing evidence of effectiveness, access control measures were the sole intervention and included installing barricades and street closures, installing lockable gates in alleys or the installation of window locks.
 - In 12 studies, of which 10 showed evidence of effectiveness, access control measures were supported by other interventions.
- Awareness raising campaigns that aim to improve awareness of risk factors for victimisation, offending ‘hotspots’ and prevention measures, including strategies with a universal focus targeting whole neighbourhoods and those targeted at high-risk households, were effective when delivered alongside other interventions:
 - In eight studies, all showing evidence of effectiveness, awareness campaigns were delivered as part of a suite of interventions.
 - Of the seven studies involving an awareness campaign that either had no effect on offending rates or the effect was uncertain, four did not involve any other intervention (the remaining strategies encountering issues relating to implementation).
- Property marking, whereby residents are provided with assistance to record identifying information on valuable personal belongings, was involved in seven multicomponent strategies, of which five were supported by evidence of effectiveness—but was used primarily as a secondary intervention delivered in support of other intervention types.

- Strategies that aim to improve natural surveillance appear to be an effective strategy, but are also an important by-product (intentional or unintentional) of other strategies such as CPTED, awareness raising and education campaigns. Of the seven studies involving interventions to improve natural surveillance, six showed some evidence of effectiveness and all except one comprised multiple interventions.
- Strategies involving some form of CPTED or urban renewal component (6 studies in total), usually implemented in conjunction with another intervention (5 studies), all showed evidence of effectiveness.
- Community patrols were an important component in three strategies, all of which were supported by evidence of effectiveness and delivered in combination with other intervention types. However, they took several different forms including security patrols, the appointment of unemployed locals to act as local guardians and neighbourhood watch groups actively patrolling communities.
- Diversionary activities were involved in four multicomponent strategies, three of which were effective. These generally involved providing some form of alternative activity after school or during school holidays for youths at risk of becoming involved in property crime.
- In five studies, with four showing evidence of effectiveness, access control measures were supported by other interventions.
- In the one study that was not supported by evidence of effectiveness, the intervention was found to reduce theft of cars but not theft from cars.
- In one study, also showing evidence of effectiveness, access control was the sole intervention.
- Closed circuit television (CCTV) involves the placement of cameras in parking facilities to capture images that are recorded or transmitted to monitors. In five studies, all showing evidence of effectiveness, the use of CCTV was supported by other interventions.
- The installation of improved lighting in and around car parks was included in seven of the reviewed strategies. In six programs, lighting improvements were introduced as part of a more comprehensive approach, with five showing evidence of effectiveness. In one study, which appeared to have no impact on theft from cars, lighting improvements were the only intervention.
- Awareness raising campaigns were delivered in support of other interventions and typically involved some form of signage to inform the community about the presence of improved security or CCTV or raise awareness among car park users of the risk of stealing from motor vehicle offences and strategies to minimise their risk of victimisation. In four studies, all showing evidence of effectiveness, awareness campaigns were delivered as part of a suite of interventions.
- Five of the six studies that involved some form of CPTED showed evidence of effectiveness. All of these interventions were delivered in conjunction with other strategies.

Stealing from motor vehicles

Thirteen studies met the criteria for inclusion in the review. Therefore, it was possible to draw conclusions about the effectiveness of specific interventions and their impact on stealing from motor vehicles. The following intervention types were supported by multiple evaluation studies finding evidence of effectiveness.

- Access control strategies that involved improving the perimeter security of parking facilities, either through the installation of improved security measures (such as metal fencing, lockable gates and secure doors) or the presence of parking attendants during high-risk daytime periods:

Malicious damage

Only a small number of strategies that aim to reduce malicious damage have been evaluated. Overall, the review identified only 11 strategies that met the criteria for inclusion. Therefore, any conclusions made about the effectiveness of specific

interventions and their impact on malicious damage should be interpreted with caution.

The following intervention types were supported by a small number of evaluation studies finding evidence of effectiveness.

- Strategies involving some form of CPTED (3 studies in total) all showed some evidence of effectiveness. All three were delivered alongside other measures, the most common being community patrols and/or police enforcement.
- Community patrols were an important component in four strategies, all of which showed some evidence of effectiveness. Interventions typically involved engaging local residents to perform patrols of high-crime areas, such as residential estates that had been abandoned or had a low residential population, either as a volunteer or paid employee. A professional security guard detail was also used in one of the reviewed strategies. Community patrols were delivered as part of a broader, multifaceted strategy in three studies. The fourth involved the use of community patrols delivered in isolation.
- Access control measures were used in three of the reviewed strategies and all demonstrated evidence of effectiveness. The interventions typically involved the installation of improved security measures on behalf of residents, such as fencing and security doors. All three interventions were supported by other measures.
- Three of the reviewed strategies involved upgrading or installing street lighting in crime-prone streets and/or areas. Two interventions were implemented as part of a multifaceted strategy and both demonstrated evidence of effectiveness. One intervention was implemented in isolation and had a minor impact on malicious damage offending rates.
- An education-type project was used in two strategies and both demonstrated evidence of effectiveness. Both interventions aimed to raise the target population's awareness of the implications of their actions in either facilitating or committing malicious damage offences. Both educational projects were implemented as part of a broader, multifaceted scheme.

Stealing from person

Very few strategies that aim to reduce stealing from person offences have been evaluated. Overall, the review identified only five strategies that met the criteria for inclusion. Therefore, any conclusions about the effectiveness of specific interventions and their impact on stealing from person offences should be interpreted with caution.

The following intervention types were supported by a small number of evaluation studies finding evidence of effectiveness.

- Two strategies involved an awareness campaign, both of which appeared to be effective in reducing theft rates. Both interventions were used as part of a broader, multifaceted program.
 - In one of the strategies, the awareness campaign involved project staff working with retail store management to identify risk factors for customer bag theft (ie security audit).
 - In the other strategy, the purpose of the awareness campaign was to inform the public about the primary intervention and provide potential victims with information about how they could avoid theft.
- CCTV was used in three strategies, two of which appeared to be effective in reducing personal theft. One effective strategy involved the use of CCTV as part of a multifaceted strategy and the other effective strategy involved the use of CCTV as the sole intervention.
- CPTED was used in two strategies as part of a multifaceted program; one appeared to be effective in reducing theft rates and involved redesigning spaces to provide increased surveillance opportunities. Further research is required to determine the effectiveness of CPTED as a theft prevention strategy but, given the lack of research into effective strategies to prevent steal from person offences, it may still be regarded as a promising approach.

Stealing from retail stores

Sixteen studies met the criteria for inclusion in the review. Therefore, it was possible to draw conclusions about the effectiveness of specific interventions and their impact on stealing from retail store offences. The following intervention types were supported by multiple evaluation studies finding evidence of effectiveness.

- Awareness campaigns were used in nine strategies and involved providing retail staff or customers with information about a crime prevention initiative or skills to avoid victimisation, informing customers about harms caused by retail theft and publically identifying 'hot' merchandise, or conducting a security audit of the business to identify potential risk factors for shoplifting.
 - Seven appeared to be effective in reducing shoplifting. Two of these had an immediate impact on shoplifting rates but this effect deteriorated over time.
 - Three of the effective strategies involved awareness campaigns as part of a multifaceted strategy.
- Access control measures were used in seven strategies, six of which appeared to be effective in reducing retail theft. One had an immediate impact on shoplifting rates but this effect deteriorated over time. Interventions typically involved attaching Electronic Article Surveillance (EAS) and/or ink tags to commonly stolen merchandise or on a storewide basis, supported by stocktake counts of merchandise performed by security personnel or staff. Four of the effective strategies were accompanied by other intervention types.
- Four of the reviewed strategies used an education-type project, all of which appeared to be effective. Interventions typically involved teaching retail staff how to identify suspicious consumer behaviour and how to respond to suspected retail theft. Education was always accompanied by other intervention types.

Requirements for implementation

A common theme across a significant proportion of evaluated strategies was the use of situational approaches to crime prevention. These are supported by a strong theoretical framework and a range of established techniques. The situational crime prevention literature also provides clear guidance on how to implement effective crime prevention strategies and is a common approach adopted by local government. The interventions identified are therefore suitable for local government implementation and adaptation (such as those targeting retail theft, where local government can provide information on effective strategies to store owners and operators).

In addition to providing financial support to local government through grant funding, central agencies such as the NSW CPD are often responsible for the management and coordination of large-scale strategies targeting high-risk areas with an identified crime problem. This is particularly the case where a prevention strategy involves a range of state government (eg housing, education and criminal justice), local government and non-government agencies delivering a number of interventions in combination to address multiple risk factors. They have also been responsible for the development of resource materials that can be used by local government and other agencies in local initiatives (eg security audits and signage).

In order to develop practical guides to assist local government to select and then implement suitable interventions to address local crime priorities, the AIC review collected information on the characteristics of successful strategies and on the requirements for implementation. It was possible to identify a number of common factors among those strategies that were successfully implemented and reviewed as part of the current project; they fall into the following categories:

- a thorough and systematic analysis of a range of data sources to identify significant crime problems and to understand their causes and risk factors;

- community engagement and consultation in the development of the strategy (including but not limited to residents, business operators, local service providers etc);
- strong interagency partnerships, led by a driver responsible for maintaining project momentum and implementation; and
- availability of appropriate expertise, technology and resources.

The application of these generic principles to the preferred intervention types is described in detail in the relevant factsheets and handbooks, along with a number of examples to demonstrate how these principles have been applied in practice.

Limitations of systematic reviews

There are a number of limitations with the methodology used for this review (and systematic reviews more broadly) that need to be acknowledged:

- The majority of evaluated strategies involved multiple interventions delivered as part of a multifaceted, comprehensive program. Therefore, isolating the intervention or interventions that were most effective or determining the relative contribution of each intervention type to the overall effectiveness of strategies involving multiple interventions is difficult.
- The integration of theory with the experimental method may not entirely overcome some of the methodological limitations that are associated with the absence of a comparison group and specifically, threats to internal validity.
- The quality of evaluations varied considerably between the priority crime types. The strength of evidence in support of interventions targeting the different crime types therefore varies as well.
- The focus on evaluations for which there was a measure of one of the priority crime types is likely to have biased the results towards those interventions that deliver short-term outcomes and is likely to have contributed to a greater focus on those interventions that involve the manipulation of situational factors for crime (ie situational crime

prevention). Programs targeted at offenders (or people at risk of offending) frequently report on general individual-level outcomes such as self-reported delinquency (for juveniles), arrests and reoffending.

- Few studies had results that suggested the intervention had been ineffective in reducing the targeted crime problem, which indicates some level of publication bias and that may serve to overestimate the relative success of strategies examined as part of this review.
- Given the short timeframe for this project, it is likely that some evaluation studies have been overlooked, particularly unpublished 'grey literature' and older studies.

Nevertheless, the AIC has identified a significant number of interventions that are supported by evidence of effectiveness in the prevention of the priority crime types currently being targeted by the NSW CPD and local government. It has therefore been possible to draw a number of conclusions based upon the findings presented in this report, both with respect to the effectiveness of different intervention types and the requirements for successful implementation.

Improving the evidence base for local government crime prevention

There is scope to improve the standard of evaluation in community-based crime prevention. In order to improve the evidence base available to local government with respect to effective crime prevention interventions and the requirements for their implementation, it is important that there are strategies in place to increase both the amount and quality of evaluation being conducted. This might involve establishing mechanisms to:

- encourage local government and other community-based organisations to undertake or sponsor evaluation work;
- appoint qualified personnel to undertake high quality evaluation studies on behalf of community-based organisations;

- review evaluation proposals and provide input into evaluation design and methodologies developed by community-based organisations;
- provide guidance and support to local government undertaking an evaluation, both in developing the methodology and on an ongoing basis; and
- provide training and developing resources that help to build the capacity of those involved in evaluation and performance measurement.

Further research may seek to fill the gaps in the evidence base for local government by targeting

specific intervention types for evaluation. By focusing evaluation on clusters of projects that are identified as being important and/or of interest, the knowledge base on effective crime prevention practice can be developed in a strategic and systematic way. This approach would be particularly useful for those intervention types that are common in local government crime prevention plans but for which there is little evidence of effectiveness.



Introduction

The CPD of DAGJ contracted the AIC to undertake a systematic review of crime prevention interventions suitable for implementation by local government. The purpose of this project was to identify crime prevention interventions that were supported by evidence of effectiveness and that local government could implement to address the following priority crime types:

- non-domestic violence related assault;
- break and enter—dwellings;
- stealing from dwellings;
- steal from motor vehicle;
- malicious damage;
- steal from person; and
- steal from retail store.

Based on these findings, NSW CPD selected a number of interventions as preferred strategies. The decision about which of the strategies would be supported by NSW CPD was to be guided by the best available evidence and an assessment of their suitability for implementation under local government leadership in different settings.

The findings from the review process have informed the development of a series of factsheets and handbooks for each of the preferred interventions, to assist local government to select and adapt the most suitable intervention and manage the implementation of that strategy.

Purpose of this report

This project aims to address the following key research questions:

- What crime prevention interventions are effective in addressing the priority crime types?
- Which of these interventions are appropriate for and may be implemented by local government or the NSW CPD?
- What are the key characteristics of effective crime prevention interventions?
- What are the key requirements for the successful implementation of those interventions that have been identified as being effective?

The purpose of this report is to outline the findings from a review of the research and evaluation literature relating to the prevention of the identified priority crime types. In outlining the findings from this research project, this report includes:

- a description of the AIC's methodology for undertaking the systematic and comprehensive review of published and unpublished research, and evaluation and review studies to identify both effective crime prevention interventions and those with limited evidence of effectiveness;
- an overview of the crime prevention approaches, theory and mechanisms that underpinned the AIC's approach to including strategies as part of the review;

- a brief description of the role of local government in crime prevention, based on previous AIC projects and research;
- a summary of the evidence in support of interventions that have been implemented to prevent the identified priority crime types, including characteristics of effective strategies and an assessment as to the suitability of interventions for implementation by local government;
- an overview of the requirements for successful implementation of those interventions reviewed; and
- some general conclusions based on the review and the implications for both policy and practice.

Resource development

The findings presented in this report have informed the development of a series of factsheets for use by local government that briefly outline the nature of each preferred crime prevention intervention, how they work, the context and locations to which those interventions are best suited, characteristics of successful strategies and requirements for their implementation. These factsheets are designed to assist local government to select the most appropriate strategy for addressing local crime problems and to suit local circumstances.

The findings presented in this report have also informed the development of a practical handbook for each intervention type. These handbooks have been developed to help local councils through the various stages of planning, implementing and evaluating evidence-based interventions in their local government area. Both the factsheets and the handbooks present a number of case studies, based on evaluation reports reviewed as part of this research, to highlight important lessons regarding the design and implementation of effective crime prevention strategies.

Terminology

In this report, *strategies* refer to the crime prevention projects that have been developed, implemented and evaluated and that were examined as part of this review. They frequently involve a range of different actions to bring about desired outcomes.

Interventions refer to the specific actions that were implemented as part of each crime prevention strategy.



Review methodology

The AIC has developed a methodological framework to guide the systematic review of prevention strategies that combines elements of both experimental and theory-based research designs and approaches to evaluation. The methodology for selecting, analysing and recommending strategies is outlined in detail in this section.

Systematic reviews and evidence-based crime prevention

Evidence-based crime prevention involves the practical application of research and evaluation findings in the development and implementation of measures to reduce crime. These measures should be targeted to areas of the greatest need (based on a detailed analysis of the problem) and adapted to suit local conditions, supported by a focus on outcomes and a commitment to demonstrating measurable results (and contributing to the evidence base) through evaluation and performance measurement (ECOSOC 2002; Homel 2009a; UNODC 2010). The importance of ensuring that strategies are based on a thorough understanding of the problem being addressed, have evidence of effectiveness and are rigorously evaluated are common principles underpinning contemporary

crime prevention programs. These principles are reflected in both national, and state and territory crime prevention strategies currently operating in Australia (Cherney 2000; Cherney & Sutton 2007; Crime Prevention Queensland 1999; Homel 2005; Homel et al. 2007; NSW Department of Premier and Cabinet 2008; Office of Crime Prevention 2004), international strategies (Homel et al. 2004; Home Office 2007; National Crime Council 2003; National Crime Prevention Centre 2007) and in various publications and practice guides developed to assist policymakers and practitioners (ECOSOC 2002; UNODC 2010). Central agencies such as the NSW CPD aim to promote, coordinate and deliver evidence-based interventions through their various policies, programs and guidelines.

The implementation of evidence-based practice requires not only a strategy for accumulating evidence in relation to identified and agreed priority areas, but also requires a strategy to enable the active dissemination of evidence (targeted to those areas where it is most needed) and strategies to ensure that evidence is integrated into policy and actively used by practitioners (Nutley, Walter & Davies 2003). Numerous forms of good practice guides have been developed to support evidence-based crime prevention. These include guidance on various intervention or prevention methods, methodologies for determining and selecting appropriate interventions, approaches for 'activating'

the principles or mechanisms designed to address the causes of crime, or to support the application of skills developed through practical experience (Tilley 2006).

Advocates of evidence-based policy argue that crime prevention policy and practice should be rational and based upon the best available evidence, which they suggest comes from systematic reviews of high-quality experimental and quasi-experimental evaluation research (Welsh & Farrington 2006a). Systematic reviews are a popular mechanism for drawing together the evidence base across multiple evaluations. Systematic reviews of the research and evaluation literature that combine elements of both experimental and theory-based research designs and approaches to evaluation may provide more useful information relating to both the effectiveness of different prevention strategies and their successful implementation. In giving greater recognition to contextual factors, they may also increase the integration of evidence into practice (Leeuw, van der Knaap & Bogaerts 2007).

In discussing the role of evaluation in learning what works to prevent crime, Eck (2005) identifies important considerations and questions that may confront policymakers and practitioners when making decisions regarding investment in particular crime prevention interventions. Specifically, Eck (2005: 700) suggests that the evidence needs to show that

for a specific crime problem an intervention is an appropriate choice; the application of this intervention [has previously] resulted in the prevention of the type of crime we are interested in; and if we applied the intervention again we will obtain similar results.

This is where systematic reviews are particularly valuable.

A combined approach to systematic review

The AIC developed a comprehensive approach to the systematic review of crime prevention strategies that combined both experimental and theory-based approaches to research and evaluation.

Experimental approach to research and evaluation

The review of evaluation research has drawn upon the SMS (see Table 1). The SMS was designed as a guide to assess the strength of scientific evidence and methodological quality of outcome evaluations, and forms the basis of systematic reviews undertaken by the Campbell Collaboration (Farrington et al. 2006). It is primarily focused on ensuring the highest possible level of internal validity and drawing valid conclusions regarding the causal relationship between interventions and the outcomes observed.

Table 1 provides an overview of the specific criteria for each level on the five point scale. A research design that achieves level three on the SMS (quasi-experimental design) is often considered the minimum design for drawing conclusions regarding the effectiveness of a crime prevention intervention (Farrington et al. 2006). Any outcome evaluation that does not reach this level is excluded from systematic reviews conducted by the Campbell Collaboration.

However, there are limitations in adopting a strictly experimental approach to assessing the effectiveness of crime prevention interventions. In particular, this approach has been criticised for an emphasis on internal validity (ie attributing causation to the intervention in question) at the

Table 1 Scientific Methods Scale	
Level	Criteria
1	Correlation between a prevention program and measure of crime at one point in time
2	Measures of crime before and after the program, with no comparable control condition
3	Measures of crime before and after the program in experimental and comparable control condition
4	Measures of crime before and after the program in multiple units with and without the program, controlling for other variables that influence crime, or using comparison units that evidence only minor differences
5	Random assignment of program and control conditions to units

Source: Farrington et al. 2006: 16–17

expense of external validity (ie generalisability of the study to others) and for failing to give adequate consideration to the mechanisms that underpin crime prevention interventions or the context in which these mechanisms are applied (Eck 2005; Lab 2003; Pawson & Tilley 1997; Tilley 2009). Critics suggest that systematic reviews that aggregate the findings from studies using experimental research designs by comparing outcomes for different types of interventions do not give adequate consideration to the various contextual factors, intervention characteristics or requirements for successful implementation that may have impacted upon the effectiveness of a crime prevention strategy.

Further, previous reviews have found a great number of evaluations do not meet level three on the SMS, mainly because the evaluators have been unable or unwilling to include an appropriately matched comparison group (or area) in the study, against which the results for the intervention group (or area) may be compared. There are practical challenges associated with strict adherence to an experimental approach to evaluation (Bowers, Sidebottom & Ekblom 2009). Some authors have suggested that rigorous adherence to experimental research design is not necessary or optimal in the evaluation of situational crime prevention initiatives, particularly given the practical challenges associated with finding similar geographic areas suitable for comparison (Eck 2002; Knutsson & Tilley 2009).

Similarly, the nature of some interventions enables comparison groups to be more readily identified. For example, in evaluating interventions that draw participants from an established institution, such as the criminal justice system, schools or hospitals, administrative data relating to key outcomes for comparison groups may be more readily available to evaluators. There are systems and processes in place to collect information (or through which additional information can be collected) on all people who come into contact with that institution, not just people who participate in certain programs. Conversely, interventions that draw participants from community settings (such as youth drop-in centres or recreational facilities and services), or which occur outside of established institutions, may be less likely to have systems in place to collect administrative data and the organisations involved may have limited access to data that might be available from other sources. As such, they may be less amenable

to evaluations that employ experimental research designs.

There are, as a result, a large number of evaluation studies that are unable to meet this standard, particularly in terms of finding a suitable comparison group or area. Nevertheless, there is a strong argument for not disregarding evaluation findings simply because they do not include a comparison group. There are several advantages to non-experimental designs:

- they tend to not be as costly as experimental research designs;
- they can usually be conducted in-house or by locally available consultants, as they do not require the expertise needed for more complex statistical techniques often used in experimental studies;
- they can be conducted after an initiative has been implemented (since they do not require the selection of randomly assigned or matched control and experimental groups prior to the intervention);
- they can involve less intrusive data collection sources/methods;
- they are appropriate when intervention and comparison groups are not able to be distinguished or separated;
- they are suited to those cases where there are only limited time periods before and after an intervention that can be assessed; and
- they can be used when crime rates are low for the targeted behaviour (Eck 2006b: 346–348).

However, the key to generating lessons from small-scale and non-experimental evaluations is the application and testing of theory, informed by research into the causes of crime. Theory is therefore becoming increasingly recognised as an important feature of crime prevention evaluation and practice (Eck 2005).

Realist evaluation

Realist evaluation provides an alternative (although not mutually exclusive) method of reviewing and assessing the effectiveness of crime prevention strategies. The realist approach argues that generalisation is permitted through the repeated application and testing of theory in the evaluation of crime prevention strategies (Eck 2005).

In practice, the realist approach does not preclude the use of experimental research designs or quantitative research methods (Ekblom & Pease 1995). Instead, it emphasises the importance of understanding the context in which crime prevention interventions are delivered and the mechanisms that bring about the observed outcomes (Pawson & Tilley 1997). This emphasis is designed to address the need to understand how and why a strategy is effective (and not just whether it is effective), and to assist others to be able to replicate and adapt evidence-based interventions, and identify what conditions are needed for optimal outcomes. Realist evaluations are concerned with not only determining which interventions work, but also why, for whom and in what circumstance (Tilley 2006). For this reason, studies that focus solely on whether an initiative is effective or ineffective offer an incomplete understanding of the intervention.

Realist evaluation is also concerned with the requirements for effective implementation (such as the availability of funding, stakeholder support and engagement, the knowledge, skills or access to expertise required, and the political climate), acknowledging that these factors have an important influence on the overall success of an intervention (Pawson & Tilley 1997). This level of detail is often (but not always) overlooked in the method-driven evaluations involving experimental and quasi-experimental research designs. Realist evaluation is based on the premise that what is found to be an effective intervention in highly controlled and experimental conditions will often not reflect how successful an intervention would be in other 'real-world' conditions (Pawson & Tilley 1997).

The value of the realist approach is that it shows that the application and testing of theories (such as routine activity theory) can be used to add weight to the findings of research that do not meet level three on the SMS, without comprising internal or external validity (Eck 2006b). There must be a relevant theory underpinning the intervention being evaluated and that theory must be sound and based on research into the causes of crime (Eck 2006b; Knutsson & Tilley 2009). This is particularly valuable when experimental research is neither practical nor possible, but is by no means incompatible with experimental research designs (Eck 2006b).

The benefits of a combined approach

Given the strengths and limitations of the two approaches described above, it makes sense to not rely on only one approach for the purpose of this review. In describing the benefits and pitfalls of both approaches, Eck (2006b: 356–357) suggests that

the solution is to *create a mixed portfolio of intrusive, less-intrusive, and non-intrusive evaluations*, so we can draw more valid conclusions about generalisability.

The AIC has applied this principle to the systematic review of crime prevention strategies.

Combining the experimental and realist approaches requires that, in addition to gathering information on the outcomes from evaluations that meet level three on the SMS, information is also recorded on the context in which the evaluated strategies are implemented and the mechanisms that work to deliver the observed outcomes. The effectiveness of interventions in different contexts (context sensitivity) and the conditions necessary for interventions to be effective can then be determined (Eck 2002).

A recent meta-evaluation of strategies designed to prevent repeat domestic burglary adopted a similar approach, integrating systematic review and scientific realism techniques (Grove 2011). This research was able to draw a number of conclusions about the effectiveness of strategies in the United States, United Kingdom and Australia in preventing repeat burglary victimisation, while also highlighting the importance of giving due consideration to the specific context of the problem being addressed and overcoming a number of common implementation problems in adapting evidence-based interventions (Grove 2011). This approach has also been used elsewhere (ie the Netherlands), resulting in a high degree of uptake in the application of the resulting evidence in informing policy and practice (van der Knaap et al. 2007). Further, combining the two approaches can help to overcome the fact that past systematic reviews have demonstrated that there is a lack of evaluation in community-based crime prevention meeting level three on the SMS (Sherman et al. 1998; Welsh & Hoshi 2006), but not at the expense of drawing meaningful results.

By combining both approaches, this review will be able to assist in adding to the knowledge base on

the requirements for successful implementation combined with an assessment as to the effectiveness of different interventions. This will serve to enhance the ability of practitioners to choose an appropriate intervention, adapt that intervention to the local context and minimise the risk of implementation failure.

Criteria for including studies in the review

For the purpose of the current project, the AIC used the following criteria in selecting studies to be included in the review:

- The study needed to meet level two on the SMS, insofar as there was a measure of crime before and after the program was implemented (based on recorded crime, survey or self-report data).
- There needed to be a measure of at least one of the priority crimes before and after the intervention had been applied or, in the absence of this measure, a general measure of crime for the target group or area (for projects that specifically target one of the priority crime types).
- Data used to measure key outcomes needed to be both valid and reliable.
- There needed to be a sound theoretical basis underpinning the intervention that had been evaluated (as determined by the research team, using the theory underpinning the different approaches to crime prevention presented in this report).
- The evaluated strategy needed to have been implemented by a community-based organisation (such as a local government) or delivered at the local level and to be appropriate to the NSW context. This included strategies for which local government were the lead agency with primary responsibility for implementation, those for which local government could contribute to in some capacity (albeit in a supporting role) and those that might be included in a local government crime prevention plan.
- There was sufficient information to enable the research team to determine the mechanisms that had been 'activated' by the intervention.
- There needed to be evidence that the intervention had been implemented as it was designed (ie implementation fidelity) so that outcomes could reasonably be attributed to the intervention(s) described.
- There had been some accounting for, or an attempt to reject, alternative explanations for the outcomes that were observed, based on additional supporting evidence (not limited to the use of a comparison group).

Notable exclusions and inclusions

The selection process aimed to identify those strategies that were suitable for local government and as such, certain initiatives were immediately excluded from the review. While evaluations of operational policing strategies (as the sole intervention) were excluded from the review, initiatives that were delivered by police but could also be delivered by local government have been included. Other strategies that are the primary responsibility of criminal justice agencies (such as violence prevention programs delivered by correctional agencies) or strategies delivered in institutional settings (including bullying prevention delivered in schools as part of the school curriculum) have also been excluded (see Joliffe & Farrington 2009; Heseltine, Sarre & Day 2011 for a recent review of correctional programs for violent offenders and Gottfredson, Wilson & Najaka 2006; Ttofi, Farrington & Baldry 2008 for a comprehensive review of school-based programs).

There are some other important differences between the methodology used for the current review and the approaches used elsewhere. While some systematic reviews have included studies that measure the impact of interventions on risk and protective factors for certain types of crimes (eg Sherman et al. 2006; WHO 2010), the AIC was reluctant to draw upon research findings where the impact on a priority crime type was not directly or indirectly measured (with some exceptions). Given the lack of evaluations of community-based crime prevention with a high degree of statistical rigour (Welsh & Hoshi 2006), the AIC has not excluded studies on the basis that the statistical significance of results has not been calculated.

Table 2 Search strategy

Primary search terms	Secondary search terms	Sources of evaluation studies
Non-domestic violence related assault: <ul style="list-style-type: none"> • Assault • Violence • Aggression 	Prevention Reduction Evaluation Study	Previous reviews of the literature on the effectiveness of strategies to prevent violence and residential burglary (including systematic reviews and meta-analyses) Online databases:
Residential burglary: <ul style="list-style-type: none"> • Residential burglary • Break and enter • House/home and theft • House/home and stealing 	Review Impact Outcome Intervention	<ul style="list-style-type: none"> • ProQuest • CINCH • National Criminal Justice Reference Service Abstracts • Criminal Justice Abstracts • AGIS • AFPD
Stealing from motor vehicles <ul style="list-style-type: none"> • Steal/ing from motor vehicle • Steal/ing from car • Theft from motor vehicle • Theft from car 	Project Program/programme	<ul style="list-style-type: none"> • FAMILY • SocINDEX • SAGE journals • Criminal Justice Periodicals • International Security & Counter Terrorism Reference Centre
Malicious damage <ul style="list-style-type: none"> • Property damage • Damage • Vandalism • Graffiti 		<ul style="list-style-type: none"> • APAIS • Business Source Premier • Regional Business News • Legal Online Journals • Google Scholar
Stealing from person <ul style="list-style-type: none"> • Steal/ing from person • Theft from person • Stealing • Theft • Pickpocketing • Bag snatching/dipping 		Targeted websites: <ul style="list-style-type: none"> • Problem-Oriented Policing Centre • Archived UK Crime Reduction • Swedish National Council for Crime Prevention • Research centre (eg NSW Bureau of Crime Statistics and Research (BOCSAR), Crime Research Centre, RAND, Jill Dando Institute)
Stealing from retail store <ul style="list-style-type: none"> • Steal/ing from retail store • Steal/ing from store • Steal/ing from shop • Shop stealing • Shoplifting • Theft and shop • Theft and store 		<ul style="list-style-type: none"> • Organisational (Australasian Evaluation Society)

Search terms and sources of information

The AIC has undertaken a rigorous and comprehensive review of research, evaluation and review studies in the criminological, social sciences and other relevant literature, international and Australian literature, and published and unpublished literature. Appropriate search terms were identified to assist in the identification of relevant research literature. Searches involved a combination of primary search terms (crime type) and secondary search terms (focus of publication). Primary and secondary search terms and online sources of information are described in Table 2.

The review was rigorous and substantial, and covered key studies within the criminological and social science literature. Both primary sources of research and previous systematic reviews were included in the search. Where possible, the original source material for studies used in previous systematic reviews was located. However, given time constraints and the age of some of the material, studies were not excluded if the original source material could not be located. Experienced staff from AIC Information Services assisted the research team by searching and locating research materials, sourced through the AIC library, websites and various online databases.

Table 3 Framework for assessing effective crime prevention practices

Variable	Description
Specific crime type	The specific type of offence(s) targeted by the intervention, including whether it was the primary focus of the project
Context	The context in which the intervention was applied. Includes details regarding: <ul style="list-style-type: none"> • the problem being addressed (not limited to crime type); • the target group or beneficiaries (eg families, young people, Indigenous communities); • the region in which the intervention was delivered (metropolitan, regional or remote); • the specific location targeted by the intervention (eg licensed premise, private residences, public spaces, housing estate)
Intervention(s)	A short description of the type of intervention(s) delivered as part of the evaluated strategy. Interventions were coded retrospectively in accordance with the classification scheme described in this report (see Attachment 1)
Mechanism(s)	Processes underpinning the effect of the intervention on the causes or precursors to the crime problem, based upon the conjunction of criminal opportunity (CCO). Multiple mechanisms may be specified. A brief explanation of the application of the mechanism as part of the intervention was recorded. The CCO is explained in the theory section of this report (see Table 4)
Outcomes	Brief description of key outcomes delivered by project (positive and negative, measured using quantitative or qualitative data). Specifies effect size where available. Outcomes may not be limited to impact on crime levels
Success factors	Factors that were identified as contributing to the overall effectiveness of the intervention as a crime prevention strategy and to the outcomes that were observed. Where the project was ineffective, identified those factors that contributed to negative outcomes (or factors that were identified by evaluation as necessary for success of future initiatives)
Implementation requirements	Factors that were necessary for the successful implementation of the project (ie what was required in order to put in place the proposed intervention). These factors may reflect general requirements for effective implementation (eg thorough planning and problem solving, community engagement, functional partnership arrangements) as well as practical considerations specific to certain types of interventions. Where the project was not implemented as planned, identified those factors that inhibited the ability of project personnel to implement the proposed project
Research design	Details relating to the research methods used to evaluate the impact of the intervention, including: <ul style="list-style-type: none"> • focus of the evaluation (process and/or outcome evaluation); • evaluation design (experimental, quasi-experimental, before-after, naturalistic, realist); • quantitative and/or qualitative research methods and source of data used to measure key outcomes; • level on the SMS

Classification framework

Findings from the review of crime prevention strategies were documented in accordance with the classification framework outlined in Table 3. Elements of this framework drew upon similar classification frameworks used by the AIC in other research projects, such as the comprehensive classification scheme used for the Review of the National Community Crime Prevention Programme (Homel et al. 2007).

In addition to collecting basic information about the intervention/s that were delivered, the outcomes that were observed and the research design used in the evaluation, populating the framework required detailed information to be provided on the context in which the strategy had been implemented and the mechanisms underpinning the intervention/s that were delivered. The review also sought to identify the requirements for effective implementation for each of the crime prevention strategies examined. This involved identifying factors that have been identified in a process evaluation (where available) as being necessary for the successful implementation of the evaluated strategy, reflecting the principles for good practice and requirements for successful implementation outlined in the National Crime Prevention Framework (AIC 2012), as well as more specific requirements relevant to particular interventions. Factors that contributed to the overall success of these strategies as crime prevention measures have also been identified. This was particularly important, as it helps to understand why the same intervention may not have worked in a comparable location with a similar crime problem.

Interventions supported by evidence of effectiveness

Using this methodology and framework, the AIC then identified those crime prevention interventions that were supported by evidence of effectiveness in reducing the priority crime types. This included those interventions that were most common among crime prevention strategies, had been subjected to multiple rigorous, high-quality evaluations (according to the criteria outlined above) and had demonstrated

results. While previous research provides guidance with respect to determining the threshold for what constitutes an effective intervention (eg Sherman et al. 2006), specific criteria for assessing whether a particular crime prevention intervention could be regarded as effective were not set (ie how many positive evaluations meeting the standard for acceptance would be required in order to classify a strategy as effective).

The AIC focused on identifying interventions supported by evidence of effectiveness for a number of reasons:

- The majority of evaluated strategies involved multiple interventions delivered as part of a multifaceted, comprehensive strategy and isolating the intervention or interventions that were most effective was regarded as problematic.
- There was considerable variation in the quantity and quality of evaluation across the different priority crime types and to dismiss interventions because they did not reach a specific target would rule out promising interventions and overlook important lessons for practitioners.
- Assessing an intervention as effective or ineffective ignores the important role of contextual factors, the mechanisms that underpin an intervention (or interventions) and implementation.

Interventions that appeared most frequently among evaluated strategies with evidence of effectiveness (ie the majority of studies demonstrated a positive impact) and the types of interventions that were most commonly delivered alongside them were identified. This enabled the AIC to draw some conclusions about the effectiveness of certain interventions, the type of interventions that have been delivered in combination and their impact on the identified priority crime types.

Interventions suitable for implementation by local government

In addition to identifying interventions that were supported by evidence of effectiveness, the review process then sought to determine which of these interventions would be suitable for local

government to implement and to a lesser extent, those that would be suitable for CPD to lead and implement. This was determined using findings from the review process (in terms of who was responsible for the implementation of effective and promising strategies), the AIC's previous experience in undertaking reviews of community-based crime prevention programs in a number of jurisdictions, the AIC's research into crime prevention more broadly and discussions with the CPD. A discussion of the role of local government is presented in this report

and was used to guide the AIC's assessment. It is important to note that rather than reviewing the evidence in relation to a much wider range of crime prevention interventions than would be practical given the short timeframe and then determining which are suitable for implementation by local government, the AIC has drawn on previous research and experience to determine which strategies are suitable for local government and selected studies for inclusion in the review accordingly.

Crime prevention approaches, theory and mechanisms

Crime prevention refers to the range of strategies that are implemented by individuals, communities, businesses, non-government organisations and all levels of government to target the various social and environmental factors that increase the risk of crime, disorder and victimisation (AIC 2003; ECOSOC 2002; IPC 2008; Van Dijk & de Waard 1991). There are a variety of different approaches to crime prevention that differ in terms of the focus of the intervention, the types of activities that are delivered, the theory behind how those activities are designed to bring about the desired results and the mechanisms that are applied.

Various models have been developed to categorise the broad range of activity that falls within the definition of crime prevention (Brantingham & Faust 1976; Crawford 1998; ECOSOC 2002; Sutton, Cherney & White 2008; Tonry & Farrington 1995). Understanding the different approaches to crime prevention is important, as there are implications for determining the appropriate institutional and management arrangements necessary to support specific crime prevention interventions (Weatherburn 2004). An understanding of the different approaches available and their underlying rationale and theory is also crucial to developing effective crime prevention programs and projects (Eck 2005; Homel 2009a).

The environmental approach, which includes situational crime prevention techniques and broader urban planning initiatives, aims to modify the physical environment to reduce the opportunities for crime to occur (Crawford 1998; Hughes 2007; Sutton, Cherney & White 2008). The social approach focuses on the underlying social and economic causes of crime in the community (eg lack of social cohesion, limited access to housing, employment, education and health services) and on limiting the supply of motivated offenders, and includes developmental prevention and community development models (Crawford 1998; ECOSOC 2002; Hope 1995; Hughes 2007; Sutton, Cherney & White 2008; Weatherburn 2004). The criminal justice approach refers to various programs delivered by police, the courts and corrections that aim to prevent recidivism among those people who have already engaged in offending behaviour and who have come into contact with the criminal justice system (ECOSOC 2002; UNODC 2010).

In this section of the report, a brief outline is provided of the theory underlying environmental and social approaches to crime prevention (as these fall within the scope of the current research project), the principles underpinning effective strategies and a brief summary of the evidence in support of the

different approaches. This information was used to assess whether there was a sound theoretical basis underpinning the interventions that had been evaluated. The concept of *mechanisms* and the CCO, which was an important component of the AIC's classification framework for this review, are then explained. While an understanding of theory was important in the selection of strategies for inclusion in this review, the CCO provides a useful framework to understand how the interventions delivered a reduction in the targeted crimes (if at all) and to assist the transfer of these interventions to other contexts.

Environmental crime prevention

The environmental approach seeks to change the specific characteristics of the environment that may cause criminal events to occur. This includes both situational approaches to crime prevention and broader planning initiatives, and aims to reduce crime by designing and/or modifying the physical environment to reduce the opportunities for crime to occur (Sutton, Cherney & White 2008).

Situational crime prevention

Situational crime prevention is based upon the premise that crime is often opportunistic and aims to modify contextual factors to limit the opportunities for offenders to engage in criminal behaviour (Tonry & Farrington 1995). Situational prevention comprises a range of measures that highlight the importance of targeting very specific forms of crime in certain circumstances (Clarke 1997). This involves identifying, manipulating and controlling the situational or environmental factors associated with certain types of crime (Cornish & Clarke 2003). It is also based upon assumptions regarding the nature of offending and of offenders (Cornish & Clarke 2003). Underlying the situational approach are four key elements, including:

- three key opportunity theories—routine activity, crime pattern and rational choice theory;

- an action research methodology that involves analysing of specific crime problems and contributing factors, identifying possible responses, selecting and implementing of the most appropriate or promising response and evaluating and disseminating the results;
- a classification of 25 situational prevention techniques; and
- a growing body of evaluated projects and examples of different types of strategies (such as those available on the Problem-Oriented Policing Center website: www.popcenter.org), which helps to inform the selection and design of specific interventions (Clarke 2005).

The focus of the three key opportunity theories is actually quite different. Under routine activity theory, three critical elements must occur simultaneously for a criminal event to take place—a motivated offender, a suitable target and the absence of a capable guardian (Clarke 1997). The theory seeks to explain how societal changes can impact upon opportunities for crime (Sutton, Cherney & White 2008). Crime pattern theory seeks to explain the influence of communities and neighbourhoods, and focuses on how offenders may come across opportunities for crime in the course of their everyday lives (Clarke 2005). Rational choice theory has a more individualistic focus and explores the decision-making processes that lead to an offender choosing to become involved in crime or specific criminal events, including weighing up the relative risks and rewards associated with offending (Clarke 2005; 1997).

Situational crime prevention interventions include activities such as improved security through strengthening locks and improving surveillance. Cornish and Clarke (2003) have classified 25 situational crime prevention techniques into five broad categories that are based on the mechanisms underlying the different methods:

- increasing the effort involved in offending;
- increasing the risk associated with offending;
- reducing the rewards that come from committing a crime;
- reducing situational factors that influence the propensity of an individual to offend; and
- removing excuses for offending behaviour.

This relative simple classification scheme provides a useful framework for describing the range and variety of situational techniques on offer to those working in crime prevention (Cornish & Clarke 2003).

Important lessons for the implementation of situational crime prevention projects (taken from the UK experience where situational approaches have been common), include that it:

- works most effectively when it is targeted at a specific crime problem in a specific context;
- involves a thorough and systematic analysis of current and emerging crime problems and their causes and risk factors that is based on accurate and wide-ranging sources of information and has analysts with the capacity to interpret the data;
- requires appropriate consultation mechanisms to seek input from stakeholders and the community into the development of strategies that are likely to require their action, involvement or cooperation; and
- requires strong project management skills, a comprehensive implementation plan that describes the key stages in project delivery and the interrelationships between different but complementary interventions, and a committee made up of representatives from key stakeholder groups to oversee project development, implementation and review (Marshall, Smith & Tilley 2004)

There is considerable evidence of the effectiveness of situational crime prevention in reducing crime, both in Australia and overseas. Despite there being limitations in the evaluation literature, a review of the evidence by Eck (2006a) showed that opportunity reduction measures can reduce crime in many circumstances with little evidence of displacement. An evaluation of the UK Reducing Residential Burglary Initiative found that areas where more money had been invested in situational prevention rather than offender-focused prevention and those that were flexible in their delivery, were generally more successful in reducing residential burglary (Hope et al. 2004). While there is insufficient evidence to determine the most cost-effective approach in modifying environmental conditions to prevent crime, there is sufficient evidence that situational crime prevention is an economically efficient strategy in reducing crime (Welsh & Farrington 2001).

There are some notable exceptions. A recent systemic review concluded that CCTV has a modest but significant positive effect on crime, but that it is most effective in reducing crime in car parks and when targeted at vehicle crimes (Welsh & Farrington 2008). Further, the cost of establishing, maintaining and monitoring a CCTV system can be prohibitively expensive, and potentially exceed any financial savings that might result from a reduction in property crime (Clancey 2010). Taken together, these results lend support for the continued use of CCTV to prevent crime in public space, but suggest that it needs to be more narrowly targeted than its present use would indicate (Welsh & Farrington 2008).

Urban design and planning

Broader planning initiatives include CPTED and urban renewal projects, and seek to reduce the opportunities for crime through the design and management of the built and landscaped environment (Crowe 1991; Schneider & Kitchen 2007). Crime prevention is being recognised as an increasingly important consideration in urban regeneration programs (Schneider & Kitchen 2007). This includes strategies that involve modifying the built environment to create safer places that are less crime prone or can make people feel safer (such as by designing public spaces that encourage large numbers of users and provide greater natural surveillance, or by designing pedestrian thoroughfares that are well lit and do not create places for potential offenders to hide). CPTED has a major influence on crime prevention policy and practice in Australia and in other parts of the world, and a number of state, territory and local governments now have specific planning policies that incorporate CPTED principles or guidelines (Bodson et al. 2008).

Experience has shown that CPTED:

- needs to be integrated as part of a broader crime prevention strategy targeting other risk factors and neighbourhood problems, which requires community involvement, partnerships and the coordination of activities;
- is underpinned by a number of important principles such as natural surveillance, territoriality, sustainability and vulnerability of public spaces, and these principles should drive design decisions;

- should be focused at both the macro (overall design of the built environment) and micro level (finer details);
- should be applied to both public initiatives and private developments, and involves careful management of the relationship between public and private space;
- requires a balance between competing interests, such as between privacy and security; and
- requires the involvement of different design-related professional disciplines (Queensland Government 2007; NZ Ministry of Justice 2003).

The evidence in support of CPTED is growing, although unlike other approaches to crime prevention, CPTED has not been systematically evaluated (Shaftoe & Read 2005). A recent review suggests that there is some evidence that CPTED is a promising approach, although this evidence is not definitive and has attracted criticism (Cozens, Saville & Hillier 2005). Research has demonstrated that there is a strong relationship between certain characteristics of the built environment and crime levels, although the research into certain relationships (such as the relationship between through-movement and connectivity and crime) has been inconsistent (Armitage 2011a). While further research into the impact of CPTED is warranted, there is sufficient evidence to support the application of CPTED principles, as well as environmental safety assessments more broadly, as a key consideration in the development of the built environment, including new development proposals and urban regeneration initiatives.

Social crime prevention

Rather than focusing on the physical environment, social crime prevention is most commonly directed at trying to influence the underlying social and economic causes of crime, as well as offender motivation. This approach tends to include crime prevention measures that take some time to produce the intended results. This may include action to improve housing, health and educational achievement, as well as improved community cohesion through community development measures.

Developmental crime prevention

Developmental crime prevention initiatives are becoming increasingly popular in Australia (Weatherburn 2004). There has been considerable investment in early intervention programs in Australia, many of which do not have explicit crime prevention objectives (Homel et al. 1999; Weatherburn 2004). Developmental crime prevention is based on the premise that intervening early in a young person's development can produce significant long-term social and economic benefits. While there is evidence of the importance of intervening early in life, the focus of developmental crime prevention is on intervening early at any of a number of critical transition points in a person's development to lead them on a pathway to prevent future offending. Transition points occur around birth, the preschool years, transition from primary to high school and from high school to further education or the workforce (Homel et al. 1999).

Early intervention aims to address risk factors and enhance protective factors that impact upon the likelihood that a young person will engage in future offending behaviour (Homel et al. 1999). Risk and protective factors can be categorised into child factors, family factors, school context, life events and community and cultural factors (Homel et al. 1999). Developmental programs aim to identify, measure and manipulate risk and protective factors that research has confirmed are important in predicting future offending (Homel 2005). In practical terms, developmental crime prevention involves providing basic services or resources to individuals, families, schools or communities to minimise the impact of risk factors on the development of offending behaviours (Homel 2005). Most often these resources and services are directed towards disadvantaged or 'vulnerable' families with young children.

Several factors have been identified as contributing to the successful implementation of developmental crime prevention initiatives, including:

- the importance of timing and intervening at critical junctures, such as times of stress or when people are open to external influences (which may not mean early in life);

- the need to target multiple risk factors due to their cumulative impact, with bias towards those factors regarded as having the greatest impact, and to target multiple offence types;
- the need to be sensitive to the needs of the local area (including the need to be culturally sensitive), involve and empower the community (in decision making, as volunteers and as paid professionals) and identify local change agents;
- the importance of detailed assessments of community readiness (the presence of existing partnerships and management structures, leadership stability, community engagement and support for and commitment to prevention), which is a key component of programs such as Communities that Care (Crow et al. 2004);
- the importance of strategies to make programs accessible, keep people involved and to avoid stigmatising at-risk young people or families;
- the value of partnerships and coordination between new and existing service providers, whether they rely on formal interagency structures or more simple arrangements; and
- the requirement for longer term investment, as the benefits of developmental crime prevention are not immediate (Crow et al. 2004; Homel et al. 1999).

Evidence from a small (but growing) number of comprehensive evaluation studies has demonstrated the long term effectiveness of early intervention in achieving significant reductions in participant's involvement in crime, as well as improvements in areas such as educational performance, child maltreatment, workforce participation, child and youth behaviour, income and substance abuse (Homel 2005). In addition to the obvious social benefits, these outcomes are also associated with significant financial savings, both for the community and the participant (Homel et al. 2006; Schweinhart et al. 2004). The savings produced by early intervention programs include reductions in welfare assistance, decreased need for special education, increases in income tax revenue from the higher wages of participants (due to improved educational attainment), reduced operational costs to the criminal justice system and reduced costs to victims (Homel et al. 2006).

Conversely, at least one study has demonstrated long term negative outcomes for participants and the problems of stigmatising participants as being 'at risk' or delinquent (Homel R 2005). Further, despite the increased popularity of early intervention as a crime prevention strategy with promising results, evidence of long term cost effectiveness has been limited to a small number of overseas studies and one notable Australian example. Nevertheless, taken as a whole, research into the impact of developmental crime prevention suggests that intervening early in a young person's development is a promising strategy in improving the life course development of at-risk children and their families, and in reducing the long-term costs associated with delinquency and future criminal offending (Schweinhart et al. 2004; Welsh & Farrington 2001).

Community development

Community development is premised on the notion that changing the physical or social organisation of communities may influence the behaviour of individuals who live there (Tonry & Farrington 1995). The risk of becoming involved in crime, or being victimised, is greater in those communities that experience high levels of social exclusion or a lack of social cohesion. Also underlying the community development approach is the belief that crime in a particular community is not primarily or solely the result of the actions of a small number of criminogenically disposed individuals, but the result of the coincidence of a series of structural determinants present within particular communities (eg differential rates of access to housing, employment, education and health services, among other factors; Bennet 1998; Welsh & Hoshi 2006). The underlying assumption is that if these crime-promoting structural stress factors can be relieved, reconfigured or removed, then crime will be reduced (Hope 1995). Community development strategies can aim to build social cohesion and address factors leading to community disorganisation, empower communities to participate in decision-making processes, increase resources, services and economic opportunities in disadvantaged communities or address low level physical or social disorder that may be a precursor to more serious problems (Bennet 1998; Lane & Henry 2004; Welsh

& Hoshi 2006). Community development programs that focus on strengthening informal networks and enhancing community structures have the potential to build community capacity, which can, in turn, provide opportunities to mobilise communities to address local crime problems.

The implementation of community-wide programs has proven difficult due to the challenges of rolling out these types of programs on a broader scale, including problems associated with engaging the wider community (or even identifying who the 'community' is) and maintaining their involvement (Bushway & Reuter 2006). For example, cooperation and participation can be lacking in highly disorganised communities, who might benefit most from these types of programs. Community development-type programs are more likely to be effective when they:

- identify communities at need based on evidence and community consultation, and analyse factors that may contribute to social disadvantage or exclusion;
- take into consideration a community's capacity to implement change and level of social disorganisation;
- increase opportunities to participate and promote community involvement and consultation in program design and decision making, as well as in the management of activities that impact on, either directly or indirectly, those social conditions believed to sustain crime in residential settings;
- encourage representation from diverse groups, particularly those community members most at risk of being marginalised;
- coordinate efforts between agencies across government and non-government sectors to target multiple areas of disadvantage, supported by neighbourhood regeneration;
- are provided with ongoing support (including human, financial and physical resources); and
- regularly review progress to ensure that initiatives remain on track (Forrest, Myhill & Tilley 2005; Hayes, Gray & Edwards 2008; Johnson, Headey & Jensen 2005; Social Inclusion Unit 2009).

When compared with situational or developmental approaches, there is limited evidence of the effectiveness of efforts to modify community level factors to reduce crime (Tonry & Farrington

1995). Hope (1995: 22) observed that '...much of the effort to alter the structure of communities in order to reduce crime has not been noticeably successful or sustainable'. There is some evidence that neighbourhood level interventions to address issues related to economic and social regeneration in deprived areas in the United Kingdom (as part of the New Deal for Communities Programme) resulted in reductions in crime and fear, and increased satisfaction with the local area (Pearson et al. 2008). However, these interventions were not subject to rigorous testing.

Crime prevention mechanisms

To accurately identify and share information on the types of mechanisms used in the studies reviewed as part of this project, a consistent and comprehensive framework was required for classifying the mechanisms underpinning the various interventions that have been evaluated. Without a clear framework for their classification, it would be difficult to describe an intervention in a way that can be shared and potentially replicated in another crime prevention strategy. For this reason, the CCO was chosen as the conceptual framework for this review. The CCO framework has been developed to provide a common point of reference to facilitate the effective and efficient transfer of knowledge about the principles underpinning the full range of prevention strategies, as well as to help inform the choice of interventions by practitioners and policymakers (Ekblom 2010, 2002). The CCO framework allows for interventions to be classified in accordance with one or more identified precursors for crime and disorder events (see Table 4). These classifications take into consideration both social and environmental causes (reflecting the range of approaches to crime prevention described above). For each precursor, a corresponding principle of prevention is also identified.

However, the CCO does not explicitly identify the specific causal mechanisms that explain how an intervention aims to bring about the desired outcomes. The mechanism is the theory that explains how the intervention is intended to

Table 4 Conjunction of criminal opportunity

Immediate precursors to crime or disorder event	Principle for prevention	Mechanism
Crime promoters	A crime promoter is someone or something that makes crime easier to occur. Interventions aim to discourage or deter promoters and awaken their conscience. This can be through naming and shaming, civil liability, tackling a criminal subculture, procedural controls or market reduction	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur and/or encourage behaviour that minimises opportunities for crime to occur
Crime preventers	Sometimes the presence of people in an area may deter offenders from committing a crime. This includes formal control (surveillance, access control), informal social control, self-protection or avoidance	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture
Wider environment	The aim is to make the physical environment safer, or to make the environment less likely to encourage conflict through environmental design and management, including aiding surveillance, resolving conflicts and setting rules	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users
Target enclosure	A 'target enclosure' is the business, room or space (such as a car, home or shop) that contains the target of the crime. Interventions include perimeter access and security	Make target enclosures harder to penetrate to increase the perceived effort associated with a crime
Target person or property	Projects in this category focus on strengthening the actual target, not just its surroundings. It could include what is sometimes termed 'target hardening', or the removal of the target from a vulnerable area.	Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose
Offender presence in situation	This is an activity that targets an offender's presence in a situation, possibly by placing restrictions on their access to a certain area at a certain time or by providing alternative activities. It is trying to remove or deter potential offenders from situations that might result in an offence occurring	Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur
Anticipation of risk, effort and reward	People can be influenced to commit an offence by weighing up what they will benefit from it, how much they are willing to risk to commit the offence and what would be involved in committing it. Projects can be aimed specifically at deterring and/or discouraging potential offenders by making the offence riskier, requiring more effort, or have less reward.	Increase the perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage potential offenders
Resources for crime	Restricting resources for crime—control of weapons, tools and information on targets and transfer of criminal knowledge	Prevent offenders from being able to access the resources they need in order to commit an offence, or that may be used as an excuse for offending behaviour
Readiness to offend	There could be some situations where a person's current life circumstance may suddenly change. This category could be seen as targeting (often unexpected) short-term situations for potential offenders (eg money problems, relationship problems, substance use), including changing current life circumstances and conflict resolution techniques	Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending
Resources to avoid crime	Training potential offenders in areas such as social and work skills to target factors that can make some people at a greater risk than others to commit crimes	Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased

Table 4 (continued)		
Immediate precursors to crime or disorder event	Principle for prevention	Mechanism
Criminality (predisposition)	Reduce known risk factors and enhance known protective factors through family, school and peer groups; also includes supplying remedial treatment for those who have been convicted	<p>Intervene early at key developmental stages to alleviate risk factors and enhance protective factors</p> <p>Address the underlying factors that contributed to an offender's behaviour in the first place and support their transition back into the community</p>

Source: Adapted from Ekblom 2002

prevent or reduce crime through targeting specific precursors for criminal events. To overcome this limitation, the AIC has extrapolated the CCO to identify eleven common mechanisms underpinning different prevention strategies (as shown in Table 4).

Interventions and mechanisms

This review involved categorising crime prevention interventions so that conclusions could be drawn about their effectiveness in different contexts. In practice, developing typologies for crime prevention and categorising interventions is a notoriously difficult task. As illustrated above, crime prevention is a broad area that encompasses such a wide range of activity that there are inevitably going to be interventions that don't appear to fit within neat groupings. It also frequently involves the delivery of multiple overlapping interventions delivered in combination.

There was a need to find a balance between specificity and flexibility. Specificity was important from the point of view of trying to provide clear guidance to policymakers and practitioners (in this case NSW CPD and local government). Yet flexibility was necessary to ensure that evidence can be accumulated for certain interventions and lessons learned about their application to specific contexts. The final list of intervention types developed for this

project is provided in *Appendix A* (see Table A1). These intervention types were used to categorise activities delivered as part of the evaluated strategies examined as part of this review. It was common for crime prevention strategies reviewed for this project to involve multiple intervention types.

Once these intervention types had been identified, it was necessary to determine the range of mechanisms through which they aim to bring about the desired results. Understanding these mechanisms is an important step in understanding why a particular intervention is or is not successful, why it may have been effective in one study but not another, or why it works for one type of crime or target group and not another. As has been argued here, it is also useful in adding value to systematic reviews, as it provides clear guidance as to what needs to happen in order for an intervention to work and therefore assists practitioners and policymakers to determine how best to modify and adapt interventions to different contexts.

The range of mechanisms that can be activated by different intervention types are also described in *Appendix A*. Notable in Table A1 is the potential for interventions to apply different mechanisms—ultimately dependent upon the precise nature of the intervention(s) that are used and the context in which they are applied. Further, multiple interventions may be combined to activate a single mechanism and address the same problem.

The role of local government in crime prevention



In Australia, commitment to community-based models of delivery has led local government and non-government local community organisations to play important roles in the implementation of crime prevention strategies. This approach has been reflected in both national and state, and territory crime prevention programs (past and present; Cherney & Sutton 2007; Crime Prevention Queensland 1999; Henderson & Henderson 2002; Homel 2005; Homel et al. 2007; Morgan 2011; NSW Department of Premier and Cabinet 2008; Office of Crime Prevention 2004). Similar models have been adopted internationally, with an emphasis on programs that are centrally developed and delivered locally (Homel et al. 2004; Homel 2009a; IPC 2008; NZ Ministry of Justice 2003).

In practice, the Australian model has involved central agencies (federal and state government levels) responsible for crime prevention policy developing an overarching program, strategy or framework that outlines the overall goals and priorities and (in some cases) the general approach to preventing crime, providing the basis for the coordination of relevant stakeholders (UNODC 2010). These agencies then provide funding (typically of limited duration), technical support and/or establish partnerships with regional branches of government authorities, local government and non-government organisations to plan and deliver crime prevention initiatives, and

support the implementation of the national or state and territory strategy (Morgan 2011).

The emphasis on a community-based approach has influenced the range of crime prevention strategies implemented in Australia over the past two decades. There has been an emphasis on community engagement and on a range of initiatives to build social cohesion, as well as attempts to address neighbourhood disadvantage, particularly in Indigenous communities (community development models; Bodson et al. 2008; CMC 2009; Homel 2005). There has also been a significant growth in the popularity of initiatives that draw upon the principles of developmental prevention and target at-risk young people in schools and the community (Weatherburn 2004). For example, a review of projects funded by the National Community Crime Prevention Programme and more recently, the *Proceeds of Crime Act 2002* funding program for non-government organisations, showed that there has been considerable investment in personal development projects targeting at-risk young people (Homel et al. 2007; Attorney-General's Department 2011). Further, a nationwide audit revealed that there are thousands of early intervention programs operating across Australia, many of which do not have crime prevention as an explicit objective (Homel et al. 1999). Both government agencies with a direct service delivery function and various non-

government organisations deliver a range of services that are targeted at individuals at risk of becoming an offender or victim of crime (Homel et al. 2007; Morgan 2011; Pugh & Saggars 2007; Weatherburn 2004).

Situational crime prevention and broader urban planning initiatives have also become increasingly common, although not as dominant as in other countries such as the United Kingdom (Anderson & Tressider 2008; Tilley 2005). CPTED has had a major influence on crime prevention policy and practice in Australia, and a number of state, territory and local governments now have specific planning policies that incorporate CPTED principles or guidelines (Bodson et al. 2008; Cozens, Saville & Hillier 2005; NSW Department of Urban Affairs and Planning 2001; Office of Crime Prevention 2007; Queensland Government 2007; SAP 2000; WA Planning Commission 2006). Further, there has been considerable growth in the use of CCTV in public spaces as a crime prevention measure (Clancey 2010; Homel et al. 2007; IRIS Research Ltd 2005; Wilson & Sutton 2003) and a range of campaigns have been developed in an attempt to improve personal, vehicle, household and business security (Grabosky & James 1995; Gant & Grabosky 2000; Homel et al. 2007). The NSW CPD have, for example, developed a range of materials for residents that will assist them in reducing the likelihood that they will become a victim of burglary.

Local government are a key player in community-based crime prevention activities. Councils are responsible for a range of services related to crime prevention, including managing public space and building design, providing community recreational services and developing policies that affect local businesses (Weatherburn 2004). They are often involved in developing and implementing a range of crime prevention initiatives, frequently in partnership with other stakeholders such as police and non-government organisations (Anderson & Tressider 2008; Morgan 2011). This can include things such as helping to raise residential awareness of personal and household security measures, improving street lighting and ensuring that consideration is given to the impact of urban planning and new developments on community safety, and delivering community events and cultural programs to help build a sense of community.

Local government are also often the lead agency in the development of local crime prevention plans, which identify and prioritise concerns about community safety and crime prevention in a local government area, and identify key action areas and responsibility for these actions (Anderson & Homel 2005; Anderson & Tressider 2008; Homel 2010). Local crime prevention plans provide a useful framework to better coordinate various initiatives directed at the causes of crime, facilitate increased cooperation and collaboration between key stakeholders, and ensure a comprehensive approach to local crime problems. They are an important mechanism for engaging the local community in strategies to address local crime and safety issues (Morgan & Homel 2011; Pugh & Saggars 2007; Saggars et al. 2003). The review of a crime prevention program in Western Australia that supported local government to develop and implement crime prevention plans in partnership with a range of stakeholders demonstrated that initiatives delivered by local government tend to favour community development activities and environmental approaches to crime prevention (Morgan & Homel 2011).

Many of the risk and protective factors targeted by developmental crime prevention approaches, such as school participation, support for parents and families and access to mental health services, fall within the domain of state and territory and federal government agencies (Weatherburn 2004). Experience has shown that local government, typically given the responsibility for leading and coordinating local crime prevention activity, has little control over the actions of other levels of government working at the local level and even less control over higher level policies or resource allocation that may have an impact of crime in their communities (Anderson & Tressider 2008; Cherney 2004; Weatherburn 2004). Local government does have more control over factors that influence the opportunities for crime to occur through its various responsibilities in areas such as managing public space and building design, providing community recreational services and developing policies that affect local businesses (Weatherburn 2004).

Reviews of local government community development activity (within which crime prevention often resides) have observed similar trends. A

review of the range and extent of community development approaches found that the emphasis was on service planning and development in the form of infrastructure projects to meet the needs of the community, as well as community events and cultural programs to build a sense of community (Pugh & Saggars 2007). The delivery of community services (frequently involved in developmental crime prevention) is most commonly left to the non-government sector and communities themselves (Pugh & Saggars 2007).

Nevertheless, there are often projects delivered as part of local crime prevention plans that aim to deliver positive changes for individual participants (Morgan & Homel 2011). These initiatives may not necessarily be managed by local government. Instead, they may be delivered by other local organisations that are better placed to deliver services that can address the various individual risk factors that may increase the likelihood that a person will become involved in crime or antisocial behaviour. However, there has been an increasing demand for local government to deliver a variety of social services and to engage in social planning (Applied Economics 2008; NSW Department of Local Government 2002; Schwarz et al. 2008).

Lastly, it is worth noting that there are important differences between the roles and responsibilities of local government in Australia compared with other countries. This has important implications for assessing the suitability of crime prevention strategies, institutional arrangements and governance structures developed and implemented by local government overseas (Homel 2010). For example, some care is required in determining whether local governments in New South Wales have the capacity in terms of resources and responsibilities to implement imported strategies being delivered by local government in the United Kingdom. Nevertheless, the ability of local government to influence factors that provide the opportunities for crime to occur and an increasing role in the delivery of social services, means that councils are an important player and lead agency in the planning and implementation of crime prevention plans and projects.

Non-domestic violence related assault

In this section of the report, the findings from a review of community-based crime prevention strategies that have as a primary goal a reduction in non-domestic violence related assault are presented. Following a brief review of the literature examining issues relating to the prevention of violence, a summary of the evidence in support of intervention types as reviewed by the research team, an explanation of how they work and the characteristics of successful strategies are outlined.

Preventing non-domestic violence related assault

Assault is broadly defined as

[the] direct (and immediate/confrontational) infliction of force, injury or violence upon a person or persons or the direct (and immediate/confrontational) threat of force, injury or violence where there is an apprehension that the threat could be enacted (ABS 2011: 29).

Within this broad definition, BOCSAR categorises assaults as either domestic violence related or non-domestic violence related. Whether an assault is classified as domestic violence related is determined by the relationship between the offender and victim. If the offender and victim are currently (or have been

previously) in a domestic relationship (ie intimate partners, ex-partners, family members as well as those who live together in the same residence), the assault is defined as domestic violence related. An offender who commits a non-domestic violence related assault is not in a domestic relationship (either present or past) with the victim.

- Recent BOCSAR data suggests that there are a number of trends associated with non-domestic violence related assaults committed in New South Wales. In particular, the data suggests that a high number of non-domestic violence related assaults are:
 - committed in public places and residential areas;
 - alcohol related (41%); and
 - committed between 6 pm on Friday and 6 am Saturday and between 6 pm Saturday and 6 am Sunday (BOCSAR 2012).
- The same data also suggests that the majority of non-domestic violence related assault victims are male. In particular, 20–29 year old males appear to be at greater risk of victimisation. Further, 20–29 year old males account for a large proportion of the offender population (BOCSAR 2012).

There is a considerable body of evidence surrounding the characteristics of effective violence prevention strategies. This draws on both past systematic reviews of prevention strategies as well

as research into the relationship between certain risk factors—relating to the individual, family, peer, community or environment—and violent crime. For example, research into the prevention of alcohol-related violence in entertainment precincts has suggested that effective strategies are those that aim to:

- target multiple contributing risk factors for alcohol-related violence including patron characteristics, venue characteristics, the social environment, staffing characteristics or the wider environment;
- identify and target those venues associated with the greatest number of problems;
- create a positive physical and social drinking environment to attract patrons that are more likely to be well behaved by setting and maintaining high standards for both venue operators and clientele;
- be developed at the community level, where practical and appropriate, and adapted to suit local circumstances;
- be based on effective partnerships between all levels of government, non-government, private business, academia and the community; and
- be supported by strong and effective enforcement of existing liquor licensing laws (Graham & Homel 2008; Morgan & McAtamney 2009; NDRI 2007).

Similarly, a recent systematic review of youth violence prevention programs and good practice in preventing violence involving young people highlighted the importance of designing strategies that are:

- inclusive and engage young people in the development and implementation of interventions;
- supported by effective interagency collaboration between stakeholders such as police, schools, service providers, community groups and young people;
- age, gender, culturally and developmentally appropriate, as well as being tailored to the needs of different groups and the context in which they are being delivered;
- considerate of the peer, family, school, community and environmental factors that may exert some level of influence over the young person's behaviour; and

- part of a broader strategy that incorporates multiple interventions to address both social and environmental factors associated with young people's involvement in crime, including a balance between proactive crime prevention strategies and ensuring timely responses to offending behaviour when it occurs (Bodson et al. 2008; Hemphill & Smith 2010).

Findings from the review

A comprehensive summary of the findings from a review of strategies designed to reduce non-domestic violence related assault is presented in Tables 5 and 6. In Table 5, the evidence is described in relation to the various categories of violence prevention interventions and in Table 6, important considerations with respect to the requirements for implementation and suitability of the interventions for local government are highlighted. Strategies examined as part of this review are described in Table 7. Overall, the review identified 41 studies that met the criteria for inclusion and of these, 27 studies reached at least level three on the SMS. Therefore, it is possible to draw a number of conclusions about the effectiveness of specific interventions (or combinations of interventions) and their impact on non-domestic violence related assault.

The review highlights that there are various forms of non-domestic violence related assault that occurs in different contexts. They differ in terms of the type of violence, the location of violence and the groups that are targeted. The responses to the different forms of violence vary accordingly. The review identified strategies targeting the following forms of violence:

- alcohol-related violence in entertainment precincts and licensed premises;
- gang-related violence;
- youth violence;
- violence in Indigenous communities;
- violence revolving around a particular event or location; and
- violence in residential neighbourhoods.

There was considerable variation across the different forms of non-domestic violence related assault in terms of the number of evaluations meeting the

criteria for inclusion that could be located by the research team. This became more apparent once the search was limited to those strategies that were delivered by community-based organisations, including local government.

For example, there was considerable evidence in relation to effective strategies targeting youth violence, but these strategies were most frequently delivered in schools or involved direct service provision targeted at high-risk families (Hemphill & Smith 2010; WHO 2010). School-based crime prevention, particularly those strategies focused on changing the school environment or curriculum, have been shown to be effective in reducing crime, substance use, antisocial behaviour and aggression and improving school attendance (Gottfredson, Wilson & Najaka 2006). Further, there is strong evidence to show that early intervention programs—such as home visitation programs, parent education plus preschool and school-based child training with parent training—are extremely effective in reducing aggression (Farrington & Welsh 2006). However, these strategies are not particularly suited to being implemented by local government, nor are they suited to short-term grant funding.

Similarly, reviews of supply reduction strategies to reduce alcohol-related harms have identified a range of different approaches that have been effective in reducing alcohol consumption and in many cases, alcohol-related harms such as assault (NDRI 2007). However, strategies such as pricing and taxation measures fall outside the role of local government. Further, while there is considerable evidence of a relationship between outlet density and alcohol-related problems (eg Chikritzhs, Catalano & Pascal 2007, and local government play an important role in development applications and planning of entertainment precincts, strategies that aim to reduce violence through more effective planning have not been subjected to evaluation (which is not surprising, given that many entertainment precincts are already well established).

A number of interventions delivered by community-based organisations have been found by previous systematic reviews to show some promise as crime prevention strategies that may impact upon violence. For example, there is some evidence that afterschool recreation programs can be effective in

reducing crime among juvenile offenders, although the impact of these programs is limited in duration and to a defined area (Welsh & Hoshi 2006). There is also evidence that community-based mentoring is a promising (and potentially cost effective) approach to reducing offending and targeting risk factors such as drug use and poor academic performance (Newburn & Souhami 2005; Welsh & Hoshi 2006). As is evident below, the findings from this review with respect to the impact of these particular interventions on violence is more circumspect.

This is, in part, due to the fact that the evidence from these studies often does not measure violence as a key outcome (or have the prevention of violence as a primary objective), instead relying on more general outcomes such as arrests, or measures of delinquency or antisocial behaviour. While some systematic reviews have included studies that measure the impact of interventions on risk and protective factors for violence (WHO 2010), the AIC was reluctant to draw upon research findings where the impact on violence was not directly or indirectly measured. By limiting evaluations to those where there is a short-term measurable impact on violence (or not), the study may inadvertently exclude strategies that deliver longer term improvements by addressing risk and protective factors that may, in time, lead to a reduction in crime.

Interventions supported by evidence of effectiveness

Strategies targeting violent crime that were evaluated frequently involved multiple interventions being delivered in combination. As such it was not always possible, at least from the information provided, to determine which of the interventions delivered was the primary intervention. Even more problematic was attempting to determine which of the interventions was responsible for the observed outcomes, or the relative contribution of the different interventions to the overall impact of the strategy.

Nevertheless, there were a number of interventions that were identified as being supported by evidence of effectiveness. For multicomponent strategies, the research team grouped strategies in accordance with the problems they sought to address and context in which they were delivered. This included:

- community-based multifaceted strategies targeting alcohol-related violence in entertainment precincts (10 strategies reviewed, 8 studies showing evidence of effectiveness), which involved some combination of the following:
 - rules and regulations for licensed premise operators, such as a code of conduct;
 - additional training for licensees, bar staff and security (besides mandatory responsible service of alcohol (RSA) training);
 - community engagement and mobilisation;
 - awareness campaigns directed at patrons and the wider community to promote the strategy and harm minimisation messages;
 - awareness campaigns targeted at licensees to raise awareness of the risk factors for alcohol-related violence and strategies to reduce this risk;
 - the implementation of a patron lock out;
 - strong enforcement of liquor licensing legislation by police and regulatory authorities;
 - providing late night transport options to prevent intoxicated patrons congregating outside licensed premises;
 - establishing secure taxi ranks to ensure patrons queue for taxis in an orderly fashion;
 - undertaking assessments of the physical environment around licensed premises and making improvements in accordance with the principles of CPTED; and
 - the regulation of security providers.
- community-based multifaceted strategies targeting gang-related violence that combined community patrols (where the focus was on providing outreach services), awareness campaigns, community mobilisation and support services with strong enforcement by police, corrections and housing authorities (5 strategies reviewed, 3 studies showing evidence of effectiveness);

Other strategies supported by evidence of effectiveness in the prevention of non-domestic violence related assault included:

- access control measures targeted at reducing violence by minimising conflict between groups in known high-risk locations (2 studies reviewed, both showing evidence of effectiveness, one of which also involved the application of CPTED principles);

- improving street lighting in locations with high rates of violent crime, particularly in residential areas with high-density housing (7 studies reviewed, 4 studies showing evidence of effectiveness); and
- brief interventions targeting violence among adolescents identified in emergency departments (2 studies reviewed, both showing evidence of effectiveness).

Interventions with limited evidence of effectiveness

In general, strategies that appeared to be ineffective were those that encountered issues relating to the implementation of the strategy. These strategies encountered issues such as:

- a lack of community support or involvement over the life of the project, often because the project did not engage the community in the project in its initial stages or devolve responsibility for the running of the program to the community.
- aspects of the project being delivered inconsistently or not at all, often because there was a lack of funding to implement the interventions as planned, difficulties in engaging the target group or because there was external pressure to implement the project as soon as possible.

These issues were also common, albeit to a lesser extent, among those projects that were found to have some evidence of effectiveness. Among those interventions for which evaluations could be located, two intervention types were not supported by evidence of effectiveness. These were:

- interventions that aimed to improve surveillance from members of the community, either as part of a formal community patrol or as part of their day to day activity (ie natural surveillance); and
- interventions that restrict access to certain products or aim to limit the ability of potential offenders to access weapons or tools that increase their ability or risk of offending (2 studies, one involved a firearm buyback and the other replaced glassware in bars with tempered glass).

The evidence around mentoring was mixed. Among the seven studies reviewed that involved mentoring

for young people at risk of becoming a violent offender (often in conjunction with the provision of support services), only two found that mentoring had a positive impact on the level of violence among the target population. This is consistent with the findings from a review undertaken by Joliffe and Farrington (2008) who concluded that, while a promising intervention, there was little conclusive evidence that mentoring reduced reoffending.

There was also a notable lack of evidence surrounding the impact of a number of common strategies frequently included in crime prevention plans or implemented by local government to reduce violence, such as:

- community-based afterschool programs or school holiday recreation projects; and
- media strategies and awareness raising campaigns to strengthen attitudes against violence and/or to increase personal safety.

The challenges associated with finding evaluations of community-based afterschool projects warrants further explanation. A large-scale evaluation of 15 afterschool programs offering academic assistance,

social skills training and recreational or enrichment activities (predominantly sports and arts and crafts) examined the impact of these programs on delinquent behaviour, finding positive results (Gottfredson et al. 2004). This review did not focus on specific outcome measures for violence. The majority of research into the relationship between afterschool programs, recreation and violence involved studies that correlated the availability of or participation rates in recreational programs with trends in violence rates for a given area or group of individuals, for which the evidence was mixed (Gottfredson et al. 2004; Mahoney, Stattin & Magnusson 2001; Mahoney, Stattin & Lord 2004). The absence of studies relating to these types of interventions may therefore reflect the fact that these projects target young people and their involvement in criminal and antisocial behaviours generally. These studies rely on broad outcome measures that do not distinguish between involvement in personal and property crime (ie do not identify the impact on assault as a specific outcome) and were therefore excluded from this review.

Table 5 Evidence in support of crime prevention interventions targeting non-domestic violence related assault^a

Intervention	Description of intervention	Supported interventions	Evidence of effectiveness	Where it works	How it works ^b	Characteristics of successful strategies
Community-based and multicomponent interventions targeting alcohol-related violence in entertainment precincts	(Some combination of) Rules and regulations for business—risk assessments, establish house policies and code of conduct Education-type project—RSA training for licensees, bar staff and security, additional education (formal or informal) on premise management Awareness campaign—raise community awareness of program and harms of binge drinking Street lighting—improve street lighting around licensed premises Access control—limit access to premises after specified time Police enforcement—strict enforcement of liquor licensing, drink driving and underage drinking Community engagement and mobilisation—establish a committee to raise awareness and increase knowledge concerning alcohol-related harms in the community	Not applicable	Overall evidence is mixed, however there is support for comprehensive strategies Ten studies were reviewed that involved multifaceted community-based strategies to address alcohol-related violence Eight studies showed a decline in the number or rate of assaults within the target area following implementation of the planned intervention. One study showed no effect and for another project, the effect was uncertain Evidence from a number of high-quality international studies that community-driven strategies are effective in reducing violence Evidence from Australian studies more circumspect with regards to positive outcomes Appears that initial reductions in violence may not be sustained over time One study showed some evidence of displacement to adjacent areas	Entertainment precincts with high rates of alcohol-related violence and other harms during peak periods for alcohol consumption	Encourages premise operators to consider the implications of their management practices and discourages premise management and operational practices that may create opportunities for crime to occur Prevents potentially aggressive patrons from being able to access the resources they need in order to commit an offence (in this case, alcohol) Prevents potentially aggressive patrons from being able to access locations where there are potential victims or where provocation may occur Introduces or improves formal or informal surveillance of licensed premises to increase the perceived risk among licensees that breaches of the liquor act will be detected and prosecuted Manipulates the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users	Must be supported by strong enforcement of liquor licensing legislation by police and licensing authorities Combination of strategies to address multiple contributing factors to violence appears to have a cumulative effect in terms of reducing alcohol-related assaults Thorough analysis of the local problem to determine the precise factors that contribute to the high rate of alcohol-related violence and tailor the combination of interventions accordingly Instigated by the local community (as in local police, licensees, local government and in some cases community representatives) and maintained a strong focus on community involvement throughout the life of the strategy High degree of commitment and support for the project among licensees Mobilising community support for the project through promoting the project to the wider community

Table 5 (continued)

Intervention	Description of intervention	Supported interventions	Evidence of effectiveness	Where it works	How it works ^a	Characteristics of successful strategies
Comprehensive responses to gang-related violence	<p>(Some combination of)</p> <p>Awareness campaign—community members and media delivered strong anti-violence message and information about the program</p> <p>Police enforcement—targeted enforcement of firearm traffickers, law enforcement targeting gang activity, police patrols deployed in hotspot areas, increased enforcement of parole and probation of gang members</p> <p>Support services—gang members offered access to job training and development opportunities, substance abuse treatment; connecting at-risk youths with services like social welfare</p> <p>Community patrol—social service workers, community representatives and probation and parole officers actively patrolled the community, providing an outreach service and assistance to gang members</p> <p>Community engagement and mobilisation—proactively sought community input, rallies, marches and prayer vigils to promote message, rapid response to incidents, faith-based leaders promote message and provide counselling and support</p>	Not applicable	<p>Five studies were reviewed that involved comprehensive strategies to address gang-related violence. All of these strategies were implemented in metropolitan communities in the United States with high levels of gang-related activity</p> <p>Three strategies demonstrate a positive impact on gang-related violence</p> <p>In one strategy, there was an increase in gang crime. However, this increase was lower than the comparison area (uncertain effect)</p> <p>In the remaining strategy, there was evidence of an increase in homicides and assaults (no control group). There was also evidence of displacement to surrounding areas (undesirable effect)</p>	<p>Residential neighbourhoods where there are high rates of gang-related violence and high degree of community opposition to violence</p>	<p>Prevents offenders from being able to access the resources they need in order to commit an offence</p> <p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p> <p>Introduce or improve formal or informal surveillance to increase the perceived risk among gang members that committing an offence will result in identification or capture</p> <p>Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations where their risk of offending might be increased</p> <p>Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders</p>	<p>Effective strategies were all based on the same model (Operation Ceasefire)</p> <p>Strategies that aimed to intervene to prevent violence appear to be more effective as short-term responses than those that attempt to prevent gang membership</p> <p>Effective strategies were informed by operational intelligence that identified high-risk areas and factors contributing to violence between gangs</p> <p>Appears to be most effective when combines support services for gang members along with enforcement. However, strong enforcement crucial to success of project</p> <p>Strategies that actively engage the community representatives (especially respected members of the community) in program development and implementation of patrol, awareness raising and support strategies more likely to be effective</p> <p>Outreach component actively targeting gang members in communities and providing direct support and assistance important</p>

Table 5 (continued)

Intervention	Description of intervention	Supported interventions	Evidence of effectiveness	Where it works	How it works ^a	Characteristics of successful strategies
Access control (specifically, street closures)	Barricades placed in high crime thoroughfares to prevent access to residential neighbourhoods	CPTED—changed access points to streets to make outsiders more noticeable (one strategy)	Two strategies were reviewed and both demonstrated a significant reduction in violence (one evaluation included a control group, the other did not) One study showed some evidence of displacement	Situations in which there is a high degree of conflict between users in a well-defined space In one strategy, barricades were installed as part of a larger response to gang violence	Makes target enclosures harder to penetrate to increase the perceived effort associated with a crime Prevents potential offenders from being able to access locations where there are potential victims or where provocation may occur Manipulating the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Creating defensible space may be contingent on their being a cohesive community to begin with; the same intervention may not be as effective in fragmented communities	In both projects, identifying which streets should be closed was informed by a thorough and detailed analysis of crime patterns In one project, street closures were implemented as part of a strategy to redevelop the neighbourhood Barriers need to be installed at the end of streets that act as thoroughfares Creating defensible space may be contingent on their being a cohesive community to begin with; the same intervention may not be as effective in fragmented communities
Street lighting	Involves the placement or improvement of lighting to increase visibility in public spaces and thoroughfares	Also included as part of community-based strategies to reduce alcohol-related violence (2 studies)	Seven studies were reviewed that involved improved street lighting as the sole intervention Evidence of a significant decline in violent crime from four studies; two in housing estates, one in commercial/residential areas and one in a city centre Evidence of a decline in one high-quality study where street lighting was the sole intervention and there was a comparison group Remaining three studies showed no effect of street lighting on crime; all three were implemented in residential neighbourhoods	Specific circumstances in which street lighting is most effective is unclear Some evidence that it works more effectively in stable homogeneous communities Appears to work most effectively in residential areas with high-density housing	Improving lighting in poorly lit areas serves to improve surveillance, define ownership of spaces and can minimise conflict between potential victims and offenders Lighting can increase an offender's perceived risk of detection and discourage them from committing an offence	Improved lighting in thoroughfares that are poorly lit and are potential targets for offenders Improved lighting may act as a catalyst for further changes in the community, leading to an increase in community pride and additional changes to the physical environment The relationship between improved lighting and non-domestic violence related assault not clearly established

Table 5 (continued)

Intervention	Description of intervention	Supported interventions	Evidence of effectiveness	Where it works	How it works ^a	Characteristics of successful strategies
Mentoring	<p>Involves a more experienced person taking on a role advising a less experienced person</p> <p>Characterised by contact between individuals that have had contact with the criminal justice system, or are at risk of becoming involved in offending or antisocial behaviour, with positive role models</p> <p>These role models are usually older and more experienced, and provide support, guidance and encouragement to the less experienced young person</p> <p>Generally involves long-term contact between mentor and young person</p>	<p>Mentoring is frequently delivered alongside support services that aim to provide some type of customised support for individuals (typically on an individual basis but also in small groups)</p> <p>This often involves individual case management or an assessment of an individual's needs, with a view to improving access to essential services (such as counselling, emergency accommodation etc) by way of referrals</p>	<p>Evidence of effectiveness of mentoring projects in reducing aggression and violence mixed. Seven studies were reviewed that involved some form of mentoring</p> <p>Two mentoring projects showed a positive impact on violent behaviour among young people</p> <p>Two projects appeared to have no effect on violent offending, for two projects the effects were uncertain and one project had no impact on violence and adverse long-term outcomes in terms of future involvement in crime</p>	<p>Appears to work most effectively when targeted at younger individuals identified as being at risk of becoming involved in violence, based on early signs of aggression or delinquent behaviour</p>	<p>The support, guidance and counselling often delivered as part of a mentoring project builds a person's resilience to offending by providing them with conflict resolution, life, social and anger management skills to avoid situations in which their risk of offending might be increased</p> <p>By matching at-risk young people with a suitable role model, mentoring can also help to alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders</p> <p>Mentoring can intervene at key developmental stages (such as the transition to high school) to alleviate risk factors (eg negative peer influence) and enhance protective factors (eg pro-social support networks)</p>	<p>Taking account of young people's views in the design of the program</p> <p>Ensure mentors need to be able to refer young people to appropriate support services as required; as such, may be more effective if mentoring incorporated into wider range of services</p> <p>Projects involving more frequent contact more likely to be effective</p> <p>Services offered to participants by mentors (or as part of program) need to be targeted to the needs of individuals</p> <p>Coordination of services to mentored youth, particularly over time as they age</p> <p>High-quality mentors who exhibit relevant skills and attributes (For indigenous mentoring projects)</p> <p>Strong links with Indigenous communities and services</p> <p>Based on an understanding of the historical, cultural and social background factors that influence young Indigenous peoples' lives</p> <p>Adequate consultation with and promotion in Indigenous communities</p> <p>Sensitivity to cultural requirements in matching Indigenous mentors and young people</p>

Table 5 (continued)

Intervention	Description of intervention	Supported interventions	Evidence of effectiveness	Where it works	How it works ^b	Characteristics of successful strategies
Brief interventions	Brief intervention combining motivational interviewing with skills training, including goal setting, tailored feedback, decisional balance exercise, role plays (conflict resolution and anger management) and referrals In one of the strategies, parents received three home visits with health educator to discuss family needs and facilitate service use and parental monitoring In both strategies, the control group received community resources to facilitate contact with services	Not applicable	Two studies were reviewed that involved brief interventions delivered to youths identified in emergency departments Both utilised a high-quality research design and found that participation in a brief intervention had a positive impact in terms of aggression and peer violence	Effective when targeted at youths who have recently suffered an injury and are attending an emergency department	Brief interventions can help to build a young person's resilience to offending by providing them with the problem solving and conflict resolution skills, developed through role play, to avoid situations in which their risk of offending or victimisation might be increased	Importance of being able to deliver the intervention in full where there are multiple sessions Unclear whether identifying recently injured youths through emergency department is a key to success, or whether the program could be delivered to youths identified in other settings

a: Limited to those interventions for which there was more than one evaluated strategy

b: Based on those mechanisms that were identified for effective strategies

Suitability for implementation by local government

While there are some questions regarding the relevance of gang-related violence prevention in the NSW context, the interventions that were reviewed as part of this research project are suitable for implementation by local government, either as the lead agency or in partnership with police, private businesses and community-based organisations.

Local government were an important stakeholder involved in a number of the strategies targeting alcohol-related violence among the Australian studies reviewed as part of this project. Similarly, the NSW CPD has been responsible for leading large scale multicomponent strategies involving a number of different stakeholders targeting alcohol-related violence in a major entertainment precinct.

Nevertheless, there are a number of important considerations for the funding of these projects through a grants program (see Table 6).

Table 6 Suitability of crime prevention interventions targeting non-domestic violence related assault for local government

Intervention	Suitability for local government	Considerations for funding through grant program
Community-based and multicomponent interventions targeting alcohol-related violence in entertainment precincts	<p>Clear role for local government in leading the development and implementation of comprehensive strategies targeting alcohol-related violence in entertainment precincts, as well as facilitating community involvement and engagement</p> <p>Local government is recognised as a key partner in liquor accords. Liquor accords are an important vehicle for the delivery of comprehensive community-based strategies</p>	<p>Requires longer term support and therefore, longer term funding</p> <p>Potentially costly, particularly if there is an education component (over and above mandatory RSA training)</p> <p>Requires support from police and licensing authorities</p> <p>Extensive guidance on establishing liquor accords available online from the Office of Liquor, Gaming and Racing</p>
Comprehensive responses to gang-related violence	<p>The interventions that were delivered as part of these responses to gang-related violence could potentially involve local government working closely with community-based organisations to implement outreach services, mobilise communities, and to develop and implement awareness campaigns</p>	<p>All of the strategies reviewed in this research were implemented in the United States to address gang-related violence. Relevance to the Australian and specifically, NSW context uncertain</p> <p>However, the underlying principles and intervention components appear relevant to strategies that attempt to reduce violence between groups (eg between different ethnic groups) involving young people, or violence that is related to drug trafficking and distribution</p> <p>Comprehensive strategies are costly and must be implemented in full to be most effective</p> <p>Requires support from police and strong enforcement targeting violence</p>
Access control (specifically street closures)	<p>Local government are responsible for the installation and maintenance of roads and pathways in residential neighbourhoods</p>	<p>The decision to implement street closures should be based on a clear assessment of both the access routes for offenders and implications for local residents</p> <p>Potential application of principles underpinning street closures</p>
Street lighting	<p>Improving street lighting is a common strategy implemented by local government to prevent crime</p>	<p>There is evidence that in those circumstances in where it is effective, street lighting can be a cost-efficient approach to reducing crime</p>

Table 6 (continued)

Intervention	Suitability for local government	Considerations for funding through grant program
Mentoring	<p>Local government may not be the primary agency responsible for implement mentoring projects; however, it can offer support for the agencies or groups providing the service. The specific needs of these agencies and what local government can provide would depend on the agency and would be best negotiated between the two</p> <p>Has been identified in reviews of local government crime prevention plans as a common strategy to address offending behaviour (generally) among at-risk young people</p>	<p>Evidence in support of mentoring as a violence prevention measure appears mixed</p> <p>Potentially expensive to deliver to large numbers of young people</p> <p>Programs are more effective when the mentoring relationship is longer in duration and involves more frequent contacts; implications for costs</p>
Brief interventions	<p>As with mentoring, the primary responsibility for delivering brief intervention projects rests outside of local government. However, local government may be able to facilitate referrals and contact with young people</p>	<p>Potentially cost effective as an offender-focused intervention to reduce violence</p> <p>Suitability for brief interventions in a community setting needs to be considered, given that both evaluations identified participants in emergency departments</p>

Table 7 Crime prevention strategies targeting non-domestic violence related assault

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Haurtiz et al. (1998) Community Safety Action Project	Target crime—alcohol-related assault (primary) Nature of problem—escalating levels of late-night assault and violence occurring in and around licensed establishments Target group or beneficiaries—patrons and service staff Target location—Townsville, Cairns and Mackay, Queensland	Community engagement and mobilisation—community represented on the working group and program developers held a community forum to provide community with an opportunity to provide suggestions and raise concerns Rules and regulations for business—working group established a code of conduct for licensees Education-type project—provided training for security staff in premise management Police enforcement—increased monitoring and enforcement of Liquor Act breaches (in partnership with licensing authority)	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Prevent offenders from being able to access the resources they need in order to commit an offence or that might be used as an excuse Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	(Desirable effect) Intervention—significant decreases in physical and non-physical aggression and violence, particularly in Cairns (88.3%) Research methods and source of data—observations Level on SMS—2	Evaluation focus—outcome Evaluation design—before–after Research methods and source of data—observations Level on SMS—2
Holder et al. (2000) Community Trials Project	Target crime: Alcohol-related assault, under-age drinking and drink-driving (primary) Nature of problem: Escalating rates of violent crime in and around licensed establishments Target group or beneficiaries: Mix of urban, suburban and rural sites Target location: California and South Carolina (US)	Education-type project: Service providers given information about and, training in, responsible service of alcohol standards Police enforcement: Stricter enforcement of drink-driving offences, and the sale of alcohol to under-age patrons Awareness campaign: Media campaign to raise community awareness of program and harms of binge drinking	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	(Desirable effect) Intervention v comparison—during the 12 month post-intervention period, hospital assault cases and hospitalised assault injuries decreased (43% and 2% respectively) in relation to comparison sites Research methods and source of data—surveys and interviews, hospital discharge data Level on SMS—3	Evaluation focus—outcome Evaluation design—before–after, multiple intervention and control sites Research methods and source of data—surveys and interviews, hospital discharge data Level on SMS—3

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Hamel et al. (1994) Surfers Paradise Safety Action Project	Target crime—alcohol-related assault and disorder Nature of problem—escalating rates of violent crime in and around licensed establishments Target group or beneficiaries—patrons and service staff Target location—Surfers Paradise, Queensland	Community engagement and mobilisation—community represented on the working group and program developers held a community forum to provide community with an opportunity to provide suggestions and raise concerns Rules and regulations for business—working group established a code of conduct for licensees Education-type project—provided training for security staff in premise management Police enforcement—increased monitoring and enforcement of Liquor Act breaches (in partnership with licensing authority)	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Prevent offenders from being able to access the resources they need in order to commit an offence or that might be used as an excuse	(Desirable effect) Intervention—decrease in incidents of physical and non-physical violence occurring in licensed establishments, most notable after Code of Practice was introduced into the majority of venues. Increase in street offences eg rude language Negative displacement of offending behaviour	Evaluation focus—process and outcome Evaluation design—before–after Research methods and source of data—observations, police records and surveys Level on SMS—2

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Maguire and Nettleton (2003)	Target crime—assault and disorder	Education type project—training to all licensed establishment staff	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur	(Desirable effect) Intervention—during the 12 month post-intervention period, alcohol-related assaults decreased by four percent (approximately 100 assaults). However, alcohol-related disorder offences increased by 49 percent. Decrease in offences committed in licensed premises but increase in street offences	Evaluation focus—process and outcome Evaluation design—before–after, some control
Tackling Alcohol-related Street Crime (TASC) Project	Nature of problem—escalating levels of late-night assault and violence occurring in and around licensed establishments Target group or beneficiaries—licensed establishments and fast-food joints	Support services—provided appropriate counselling services to repeat offenders Awareness campaign—increased awareness of alcohol-related violence among those responsible for planning and licensing strategies in Cardiff and the general public	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture. Prevent offenders from being able to access the resources they need in order to commit an offence or which might be used as an excuse Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased	Comparison—assault rates increased in other parts of Wales	Research methods and source of data—police records Level on SMS—2
Target location—Cardiff city centre and Cardiff Bay, Wales		Police enforcement—random police patrols in licensed establishments to monitor service standards; increased presence at hotspots			
Molloy et al. (2004)	Target crime—alcohol-related assault	Police enforcement—additional police patrols in hotspot areas around licensed establishments	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	(Desirable effect) Intervention—39.85 percent decrease in assaults committed within Ballarat CBD—down from 133 in 2002–03 to 80 in 2003–04. A 47.54 percent decrease in assaults committed in licensed premises, reduction of 33.33 percent in public places	Evaluation focus—outcome Evaluation design—before–after Research methods and source of data—project administrative data, police records and interviews Level on SMS—2
Operation Link: Be Safe Late Program (OLBSL)	Nature of problem—escalating rates of violent crime in and around licensed establishments Target group or beneficiaries—patrons and service staff Target location—Ballarat CBD, New South Wales	Street lighting—improved street lighting around licensed establishments Access control—3 am 'lockout' prohibited late-night drinkers from accessing licensed establishments	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur	No evidence of displacement of crime to surrounding suburbs	

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Rumbold et al. (1998) Geelong Local Industry Accord	Target crime—alcohol-related assault (primary), under-age drinking, and property damage Nature of problem—escalating rates of violent crime in and around licensed establishments— Target group or beneficiaries—patrons and service staff Target location—Geelong, Vic	Education-type project—service providers given information about and training in safe alcohol service standards Police enforcement—stricter enforcement of liquor licensing laws and the sale of alcohol to underage patrons Access control—stopped patrons from accessing bars/pubs after certain times Rules and regulations for business—established a code of practice for licensees, endorsed by key project stakeholders, with particular focus on refusing service to intoxicated patron, underage drinking, drink promotions and pub-hopping	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Prevent offenders from being able to access the resources they need in order to commit an offence or which might be used as an excuse	(Desirable effect) Intervention v comparison—reported lower scores for safety and prevention of alcohol-related violence than control areas (observational data) Intervention v comparison—decrease in assault and property damage. Assault reduced from 0.8 assaults per day to 0.5 assaults (although data unreliable due to changes in recording) Level on SMS—3	Evaluation focus—process and outcome Evaluation design—before-after, control Research methods and source of data—police records, interviews, surveys, observations and administrative data Level on SMS—3
Hawks et al. (1999) Fremantle Police-Licensee Accord	Target crime—alcohol-related violence Nature of problem—antisocial behaviour among patrons leaving licensed premises Target group or beneficiaries—patrons and service staff Target location—Fremantle, Western Australia	Rules and regulations for business—established a code of practice for licensees, endorsed by key project stakeholders, with particular focus on refusing service to intoxicated patron, underage drinking and drink promotions Education-type project—licensees, bar staff and security encouraged to access responsible service of alcohol training Police enforcement—increased presence of police in hotspot areas	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Prevent offenders from being able to access the resources they need in order to commit an offence or that might be used as an excuse	(Null effect) Intervention v comparison—no significant reductions among any of the harm indicators when compared with control area. Assaults appeared to increase over time, most likely due to increased police presence Intervention—no measurable improvements in responsible service practices by bar staff Level on SMS—3	Evaluation focus—process and outcome Evaluation design—before-after, control Research methods and source of data—police records, interviews, surveys, observational and pseudo-patron data Level on SMS—3

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Treno et al. (2007). Sacramento Neighbourhood Alcohol Prevention Project	Target crime—alcohol-related assault, drink-driving and underage drinking Nature of problem—escalating rates of violent crime in and around licensed establishments Target group or beneficiaries— offenders 15–29 years Target location—two low-income, ethnic minority neighbourhoods. High crime rates and alcohol-related problems. North and South Sacramento, United States	Police enforcement—stricter enforcement of existing alcohol laws Education-type project—service providers given information about and training in safe alcohol service standards Community engagement and mobilisation—community support for the scheme facilitated through consultations and an extensive media campaign	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Prevent offenders from being able to access the resources they need in order to commit an offence or that might be used as an excuse	(Desirable effect) Intervention v comparison—statistically significant reductions in assaults recorded by police and emergency medical service Intervention—sale of alcohol to minors increased significantly in the second site (61%) Level on SMS—3	Evaluation focus—process and outcome Evaluation design—before– after, control Research methods and source of data—police and emergency medical service records, surveys Level on SMS—3
Wallin, Norstrom & Andreasson (2003) Stockholm Prevents Alcohol and Drug Problems	Target crime—alcohol-related assault, threats and harassment, violence and threats targeted at officials Nature of problem—escalating rates of violent crime in and around licensed establishments Target group or beneficiaries— patrons and service staff Target location—Stockholm CBD	Education-type project—gave service providers information about and training in safe alcohol service standards Police enforcement—stricter enforcement of existing alcohol laws Community engagement and mobilisation—established a committee to raise community awareness of the scheme and increase knowledge concerning alcohol-related harms	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Prevent offenders from being able to access the resources they need in order to commit an offence or that might be used as an excuse	(Desirable effect) Intervention—in the 33 month post-intervention period, alcohol-related violence decreased by 29 percent Comparison—increase in alcohol- related violence	Evaluation focus—outcome Evaluation design—before– after, control Research methods and source of data—police records Level on SMS—3

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Coumarelos (2001) Safe City Strategy	<p>Target crime—assault (primary), robbery with/without a weapon and theft</p> <p>Nature of problem—crime statistics for the Sydney CBD were significantly higher when compared with other areas in Sydney and New South Wales. Correspondingly, fear of victimisation among resident populations is high</p> <p>Target location—Central city area of Sydney, New South Wales</p>	<p>Community patrol—presence of security guards at taxi ranks</p> <p>CCTV—cameras installed in crime hotspots and monitored by trained staff</p> <p>Street lighting—improved street lighting in crime hotspots</p> <p>CPTED/Urban renewal—introduced new paving, wider footpaths, additional trees and new street furniture; development of environmental design guidelines</p> <p>Natural surveillance—supervised recreational and cultural activities in city</p> <p>Awareness campaign—community informed about the program and crime prevention techniques through media</p> <p>Education-type program—encouraging licensed premise operators to adopt safer service protocols</p>	<p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture</p> <p>Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users</p> <p>Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur.</p>	<p>(Uncertain effect)</p> <p>Intervention—in the 12 month post-intervention period:</p> <ul style="list-style-type: none"> robbery with a weapon decreased by 31 percent non-residential serious assault increased by seven percent non-residential common assault increased by 12 percent robbery without a weapon increased by five percent <p>Adjacent—non-residential serious assault increased by 81 percent, non-residential common assault by six percent, robbery without a weapon by 64 percent</p>	<p>Evaluation focus—outcome</p> <p>Evaluation design—before-after</p> <p>Research methods and source of data—resident surveys and interviews, police records</p> <p>Level on SMS—2</p>

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Braga et al. (2001) Boston Gun Project's Operation Ceasefire	Target crime—gang-related homicide and assaults involving guns Nature of problem—escalating rates of youth homicide, usually committed by gang members, gangs and gang members. Target group or beneficiaries— gangs and gang members. Target location—Boston, United States	Awareness campaign—community members and media delivered strong anti-violence message and information about the program Police enforcement—targeted enforcement of firearm traffickers; law enforcement targeted gang activity Community patrol—social service workers, community representatives and probation and parole officers actively patrolled community providing an outreach service and assistance to gang members	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence Prevent offenders from being able to access the resources they need in order to commit an offence Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending	(Desirable effect) Intervention—during the four year post-intervention period there were significant decreases in: <ul style="list-style-type: none">• youth homicides (63%)• 'shots fired' call outs (32%)• gun assaults (25%)• youth gun assaults (44%) These findings were the same taking into account seasonal variations and other control variables Comparison—decline in youth homicide distinct when compared with youth homicide trends in most US and New England cities	Evaluation focus—process and outcome Evaluation design—before- after, control (control variables and major cities across United States) Research methods and source of data—observations and police records Level on SMS—3

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Skogan et al. (2008) CeaseFire-Chicago	<p>Target crime—gang-related homicide and assaults involving guns</p> <p>Nature of problem—escalating rates of homicides involving firearms, usually committed by gang members</p> <p>Target group or beneficiaries—gangs and gang members.</p> <p>Target location—Chicago, US</p>	<p>Community patrol—‘violence interrupters’ actively patrolled community performing mediation and conflict resolution services; outreach workers provided support service, assisting gang members access education and employment opportunities</p> <p>Awareness campaign—community members and media delivered strong anti-violence message and information about the program</p> <p>Community engagement and mobilisation—proactively sought community input through rallies, marches and prayer vigils to promote message of the scheme. Faith-based leaders promoted the scheme provided counselling and support</p> <p>Police enforcement: Stricter enforcement of existing laws</p>	<p>Increase an offender’s perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p> <p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture</p> <p>Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending</p>	<p>(Desirable effect)</p> <p>Intervention v comparison—analysis of seven intervention sites (of 25 in operation) and comparison areas showed significant declines in actual and attempted shootings in three areas due to the program; a decline in gun-related homicide in three sites (of which one was found to be due to the program); a decline in shooting density in six sites (3 due to program)</p>	<p>Evaluation focus—process and outcome</p> <p>Evaluation design—before–after, control (control variables and major cities across United States)</p> <p>Research methods and source of data—interviews, surveys observations and police records</p> <p>Level on SMS—4</p>

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Spergel (1986) Crisis Intervention Services Project (CRISP)	Target crime—gang-related homicide, robbery, aggravated assault, aggravated battery, simple assault, simple battery, intimidation, gang recruitment and unlawful use of weapon Nature of problem—upward trend in gang-related homicides in Chicago Target location—neighbourhood characterised by very high homicide rates, intense gang violence and predominantly Puerto Rican population. Community politically and culturally fragmented due to socio-demographic shifts	Awareness campaign—outreach workers spread knowledge about police crackdowns Community patrol—outreach workers patrolled high crime areas and performed mediation and conflict resolution services Support services—outreach workers provided at-risk youths with access to services, such as employment	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending	(Uncertain effect) Intervention v comparison—rate of serious gang crime among juveniles increased at lower rate than in comparison group over the 10 month post-intervention period No effect on less serious gang crime	Evaluation focus—process and outcome Evaluation design—before–after, control Research methods and source of data—police records Level on SMS—3
Tita et al. (2010) Operation Ceasefire Los Angeles	Target crime—homicide, attempted homicide, robbery, assault, kidnapping, gang crime and gun crime Nature of problem—escalating rates of gang-related crime, in particular youth homicide Target group or beneficiaries—gangs and gang members Target location—Boyle Heights, Los Angeles, high violent area and gang activity	Awareness campaign—community members and media conveyed strong anti-violence message and information about the program Police enforcement—police patrols deployed in hotspot areas; increased enforcement of parole and probation of gang members; enforcement of housing codes Support services—gang members were offered access to job training and development opportunities, substance abuse treatment and tattoo removal	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders	(Desirable effect) Intervention v comparison—reduction in violent, gang and gun crime in areas in which social services delivered not significantly greater than comparison areas Intervention v comparison—reductions in violent crime in areas with targeted enforcement significantly greater than reductions in comparison areas. No significant decrease in gun or gang crime Adjacent—decrease in crime rates in surrounding areas providing some evidence of potential diffusion of benefits	Evaluation focus—process and outcome Evaluation design—before–after, control Research methods and source of data—police records Level on SMS—3

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Wilson, Chermack and McGarrell (2010). One Vision One Life	Target crime—homicide (primary), aggravated assault. Nature of problem—in 2003 there was a 49 percent spike in homicide rates in Pittsburgh Target location—three different areas of Pittsburgh, United States—Northside, Hill District and Southside. All high crime areas	Community engagement and mobilisation—connecting residents with services, promoting connections between neighbours through organised events such as ‘cook-outs’ Support services—connected at-risk youths with services like social welfare Awareness campaign—outreach workers disseminated an anti-violence message to residents through pamphlets	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur and/or encourage behaviour that minimises opportunities for crime to occur Build a person’s resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased Increase an offender’s perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Undesirable effect) Intervention—monthly homicide rates increased in one site, decreased in two. Average number of assaults increased in all three sites Adjacent—negative displacement effect. Increase in gun assaults in the Southside and Hill District spill over areas, an increase in aggravated assaults in Southside and a decrease in aggravated assault in Hill District	Evaluation focus—process and outcome Evaluation design—before–after, some control Research methods and source of data—police and administrative records, observations and interviews Level on SMS—2
Donnelly and Kimble (1997)	Target crime: Assault, residential burglary, larceny, auto theft, and vandalism Nature of problem: High crime rates in ‘permeable’ neighbourhoods. Neighbourhood characterised by high crime rates and large ethnic population. Close to downtown area and interstate highway Target location: Five Oaks neighbourhood of Dayton Ohio	Access control: Barricades erected in streets which were thoroughfares for criminals CPTED: Changed access points to streets to make ‘outsiders’ stand out more	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Make target enclosures harder to penetrate to increase the perceived effort associated with a crime Prevent potential offenders from being able to access locations in which there are potential targets (property or people) or where provocation may occur	(Desirable effect) Intervention—decrease in violent crimes (40%), burglaries (39%), larceny (25%) and vandalism (21%) Evidence of displacement	Evaluation focus—outcome Evaluation design—before–after, some control Research methods and source of data—resident surveys and police records Level on SMS—2

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Lasley (1998) Operation Cul-de-Sac	Target crime—gang-related assault, homicide, residential burglary and theft Nature of problem—neighbourhoods identified as hotspots for gang-related crime Target group or beneficiaries—gangs and gang members Target location—Los Angeles, United States	Access control—barricades placed in high-crime thoroughfares	Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur	(Desirable effect) Intervention—decrease in homicide and assaults. Annual homicide rate dropped from seven victims to one during the 24 month post-intervention period. Assault fell from 190 to 138. Robbery remained constant Comparison—constant homicide and assault rates Adjacent—no evidence of displacement	Evaluation focus—outcome Evaluation design—before–after, control Research methods and source of data—police records Level on SMS—3
Stone and Stevens (1999)	Target crime—assault (including robbery using force) and homicide Nature of problem—high rates of assaults against taxi drivers in United States Target location—citywide Baltimore, United States	Access control—installation of plastic partitions between the taxi driver and passengers	Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur	(Desirable effect) Intervention—in the 12 month post-intervention period, assaults on taxi drivers fell by 56 percent Intervention v comparison—taxi drivers without partitions five times more likely than shielded drivers to be assaulted	Evaluation focus—outcome Evaluation design—before–after, control Research methods and source of data—police records and administrative data Level on SMS—3
Ditton and Nair (1994)	Target crime—assault, threatened assault and harassment Nature of problem—escalating rates of street crime on route between residential areas and services Target location—two housing estates near or in Glasgow, Scotland. Bellgrove and High Blantyre. Residents separated from necessary services by a geographical barrier	Street lighting—improved street lighting in high-crime areas	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Desirable effect) Intervention—decrease in self-reported assaults. Decline violence rates not reflected in police statistics	Evaluation focus—outcome Evaluation design—before–after Research methods and source of data—observations, interviews and administrative data Level on SMS—2

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Painter and Farrington (1999) in Welsh and Farrington (2007a)	Target crime—residential burglary, vehicle crime (theft from and of), violence (primarily assault). Nature of problem—high crime rates on housing estates. Target location—local housing authority in Stoke-on-Trent, United Kingdom	Street lighting—improved street lighting in high-crime areas	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Desirable effect) Intervention v comparison—over the 12 month post-intervention period there was a significant decline in violent crime occurring in the intervention site, over and above comparison area Intervention—43 percent decrease in overall crime. A 68 percent decrease in violent crimes. A 15 percent decrease in residential burglary Comparison—two percent decrease in overall crime. A 39 percent decrease in violent crimes. Residential burglary increased by six percent Adjacent—45 percent decrease in overall crime. A 66 percent decrease in violent crimes. A 20 percent decrease in residential burglary Some evidence of diffusion of benefits	Evaluation focus—outcome Evaluation design—before–after, control Research methods and source of data—victim surveys and police records Level on SMS—3
Quinet and Nunn (1998) in Welsh and Farrington (2007a)	Target crime—property and violent crime Target location—residential neighbourhood in Indianapolis, United States.	Street lighting—improved street lighting in high-crime areas	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Null effect) Intervention v comparison—over the seven to 10 month post-intervention period, violent crime increased in both intervention and control areas, although this increase was lower in the intervention area	Evaluation focus—outcome Evaluation design—before–after, control Research methods and source of data—police records Level on SMS—3
Wright et al. (1974)	Target crime—robbery, assault, larceny and auto theft Nature of problem—Increasing rates of street crime in the United States Target location—Kansas City, United States. Included commercial downtown business district and residential pods	Street lighting—improved street lighting in high-crime areas	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Desirable effect) Intervention—during the post-intervention period (April 1972–March 1973) a 48 percent decrease in violent street crime (robbery and assault) Adjacent—some minor evidence of displacement of crime to non-kept areas	Evaluation focus—outcome Evaluation design—before–after, some control Research methods and source of data—police records Level on SMS—2

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Inskip & Goff (1974) in Welsh & Farrington (2007a)	Target crime—robbery, assault and residential burglary Nature of problem—residential neighbourhood with high crime rates Target location—Portland, United States	Street lighting—improved street lighting in high-crime areas	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Null effect) Intervention v comparison—no significant difference between crime rates in the intervention and control areas No evidence of displacement or diffusion of benefits	Evaluation focus—outcome Evaluation design—before–after, control Research methods and source of data—police records Level on SMS—3
Atlanta Regional Commission (1974) in Welsh & Farrington (2007a)	Target crime—residential burglary, vehicle theft and assault Target location—city centre Atlanta, United States	Street lighting—improved street lighting in high-crime areas	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Desirable effect) Intervention v comparison—significant reduction in crime rates (over 12 month post-intervention period) in the intervention area, relative to control No evidence of displacement	Evaluation focus—outcome Evaluation design—before–after, control Research methods and source of data—police records Level on SMS—3
Sternhell (1977) in Welsh & Farrington (2007a)	Target crime—robbery, assault and residential burglary Nature of problem—residential neighbourhood with high crime rates Target location—Portland, United States	Street lighting—improved street lighting in high-crime areas	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Null effect) Intervention v comparison—no significant difference between crime rates (over 29 month post-intervention period) in the intervention and control areas No evidence of displacement or diffusion of benefits	Evaluation focus—outcome Evaluation design—before–after, control Research methods and source of data—police records Level on SMS—3

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
O'Donnell et al. (1998) Reach for Health Community Youth Service	Target crime—assault, threatened assault and possession of a weapon Nature of problem—increasing rates of violence among students, especially within African-American and Hispanic populations Target group or beneficiaries—at-risk youths	Education-type project—curriculum teaches students to deal with risky situations in constructive and peaceful ways Diversionary activities—community services provides at-risk students with opportunities to develop community bonds	Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur	(Desirable effect) Intervention—children who participated in the community services program and Reach for Health curriculum were less likely to self-report exhibiting violent behaviours at six month follow up Risk-reduction curriculum in combination with community service was more effective at changing behaviours than education by itself	Evaluation focus—outcome Evaluation design—before–after, control Research methods and source of data—surveys Level on SMS—3
Grossman and Tierny (1998) Big Brothers and Big Sisters	Target crime—crime and antisocial behaviour Nature of problem—high rates of offending amongst at-risk youths eg those coming from single parent households Target group or beneficiaries—program aimed at youths—generally 10–16 years Target location—BBBS is available in most US states	Mentoring—at-risk youths are connected with an unrelated adult. Mentors support clients and teach them to cope with peer pressure, think through the consequences of their actions, to stay in school and help them to become involved in socially acceptable activities	Intervene at key developmental stages to alleviate risk factors and enhance protective factors Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending	(Desirable effect) Intervention v comparison—in the 12 month post-intervention period, matched youths were: <ul style="list-style-type: none"> 32 percent less likely to report hitting someone less likely to resort to violence 46 percent less likely to have used drugs 27 percent less likely to have used alcohol 	Evaluation focus—outcome Evaluation design—randomised experiment, control Research methods and source of data—participant surveys Level on SMS—5

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Drake and Barnoski (2006) Juvenile Rehabilitation Administration's mentoring program	Target crime—crime and antisocial behaviour Nature of problem—high rates of reoffending amongst youths leaving JRA facilities Target location—Seattle, US	Mentoring—youths returning from JRA facility are connected with a trusted adult who volunteers to meet weekly with the young person in the community and assists setting and fulfilling educational and vocational goals, provides support to prevent drug use and crime	Intervene to address the underlying factors that contributed to an offender's behaviour in the first place, and support their transition back into the community Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending	(Null effect) Intervention v comparison—at 12 month follow up, the mentored group comparison group for violent felonies. However the gap converges by 24 and 36 months. Difference was not significant at any point	Evaluation focus—outcome Evaluation of design—before–after, control Research methods and source of data—recidivism data Level on SMS—3
O'Donnell, Lydgate and Fo (1979) The Buddy System	Target crime—crime and antisocial behaviour Target group or beneficiaries—multi-ethnic children, teens and youth (10 to 17 years) with academic or behavioural problems Target location—United States	Mentoring—promotes interaction between youth and older role models. Provides a mentor from the community to multi-ethnic older children, teens and youth children who have been referred to the program by schools, police, courts, social welfare agencies, or community residents	Intervene at key developmental stages to alleviate risk factors and enhance protective factors Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending	(Uncertain effect) Intervention v comparison—participants who had committed major offences prior to enrolment in the program were less likely to commit such offences during or after having participated in the program Intervention v comparison—participants who had never committed major offences before entering the program were significantly more likely to do so than were youth in the control group	Evaluation focus—outcome Evaluation design—randomised experiment, control Research methods and source of data—arrest records Level on SMS—5

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Schrim, Stuart and McKie (2006) The Quantum Opportunity Program Demonstration	Target crime—crime and antisocial behaviour Nature of problem—youths with low grades entering high schools with high dropout rates Target location—community-based organisations in seven US sites operated QOP demonstration programs	Mentoring—after-school program providing case management and mentoring, supplemental education, developmental activities, community service activities, supportive services and financial incentives	Intervene at key developmental stages to alleviate risk factors and enhance protective factors Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased	(Undesirable effect) Intervention v comparison—program did not improve educational outcomes and employment-related outcomes; and did not reduce crime (including violent crime) in late teens or early twenties Intervention v comparison—long-term follow-up suggested program appeared to have some detrimental effects on crime and involvement with the criminal justice system	Evaluation focus: Outcome Evaluation design: Randomised experiment, control Research methods and source of data: Survey, achievement tests and school administrative records Level on SMS—5
St James-Roberts et al. (2005) Youth Justice Board Mentoring Schemes 2001–2004	Target crime—crime and antisocial behaviour Nature of problem—hard to reach young people and young people with literacy and numeracy needs, and who had offended or who were at risk of offending Target location—80 community mentor projects across England and Wales	Mentoring—involves establishing a trusting relationship in which a more experienced person helps and provides a role model for someone who is less experienced. Competency focused, in that they set out to teach basic literacy, numeracy, social, or life skills in the hope that such skills will help the young people to interact better with their social and physical environments and so improve their prospects	Intervene at key developmental stages to alleviate risk factors and enhance protective factors OR Address the underlying factors that contributed to an offender's behaviour in the first place and support their transition back into the community Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations where their risk of offending might be increased	(Null effect) Intervention v comparison—some evidence that the program was successful in reintegrating targeted young people into education, training and community Intervention v comparison—depth study showed that there was a small reduction in self-reported violent offending during the 12 month post-intervention period, but this was consistent across intervention and control group Intervention v comparison—according to reconversion data, there was a reduction in the rate of offending, consistent across intervention and control group	Evaluation focus—process and outcome Evaluation design—before–after, control Research methods and source of data—administrative data, interviews with sample of participants and control group and reconversion data Level on SMS—3

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
..beyond (2004) Panyappi	<p>Target crime—crime and antisocial behaviour</p> <p>Nature of problem—increasing rates of Indigenous young people frequenting the inner city area of Adelaide and becoming involved in offending behaviour</p> <p>Target group or beneficiaries—aimed at young Indigenous people (10–14 years) who are identified as being at risk of offending and have begun to, or already have, disengaged from education</p>	<p>Mentoring project—connected at-risk youths with an unrelated adult. Mentors support clients and teach them to cope with peer pressure, think through the consequences of their actions, to stay in school and help them to become involved in socially acceptable activities</p> <p>Support services—mentors would connect clients and their families with support services such as welfare and unemployment</p>	<p>Intervene at key developmental stages to alleviate risk factors and enhance protective factors</p> <p>Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased</p> <p>Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending</p>	<p>(Uncertain effect)</p> <p>Intervention—the likelihood of offending decreased for participants, even for children who had had an extensive offending history. Majority of children (80%) decreased their rate of offending by at least 25 percent</p>	<p>Evaluation focus—process and outcome</p> <p>Evaluation design—before–after</p> <p>Research methods and source of data—interviews, focus groups, program statistics and administrative data</p> <p>Level on SMS—2</p>
Hanton et al. (2002) Baltimore City Youth Bureaus	<p>Target crime—crime and antisocial behaviour</p> <p>Nature of problem—previous surveys had found that these communities had high rates of drug use, poverty, financial dependence, teenage pregnancies and health problems</p> <p>Target group or beneficiaries—inner city, primarily African American, youth at risk for the development and progression of a deviant lifestyle because of drug use, delinquent behaviour or expulsion from school</p> <p>Target location—Baltimore, United States</p>	<p>Support services—individual counselling by clinic personnel involving individual case management and improving access to essential services by way of referrals</p> <p>Mentoring—structured group approach involving representative role models from the community (college students) delivering both individual help and structured activities/presentations in areas such as social and life skills, cultural heritage, enhancement of self-esteem and conflict resolution. Also sponsored holiday celebration activities and field trips</p>	<p>Intervene at key developmental stages to alleviate risk factors and enhance protective factors</p> <p>Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased</p> <p>Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending</p>	<p>(Desirable effect)</p> <p>Intervention v comparison—evidence of a significant reduction in violent and non-violent delinquent activity among intervention group when compared with control group</p>	<p>Evaluation focus—outcome</p> <p>Evaluation design—before–after, control</p> <p>Research methods and source of data—interviews with participants and control group, arrest records</p> <p>Level on SMS—4</p>

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Walton et al. (2010) SaERteens	Target crime—violence and alcohol misuse Nature of problem—emergency department setting identified as an important point of contact with young people at increased risk of problems with violence and alcohol Target group or beneficiaries—adolescents (aged 14–18 years) seeking care in emergency department Target location—Michigan, United States	Personal development—brief intervention combining motivational interviewing with skills training, included a review of goals, tailored feedback, decisional balance exercise, role plays (conflict resolution and anger management) and referrals. Included therapist delivered brief intervention, computer delivered brief intervention (interactive animated program) or brochure with community resources (control)	Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations where their risk of offending might be increased Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending	(Desirable effect) Intervention v comparison—participants receiving therapist-based intervention less likely to experience peer violence three months after their emergency department visit. Alcohol consequences also less common among therapist and computer brief intervention groups at six months follow up	Evaluation focus—outcome Evaluation design—before–after, control Research methods and source of data—self-administered questionnaire by participants and control group Level on SMS—5
Cheng et al. (2008)	Target crime—aggression, fighting and injury Nature of problem—high rates of homicide and violence, emergency department setting identified as an important point of contact with young people to intervene to reduce violence Target group or beneficiaries—adolescents (aged 10–15 years) seeking care in emergency department for peer-related assaults and their family Target location—Washington, United States	Personal development—experienced mentors implemented a six session problem solving curriculum with youth (including conflict management, role playing and goal setting) in their home and community. Parents received three home visits with health educator to discuss family needs and facilitate service use and parental monitoring. Control group received community resources and two follow-up calls to facilitate service	Intervene at key developmental stages to alleviate risk factors and enhance protective factors Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending	(Uncertain effect) Intervention v comparison—youths receiving the higher number of intervention sessions reported reduced aggression and misdemeanour activity. No significant impact on youth reports of fighting or carrying weapons	Evaluation focus—outcome Evaluation design—before–after, control Research methods and source of data—interviewer administered questionnaire with youths and parents in intervention and control group Level on SMS—5

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Chantrill (1998). Kowanyama Aboriginal Community Justice Group	Target crime—assault and homicide Nature of problem—high rates of crime and violence in isolated Indigenous communities and high rates of victimisation within Indigenous populations generally Target location—Kowanyama (near Cape York, Queensland). Characterised by large Indigenous population, alcohol-related violence, community isolation and strained interfamily relationships	Community patrol—Indigenous elders patrolled high-crime areas, particularly around canteens Diversions activities—cultural and sporting activities introduced in the community Personal development—workshops held to teach conflict management techniques, employment skills etc	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased Prevent potential offenders from being able to access locations in which there are potential targets (property or people) or where provocation may occur	(Uncertain effect) Intervention—initial decrease in offences against the person (47 to 31 offences). Two years after its introduction (1996) offending rates increased almost to pre-intervention levels (42). However, offending rates had dropped again by the end of 1996 (33)	Evaluation focus—process and outcome Evaluation design—before–after Research methods and source of data—administrative data and police records Level on SMS—2
Crime Research Centre, University of Western Australia (2008) Eyes on the Street Program	Target crime—residential burglary, theft, vandalism, vehicle theft and assault Nature of problem—high rates of residential burglary rates in the South East Metropolitan Police District Target location—Metropolitan Western Australia	Natural surveillance—people in the community were encouraged to keep an eye out and report any suspicious incidents Awareness campaign—community awareness of program facilitated through media campaign and easily recognisable insignia	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Null effect) Intervention—incidences of offences against the person remained constant. Property offences decreased, but this trend was present prior to program introduction	Evaluation focus—process and outcome Evaluation design—before–after Research methods and source of data—stakeholder interviews, administrative data (crime statistics and reports submitted by EOTS participants) Level on SMS—2
Kerney (1986) and Peneil, Curtis and Henderson (1989) The Guardian Angels	Target crime—homicide, rape, robbery, aggravated and simple assault, larceny, residential burglary, auto theft and pick-pocketing Nature of problem—perceptions that street crime in major US cities was out of control and that the police were impotent to stop escalating crime rates Target location: NYC, San Diego, United States	Community patrol—formation of easily recognisable community 'security guards' that patrolled crime hotspots	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	(Undesirable effect) Intervention—22 percent decrease in violent crime in the six month post-intervention period. Simple assaults increased by 26 percent. Property crime decreased by 25 percent Comparison—42 percent decrease in violent crime rates. Simple assaults increased by 27 percent. Property crime by 15 percent	Evaluation focus—process and outcome Evaluation design—before–after, control Research methods and source of data—transit police records, surveys and interviews Level on SMS—3

Table 7 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Veno and Veno (1993)	Target crime—assault Nature of problem—high levels of violent crime at motorcycle festivals Target group or beneficiaries and location—attendees at Australian Motorcycle Grand Prix, Phillip Island, Victoria	Community engagement and mobilisation—festival camping sites managed using a marshalling system run by representatives from the bike community CPTED—upgraded festival camping facilities eg bathrooms Awareness campaign—encouraged festival attendees and media representatives to not start fights Police enforcement—less obtrusive policing tactics and working with the bike community	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence.	(Uncertain effect) Intervention—fewer arrests made at Phillip Island when compared with previous Grand Prix site in Sydney. Thirty-six spectators arrested from a crowd of almost 241,000	Evaluation focus—process and outcome Evaluation design—before–after, some control Research methods and source of data—administrative data, attendee surveys and police records. Level on SMS—2
Callahan, Rivara and Koepsell (1996). Seattle Gun Buy-Back Program	Target crime—gun-related assaults, robberies and homicides Nature of problem—ready availability of guns and escalating levels of gun-related violence in United States Target location—Seattle	Weapon restrictions/control—community organisations bought guns back from the community in exchange for money	Prevent offenders from being able to access the resources they need in order to commit an offence	(Null effect) Intervention—during the six month post-intervention period there were no significant changes in gun-related homicides, assaults and robberies. However, firearm related admissions to hospital decreased, but not significantly	Evaluation focus—outcome Evaluation design—before–after Research methods and source of data—administrative data, surveys and interviews Level on SMS—2
Warburton and Shepherd (2000)	Target crime—alcohol-related assault Nature of problem—bar glassware is responsible for about 10 percent of assault injuries that present to UK emergency units and usually lead to permanent disfiguring scars Target location—series of bars and pubs in South Wales, West Midlands and West of England	Weapon restrictions/control—introduced toughened bar glasses, which are six times more impact resistant than regular glasses. When they break usually disintegrate into 'lumps', which are less likely to cause lacerations	Prevent offenders from being able to access the resources they need in order to commit an offence	(Null effect) No statistical difference between groups in terms of number or severity of injuries inflicted on staff by bar glasses Intervention—during six month post-intervention period, injuries as a result of spontaneous shattering of glasses increased	Evaluation focus—outcome Evaluation design—before–after, control Research methods and source of data—staff surveys and interviews, and pub records Level on SMS—3



Residential burglary

In this section of the report, findings are presented from a review of community-based crime prevention strategies that have as a primary goal a reduction in residential burglary. Following a brief review of the literature examining issues relating to the prevention of residential burglary, a summary of the evidence in support of intervention types reviewed by the research team, an explanation of how they work and the characteristics of successful strategies are outlined.

This section of the report is focused on interventions targeting break and enter—dwelling and stealing from dwelling offences. Although similar offence categories, stealing from dwelling and break and enter—dwelling differ in the way that the offender enters the building. *Break and enter—dwelling* refers to offences where the offender forcibly gains entry to someone's home. *Stealing from dwelling* involves property being stolen from someone's home where the offender does not break in but instead gains entry through an open door or window or steals property from the yard. For the purpose of this section of the report, *residential burglary* is used to refer to both break and enter—dwelling and stealing from dwelling offences.

Preventing residential burglary

Residential burglary is broadly defined as the illegal and unlawful entry into a dwelling (house, unit, caravan, garage, yard, residential shed etc) for the purpose of committing a felony (Moreto 2010; Ratcliffe 2001). The occurrence of residential burglary is frequently attributed to its opportunistic nature. Many Australian households are an attractive target for offenders due to the large number of highly valuable and portable goods, the number of houses that are empty during the day and large number of detached dwellings that have many accessible entry points such as doors and windows (Grabosky 1995).

- Burglaries are usually 'unplanned and speculative in nature' (Grabosky 1995: 3). As such, successful prevention strategies are often targeted at reducing opportunity risk factors. However, some research also suggests that some offenders are 'experts'—rational agents who 'case' a residence/dwelling on numerous occasions prior to committing an offence (Nee & Meenaghan 2006).

There are a number of situational and social risk factors that contribute to residential burglary. Situational risk factors include:

- presence of suitable cover for offenders (eg overgrown shrubbery and trees) located along the perimeter of dwellings;
- unsecured entry points to the dwelling (eg unlocked gates and windows);
- the absence of a garage or properties with an open carport;
- proximity to pawnshops—offenders may target areas that are in close proximity to a pawn shop so that they can dispose of their stolen goods as quickly as possible; and
- proximity to public transport—offenders may choose dwellings that are in close proximity to public transport so they can access and leave the neighbourhood quickly and easily (Armitage 2011b; Moreto 2010).
- Further, as previously mentioned, dwellings that are unoccupied for significant periods of time during the day are more attractive to offenders. BOCSAR data indicates that in 2011, the majority of burglaries committed in New South Wales occurred between Monday and Friday and the hours of 6 am and 6 pm (BOCSAR 2012). This is not unexpected as it is between these times and on these days that many people are at work and properties are vacant.

Considering the broad range of risk factors associated with residential burglary, multifaceted and multi-agency strategies that involve a combination of situational and social strategies and address risk factors relating to the target, location and offender are considered the most promising in terms of achieving a sustainable reduction in offending (Grabosky 1995). An important part of this process is strategic problem solving to enable a more targeted approach to identifying and tackling of residential burglary hotspots and strengthening the community's capacity to respond to burglary risk factors (Grove 2011; Holder, Payne & Makkai 2003; Grabosky 1995; Ratcliffe 2001).

There is a range of practical strategies that may be implemented by the home or property owner to reduce the risk of residential burglary, such as:

- increasing the 'surveillability' of the property, so it can be subject to natural surveillance;
- securing any possible implements that may be used to aid an offender's entry into the property;
- making the property appear occupied, particularly when the homeowner is away (eg having the mail regularly collected, lights on timers);
- restricting access by making sure access points such as window and doors are locked and secure;
- installing additional measures such as sensor lights and alarm systems; and
- supporting burglary victims to upgrade their security immediately after the event to deter repeat victimisation (Grabosky 1995).

Previous research also suggests the importance of taking into consideration the local context in designing and adapting residential burglary initiatives, including tailoring interventions to suit the specific crime problem (Grabosky 1995; Grove 2011). This includes factors such as the geographic distribution of offending, the methods by which offenders access property, changes in the demographic characteristics of offenders, the types of stolen property and patterns in stolen goods markets (Grabosky 1995). While the importance of community engagement has been highlighted, there are challenges associated with engaging local residents in communities that exhibit high residential mobility and low levels of social cohesion; factors that need to also be taken into consideration in designing interventions (Grabosky 1995; Grove 2011). Other implementation problems that have been encountered by burglary prevention programs and that need to be addressed include staffing problems, a lack of clarity around eligibility criteria (victims, potential victims or both), poor communication around referral processes, inflexible approaches and persistence with the original plan irrespective of changing circumstances and opposition to measures from stakeholders (Grove 2011).

Findings from the review

A comprehensive summary of the findings from a review of strategies designed to reduce residential burglary is presented in Table 8, which summarises the evidence for each intervention type identified by the review. Strategies examined as part of this review are described in Table 9. Overall, the review identified 32 studies that met the criteria

for inclusion. The number and overall standard of evaluations was higher for residential burglary than any of the other property offence types. Half of the studies met level three on the SMS. Therefore, it was possible to draw robust conclusions about the effectiveness of specific interventions and their impact on residential burglary offending rates.

Interventions supported by evidence of effectiveness

After reviewing the available evidence, several interventions were supported by multiple evaluation studies finding evidence of effectiveness:

- Access control measures that involve actively encouraging or installing improved security measures on behalf of residents (including security devices and perimeter security):
 - In three studies, all showing evidence of effectiveness, access control measures were the sole intervention and included installing barricades and street closures, installing lockable gates in alleys or the installation of security devices.
 - In 12 studies, 10 of which showed evidence of effectiveness, access control measures were supported by other interventions (eg awareness campaigns and diversionary activities).
- Awareness raising campaigns that aim to improve awareness of risk factors for victimisation, offending hotspots and prevention measures, including strategies with a universal focus targeting whole neighbourhoods and those targeted at high-risk households, were effective when delivered alongside other interventions:
 - In eight studies, all showing evidence of effectiveness, awareness campaigns were delivered as part of a suite of interventions (eg property marking and education type projects).
 - Of the seven studies involving an awareness campaign that either had no effect on residential burglary rates or the effect was uncertain, four involved the delivery of an awareness campaign in isolation and the remaining strategies encountering issues relating to implementation.
- Property marking, whereby residents are provided with assistance to record identifying information on valuable personal belongings, was involved in seven multicomponent strategies, five of which were supported by evidence of effectiveness.
- Strategies that aim to improve natural surveillance appear to be an effective strategy, but are also an important by-product (be it intentional or unintentional) of other strategies such as CPTED, awareness raising and education campaigns. Of the seven studies involving interventions to improve natural surveillance, six showed some evidence of effectiveness and all except one comprised multiple interventions.
- Strategies involving some form of CPTED (eg changing street access points) or having an urban renewal component (6 studies in total), most commonly in conjunction with another intervention (5 studies), all showed evidence of effectiveness.
- Community patrols were an important component in three strategies, all of which were supported by evidence of effectiveness, but took different forms including security patrols, the appointment of unemployed locals and neighbourhood watch groups actively patrolling communities.
- Diversionary activities were involved in four multicomponent strategies, three of which were effective, and generally involved providing some form of alternative activity after school or during school holidays for youths at risk of becoming involved in property crime.

Interventions with limited evidence of effectiveness

Few of the reviewed evaluations of strategies designed to reduce residential burglary produced negative findings. Ineffective strategies were typically those that were poorly implemented. In addition to awareness campaigns (as a sole intervention), the only intervention not to be supported by strong evidence of effectiveness was street lighting. Of the six studies that examined the use of street lighting, five involved the use of street lighting independent of other interventions. Of these, three were ineffective at reducing residential burglary, suggesting that the evidence in support of street lighting as a burglary prevention measure is mixed.

Suitability for implementation by local government

The interventions identified in this section appear, for the most part, to be suitable for implementation by local government. These interventions are consistent with the types of strategies that frequently appear in local crime prevention plans (Morgan & Homel 2011). In the Australian studies examined as part of this review, local government were a key stakeholder involved in the intervention. Most importantly, local government can provide a lead role in ensuring a

coordinated response to residential burglary, working closely with police in particular. Central agencies such as the NSW CPD can perform a similar oversight and coordination role, particularly where a burglary prevention strategy involves a range of government (eg housing, education and criminal justice) and non-government agencies delivering a number of interventions in combination to address multiple risk factors for burglary (eg Cummings 2005). NSW CPD has also been responsible for the development of materials that can be used as part of security audits and awareness campaigns by local councils and by home owners.

Table 8 Evidence in support of crime prevention interventions targeting residential burglary^a

Intervention	Description of intervention	Supported interventions	Evidence of effectiveness	Where it works	How it works ^b	Characteristics of successful strategies
Measures to control access to residential buildings	<p>Aims to increase the effort associated with committing an offence, usually through the alteration of the built environment or surroundings. Specifically, access control aims make it harder for potential offenders to enter a property or building by limiting its accessibility</p> <p>Common strategies included the installation of security devices and alarms in residents' homes; as well as strategies to reduce access to residential areas (such as through alley gating and street closures)</p>	<p>Awareness campaigns</p> <p>Property marking</p> <p>Natural surveillance</p> <p>CPTED/urban renewal</p> <p>Community patrol</p> <p>Diversionary activities</p>	<p>In three studies, all showing evidence of effectiveness, access control measures were the sole intervention</p> <p>In 12 studies, 10 of which showed evidence of effectiveness, access control measures were supported by other interventions</p>	<p>Residential neighbourhoods in which there is an identified lack of security at access points (as opposed to the carelessness of residents in securing properties)</p> <p>Communities in which there is a high level of support for preventative measures and concern about residential burglary</p>	<p>Access control measures make target enclosures (fences, gates, doors and windows) harder to penetrate to increase the perceived effort associated with a crime</p> <p>This prevents potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur</p> <p>Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users</p>	<p>Successful strategies are those where there is a high take-up rate among residents</p> <p>Appears to work most effectively when residents are provided with financial assistance to install security devices, or where security devices are installed on their behalf</p> <p>Strategies that relied upon residents to improve access control measures with limited direct assistance or financial input were less effective</p> <p>Awareness campaigns can support access control measures by encouraging residents to regularly make use of security once installed</p> <p>Make use of appropriate technology, ensuring security devices are hardware and (where necessary) maintained over time</p>

Table 8 (continued)

Intervention	Description of intervention	Supported interventions	Evidence of effectiveness	Where it works	How it works ^a	Characteristics of successful strategies
Awareness campaigns targeted at potential victims of residential burglary	Awareness-raising campaigns aim to improve awareness of risk from residential burglary and prevention measures, and include universal strategies that involve the distribution of material (information packs, brochures etc) to residents advising them of what action to take, as well as more targeted security audits. Targeted security audits are often directed at households that have recently been a victim of residential burglary and aim to prevent re-victimisation	Access control Property marking Natural surveillance CPTED/urban renewal Community patrol Diversionary activities	In nine studies, all showing evidence of effectiveness, awareness campaigns were delivered as part of a suite of interventions Of the six studies involving an awareness campaign that either had no effect on residential burglary rates or an uncertain effect, four did not involve any other intervention (the remaining strategies encountering issues relating to implementation)	Communities where property owners who are willing to adopt these measures	In the majority of projects, awareness campaigns aimed to encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour (ie leaving premises unsecured) that may create opportunities for crime to occur	Awareness campaigns only appear to be effective where they are delivered in support of other interventions, such as access control and natural surveillance measures As such, they may have a cumulative effect—increasing the effectiveness of other strategies without necessarily being effective on their own Universal awareness campaigns need to convey clear and simple message Security audits should be undertaken by suitably qualified personnel
Natural surveillance	Strategies that are designed to increase the natural surveillance of an area encourage people to monitor the areas where they live or work as part of their everyday activity	Access control Awareness campaigns Property marking CPTED/urban renewal Community patrol Diversionary activities	Of the seven studies involving interventions to improve natural surveillance, six showed some evidence of effectiveness and all except one comprised multiple interventions	Residential areas where there is a motivated group of residents prepared to undertake surveillance of their local community	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users	Interventions that aim to increase natural surveillance appear to be more effective where they are delivered in conjunction with other interventions, such as access control or CPTED/urban renewal measures Motivated residents willing to provide surveillance and report suspicious incidents
CPTED/urban renewal	CPTED or urban renewal projects includes strategies that involve modifying the built and landscaped environment to create safer places that are less crime prone or make people feel safer, as well as strategies to improve the overall appearance of a residential area	Access control Awareness campaigns Property marking Natural surveillance Community patrol Diversionary activities	Strategies involving some form of CPTED or urban renewal component (6 studies in total), most commonly in conjunction with another intervention (5 studies), all showed evidence of effectiveness	Residential neighbourhood environments that are amenable to the proposed changes	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users	High level of engagement with local residents in redevelopment of built and landscaped environment, particularly during design phase

Table 8 (continued)

Intervention	Description of intervention	Supported interventions	Evidence of effectiveness	Where it works	How it works ^a	Characteristics of successful strategies
Community patrols	In the case of residential burglary, a community patrol is a group of people who actively patrol their community, reporting incidents and information to police, and in some instances provide a security service to help maintain social order Among the strategies reviewed here, community patrols included security patrols, the appointment of unemployed locals and neighbourhood watch groups actively patrolling communities	Access control Awareness campaigns Property marking Natural surveillance CPTED/urban renewal Diversionary activities	Community patrols were an important component in three strategies, all of which were supported by evidence of effectiveness However, since each of these interventions adopted different forms, care should be exercised in drawing overall conclusions	Residential areas where there are engaged and proactive participants prepared to participate in community patrols and report incidents and information to police	By introducing or improving formal or informal surveillance, community patrols serve to increase the perceived risk that committing an offence will result in identification or capture	Involve engaged and proactive participants prepared to become actively involved in community patrols and report incidents and information to police
Property marking	Residents are provided with assistance to record identifying information on valuable personal belongings, thereby decreasing the rewards associated with crime by making it more difficult to 'move on' stolen property	Access control Awareness campaigns Natural surveillance CPTED/urban renewal Community patrol Diversionary activities	Property marking was involved in seven multicomponent strategies, six of which were supported by evidence of effectiveness	Communities with property owners who are willing to adopt these measures	Property marking reduces the perceived rewards associated with a crime by making targets harder to sell, deterring offenders from targeting marked property	Awareness campaigns can support property marking measures by advertising the fact that property has been marked to potential offenders
Diversionary activities	Diversionary activities attempt to divert people away from engaging in criminal or antisocial behaviour by providing alternative activities in a safe environment that are rewarding, challenging and age appropriate. These activities can reduce boredom or reduce the opportunity to engage in less desirable behaviour, and can also have a socialising effect	Access control Awareness campaigns Property marking Natural surveillance CPTED/urban renewal Community patrol	Diversionary activities were involved in four multicomponent strategies, three of which were effective, and generally involved providing some form of alternative activity after school or during school holidays for youths at risk of becoming involved in property crime	Residential areas where there is access to appropriate facilities and professionals who can provide appropriate supervision	The primary goal of diversionary activities is to prevent potential offenders from being able to access locations where there are potential targets because they are otherwise preoccupied Further, participation in these activities can help build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations that increase their risk of offending	Aim to encourage sustained participation in programs by the young person and where possible, their family Access to professionals who are willing and able to provide these services Supported by a clear strategy for identifying and engaging at-risk young participants Involve partnerships with other support services and community-based organisations to refer young person as required

Table 8 (continued)

Intervention	Description of intervention	Supported interventions	Evidence of effectiveness	Where it works	How it works ^b	Characteristics of successful strategies
Street lighting	Involves the placement or improvement of lighting to increase visibility in public spaces and thoroughfares	Access control Awareness campaigns Property marking Natural surveillance CPTED/urban renewal Community patrol Diversionary activities	Of the six studies that examined the use of street lighting, five involved the use of street lighting independent of other interventions. Of these, three were ineffective at reducing residential burglary	The specific circumstances in which street lighting is most effective is unclear Some evidence that it works more effectively in stable homogeneous communities Appears to work most effectively in residential areas with high-density housing	Improving lighting in poorly lit areas serves to improve surveillance, define ownership of spaces and can minimise conflict between potential victims and offenders Lighting can increase an offender's perceived risk of detection and discourage them from committing an offence	Improved lighting in thoroughfares that are poorly lit and are potential targets for offenders Improved lighting may act as a catalyst for further changes in the community, leading to an increase in community pride and additional changes to the physical environment The limited impact of street lighting on residential burglary most likely due to issues relating to illuminating residential areas

a: Limited to those interventions for which there was more than one evaluated strategy

b: Based on those mechanisms that were identified for effective strategies

Table 9 Crime prevention strategies targeting residential burglary

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Allatt (1984)	Target crime—residential burglary Nature of problem—high crime rates on public housing estates Target location—public housing estate that had difficulty attracting tenants due to high burglary rates. Northumbria, United Kingdom	Access control—upgraded internal and external security, ground floor security devices Awareness campaign—police surveyed dwellings and recommended appropriate devices and necessary structural repairs	Make target enclosures harder to penetrate to increase the perceived effort associated with a crime Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur	(Desirable effect) Intervention—nine percent increase in residential burglaries 1980–81. Trend analyses showed that residential burglary rates had levelled off Comparison—77 percent increase in burglaries Adjacent—displacement effect to other estates—nine percent in private housing neighbourhood and 21 percent in adjacent council estate	Evaluation focus—outcome Evaluation design—before–after, weak control Research methods and source of data—police records and resident surveys Level on SMS—2

Table 9 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Amritage (2000) Secured by design	Target crime—residential burglary Nature of problem—Secured by Design is a scheme that aims to encourage housing developers to design out crime at the planning stage. Secured by Design has particular emphasis on preventing domestic residential burglary. Target group or beneficiaries—local residents Target location—West Yorkshire, United Kingdom	OPTED—SBD used in the planning of a residential area	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Make target enclosures harder to penetrate to increase the perceived effort associated with a crime	(Desirable effect) Intervention—26 percent fewer recorded crimes Intervention v comparison—prevalence rate of residential burglary offences was twice as high within the non-Secured by Design sample Intervention—before the refurbishment crime rates had been 67 percent higher pre- Secured by Design certification	Evaluation focus—outcome Evaluation design—before–after, control Research methods and source of data—police records and resident survey Level on SMS—3
Atlas and LeBlanc (1994) Impact on crime of street closures and barricades—a Florida case study	Target crime—residential burglary, larceny, auto thefts. Robbery and aggravated assaults Nature of problem—population boom of Dade County in the 1970s and early 1980s resulted in increased traffic and higher crime rates in Miami Shores Target group or beneficiaries—local residents Target location—City of Miami Shores, Florida	Access control—barricades and street closures used to restrict perimeter access and security	Make target enclosures harder to penetrate to increase the perceived effort associated with a crime	(Desirable effect) Intervention—decrease in burglaries, larcenies and auto thefts in Miami Shores Intervention—residential burglary rate significantly declined in Miami Shores and Metro Dade County Adjacent—residential burglary rate increased significantly in Miami Intervention—rate of robbery and aggravated assault remained stable in Miami Shores Adjacent—rate of robbery and aggravated assault increased in the municipalities surrounding Miami Shores	Evaluation focus—process and outcome evaluation Evaluation design—before–after Research methods and source of data—Florida Department of Law Enforcement Level on SMS—2

Table 9 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Beedle and Stangier (1980) Home Security Program	Target crime—residential burglary Nature of problem—free locks and security hardware installation to low-income homeowners in Housing and Community Development designated neighbourhoods Target group or beneficiaries—local residents Target location—Portland, United States	Access control—installation of locks, pinning windows and placing screening on windows.	Make target enclosures harder to penetrate to increase the perceived effort associated with a crime	(Desirable effect) Intervention—reduction of 70 percent in the residential burglary rate between pre and post site hardening in the 12 month period Intervention—93 percent of participants in survey said they felt 'less concerned' now about having their homes broken into than they did before the locks were installed	Evaluation focus—outcome evaluation Evaluation design—before–after Research methods and source of data—Columbia Region Information Sharing System (CRISS) Level on SMS—2
Bowers, Johnson and Hirschfeld (2004) Closing off opportunities for crime: An evaluation of alley-gating	Target crime—residential burglary Nature of problem—high levels of burglars gaining access to terraced properties through back alleyways. Target group or beneficiaries—local residents Target location—City of Liverpool in Merseyside County, north-west England	Access control—installation of lockable gates	Make target enclosures harder to penetrate to increase the perceived effort associated with a crime	(Desirable effect) Intervention—decrease of 37 percent in the risk of burglaries Adjacent—13 percent reduction in the number of domestic burglaries	Evaluation focus—outcome evaluation Evaluation design—before–after, control Research methods and source of data—police records Level on SMS—3
Bozkurt in Osborn (1994)	Target crime—residential burglary, assault, criminal damage, theft from auto, auto theft Nature of problem—High crime rates on public housing estates Target location—Golf Links Housing Estate in London. Area characterised by high crime rates, large ethnic minority population, high rates of unemployment, transitory residential population	Access control—installation of better security doors Street lighting—improved street lighting in crime prone areas OPTED—repairs and 'beautification' of the estate Police enforcement—local police dedicated more time to patrolling the estate and a police office was set up in one of the blocks to establish a permanent presence Diversionary activities—provision of afterschool and weekend activities for kids	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur	(Desirable effect) Intervention—decrease in property crime from 1986. Assault remained constant between 1983–87 with a major spike in 1986. Assaults began to increase significantly post 1987 Overall crime levels were 77 percent lower in 1987 than they were in 1983	Evaluation focus—process and outcome Evaluation design—before–after Research methods and source of data—police records Level on SMS—2

Table 9 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Butz, Peggall and Townsley (2001) Lightning Strikes Twice	Target crime—residential burglary Nature of problem—intervention focused on preventing repeat residential burglary in Beenleigh, a town with a residential burglary rate above the regional average Target group or beneficiaries—local residents Target location—Beenleigh, Australia	Awareness campaign—provision of security advice and materials provided to already burgled households. Provision of more extensive prevention materials provided to households burgled more than once and home security assessments Property marking—provided to residents in high-rate residential burglary areas	Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur	(Uncertain effect) Intervention—repeat residential burglary victimisations decreased by 16 percent and repeat incidents fell by 15 percent. There was an increase in total burglary offences Comparison—increase in repeats incidence of residential burglary, decrease in total burglary offences Intervention—more than 80 percent of victims reported police advice to be helpful, although no difference in satisfaction No reduction in overall residential burglary relative to comparison group but since the project was targeted at reducing repeat burglaries, this outcome would not make the project a failure.	Evaluation focus—outcome evaluation Evaluation design—before–after, control Research methods and source of data—crime reports, police records, surveys, interviews Level on SMS—3
Cirel et al (1977) Seattle Community Crime Prevention Programme	Target crime—residential burglary Nature of problem—high levels of residential burglary and low rates of reporting Target group or beneficiaries—local residents Target location—residential streets in the City of Seattle	Property marking—provided to residents in high residential burglary rate areas Awareness campaign—block watch and public given information materials on residential burglary and prevention measures. Security audits provided residents with advice on security measures Natural surveillance—residents encouraged to keep their eyes open and to look for suspicious behaviours	Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	(Desirable effect) Intervention—residential burglary rate after intervention 2.4 percent Comparison—residential burglary rate after 5.7 percent Intervention—decrease of 61 percent in burglaries following intervention No evidence of territorial displacement	Evaluation focus—outcome evaluation Evaluation design—before–after, control Research methods and source of data—surveys and interviews Level on SMS—3

Table 9 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Cummings (2005) Operation Burglary Countdown	Target crime—residential burglary Nature of problem—operation Residential Burglary Countdown was a community-based crime reduction program operating in two areas— Bentley and Morley in Western Australia. The program was implemented due to Western Australia having the highest rate of residential burglary of any state or territory in Australia. Target group or beneficiaries—local residents Target location—Bentley and Morley, Western Australia	Police enforcement—police increased surveillance of known offenders Awareness campaign—crime prevention information offered to residents living near to a residential burglary site (cocooning), media campaign and home security advice and audits Natural surveillance— residents encouraged to look for suspicious behaviours— Eyes on the Street initiative Access control—improved home security hardware Property marking—provided to residents Diversory activities— development of recreational programs targeted at specific groups of potential offenders	Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose Make target enclosures harder to penetrate to increase the perceived effort associated with a crime Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	(Desirable effect) Intervention—residential burglary decreased by 45 percent in Bentley and by 24 percent for Morley Comparison—residential burglary decreased by 26 percent for the whole of Metropolitan Perth Intervention—number of residents who were burgled more than once dropped in Bentley by 49 percent and Morley by 58 percent Intervention—satisfaction of residents with police handling their residential burglary report doubled from 34 percent to 68 percent Intervention—proportion of residents who felt that the state government are doing enough to reduce residential burglary from 26 percent to 36 percent There was evidence of diffusion (reduction of break and enter in surrounding suburbs) rather than displacement	Evaluation focus—process and outcome evaluation Evaluation design—before–after Research methods and source of data—crime reports, police records, surveys, interviews Level on SMS—2
Crime Research Centre, University of Western Australia (2008) Eyes on the Street Program	Target crime—residential burglary, theft, vandalism, vehicle theft and assault Nature of problem—high rates of residential burglary rates in the South East Metropolitan Police District Target location—metropolitan Western Australia.	Natural surveillance—people in the community were encouraged to keep an eye out and report any suspicious incidents Awareness campaign— community awareness of program elevated through media campaign and easily recognisable insignia	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Uncertain effect) Intervention—property offences decreased, but this trend was present prior to program introduction	Evaluation focus—process and outcome Evaluation design—before–after Research methods and source of data—stakeholder interviews, administrative data (crime statistics and reports submitted by EOTS participants) Level on SMS—2

Table 9 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Eklom et al. (1996) Safer Cities Programme. Meta-evaluation	Target crime: Residential burglary Nature of problem: High levels of residential burglary and repeat victimizations Target group or beneficiaries: Local residents Target location: 20 high crime cities in England and Wales	Awareness campaign: Community informed about residential burglary in their area and how to avoid victimisation Education-type project: Structured set of activities to deliver information on crime prevention to the community Access control: Improved physical security of doors, windows and fencing, as well as installing entry systems, alarms and security lighting	Make target enclosures harder to penetrate to increase the perceived effort associated with a crime Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur	(Desirable effect) Intervention—decrease of 21 percent in the prevalence of residential burglary. Low intensity areas recorded a 10 percent decrease, medium intensity areas recorded a 22 percent decline and high intensity areas experienced a 43 percent decline in residential burglary	Evaluation focus—outcome evaluation Evaluation design—before-after, control Research methods and source of data—police records and victimisation surveys Level on SMS—3
Forrester et al. (1990) Kirkholt Burglary Prevention Project	Target crime—residential burglary Nature of problem—high levels of residential burglary and repeat victimisations Target group or beneficiaries—local residents Target location—Kirkholt local authority state, Rochdale, England	Natural surveillance—people in the community were encouraged to keep an eye out and report any suspicious incidents Property marking—provided to residents Access control—upgraded security and a low cost savings and loan scheme for residents to upgrade security. Electricity and gas prepayment meters replaced with other devices Education-type project—development of a school-based crime prevention program Diversionary activities—recreational activities developed to divert actual and potential offenders	Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose Make target enclosures harder to penetrate to increase the perceived effort associated with a crime Prevent potential offenders from being able to access locations in which there are potential targets (property or people) or where provocation may occur Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	(Desirable effect) Intervention—decrease of 75 percent in annual number of burglaries after three years Intervention—decrease of 58 percent in number of burglaries after one year Intervention—decrease of 25 percent in burglaries in second year from the previous year	Evaluation focus: Outcome evaluation Evaluation design: Before-after, control Research methods and source of data: Police records and probation department reports and surveys and interviews with local agencies, domestic residential burglary victims, neighbours of residential burglary victims and convicted burglars Level on SMS—3

Table 9 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Hulin (1979) Community-based Crime Prevention Project	Target crime—residential burglary Nature of problem—Fontana, California, was targeted due to high crime victimisation rate, evidence of some willingness to address the crime problem and because of its size, semi-rural character, location and accessibility to interagency cooperation Target group or beneficiaries—local residents Target location—Fontana, California	Natural surveillance—people in the community were encouraged to keep an eye out and report any suspicious incidents and a neighbourhood watch was implemented	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	(Desirable effect) Intervention—residential burglary rate decreased by 26 percent, despite a four percent population increase. The Bureau of Criminal Statistics projected a residential burglary rate 18 percent higher than the actual rate experienced Comparison—control cities experienced residential burglary increases ranging from 10 percent to 25 percent In addition to the residential burglary reduction a number of significant crime prevention structures and programs were established	Evaluation focus—process and outcome evaluation Evaluation design—before-after, control Research methods and source of data—police records Level on SMS—3
Jacobson and Saville (1999) Aylesbury Estate Security Patrol	Target crime: Anti-social behaviour, graffiti, general crime, drug nuisance, residential burglary and robbery Nature of problem: High crime rates on public housing estates Target location: Aylesbury Estate, Southwark. Estate characterised by high fear of crime victimisation and anti-social behaviour, graffiti, general crime and drug-related crime	Urban renewal: Physical improvements to housing estate eg demolition of link bridges Community patrol: Local authority employed a private security firm to carry out uniformed patrols	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	(Desirable effect) Intervention—decrease in reported crime—from about 670 incidents in 1997 to 550 in 1998	Evaluation focus—outcome Evaluation design—before-after Research methods and source of data—police records and surveys Level on SMS—2
Kendrick (1994)	Target crime—residential burglary, robbery and auto-crime Nature of problem—high crime rates on public housing estates. Fear of victimisation high on estates Target location—Stonebridge Estate and the South Kilburn Estate, Brent, United Kingdom. Characterised by high crime rates, above average rate of street robberies and assaults	Access control—upgraded internal and external security and installed a phone entry system. Filled in the gap between the two blocks to restrict perimeter access and security CCTV—introduced CCTV cameras and a concierge service	Make target enclosures harder to penetrate to increase the perceived effort associated with a crime Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	(Desirable effect) Intervention—decrease in burglaries (-49%) and robberies (-27%). A 52 percent increase in auto-crime Comparison—burglaries increased by 16 percent and robberies decreased by 10 percent across the Division. A 15 percent increase in auto-crime	Evaluation focus—process and outcome Evaluation design—before-after Research methods and source of data—police records Level on SMS—2

Table 9 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Knight (1994)	Target crime—assault, robbery, residential burglary and attempted residential burglary, theft and attempted theft, theft of motor vehicle, arson, vandalism/malicious damage and breach of the peace Nature of problem—public housing estates are characterised by high unemployment and crime rates. In particular, empty residences are regularly vandalised and stripped of their copper and lead Target location—Possil Park, north central Glasgow	Community patrolling—unemployed locals were given work patrolling estates with empty residences CPTED—painting, cleaning and decorating the estate	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users	(Desirable effect) Intervention—37 percent decrease in residential burglary between 1987 and 1988. A 25 percent reduction in total recorded crimes. Crime levels rose again during 1989–90. A 14 percent to 32 percent decrease in housebreaking in 1991–92 Adjacent—27 percent increase in crime in 1987. A 61 percent increase in and motor vehicle crime	Evaluation focus—process and outcome Evaluation design—before–after, weak control Research methods and source of data—police records Level on SMS—2
Lindsay & McGillis (1986)	Target crime—residential burglary Nature of problem—Seattle citizens rated residential burglary to be their greatest concern of the index crimes. Town planners anticipate an increase in residential burglary rates due to demographic and economic factors Target location—sites selected were at high risk of residential burglary	Natural surveillance—formation of a neighbourhood watch group Awareness campaign—trained personnel performed security audits of dwellings Property-marking—each targeted block was given an engraving instrument for marking property	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur	(Desirable effect) Intervention—increase in residential burglary-in-progress calls to police Lower rates of victimisation (9%) Comparison—higher rates of victimisation (11%)	Evaluation focus—outcome Evaluation design—before–after, weak control Research methods and source of data—police records and resident surveys Level on SMS—2

Table 9 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Matthews & Trickey (1994) The New Parks Crime Reduction Project	Target crime—residential burglary Nature of problem—high crime rates on public housing estates Target location—New Parks Estate. Characterised by high crime rates, in particular, residential burglary	Access control—upgraded internal and external security and installed locks on dwellings Community patrol—formation of Neighbourhood Watch groups Awareness campaign—leaflets distributed to residents with information about project	Make target enclosures harder to penetrate to increase the perceived effort associated with a crime Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur	(Desirable effect) Intervention—20 percent decrease in burglaries Number of households that experienced repeated burglaries decreased from 26 in 1992 to 13 in 1993	Evaluation focus—process and outcome Evaluation design—before–after Research methods and source of data—police records, resident interviews, longitudinal panel survey, administrative data, employee self-evaluation and observations Level on SMS—2
Painter & Farrington (1997) Dudley Street Lighting Project	Target crime—residential burglary, theft outside the home, vehicle theft and personal crime Nature of problem—intervention to reduce the prevalence and incidence of residential burglary Target group or beneficiaries—local residents Target location region—City of Dudley, England United Kingdom	Street lighting—improved street lighting in crime-prone areas	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Desirable effect) Intervention—prevalence of all crime declined by 23 percent from a victimisation rate of 42 percent in the before period to 32 percent in the after period Comparison—prevalence of crime decreased from 39 percent to 38 percent during the intervention period Intervention—a victim survey revealed a 38 percent reduction in residential burglary Comparison—a victim survey revealed a 13 percent reduction in residential burglary	Evaluation focus—outcome evaluation Evaluation design—before–after, control Research methods and source of data—victimisation surveys Level on SMS—3

Table 9 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Shaffoe (1994b)	<p>Target crime—residential burglary, auto theft, vandalism</p> <p>Nature of problem—high rates of crime on public housing estates</p> <p>Target location—Niddrie Housing estate, Edinburgh, United Kingdom.</p> <p>Characterised by physical deterioration of buildings and surroundings, transient tenancy, and rising crime rates, particularly residential burglary</p>	<p>OPTED—rejuvenated interiors and exteriors of estate—painting, landscaping etc.</p> <p>Redesigned estate layout to enhance natural surveillance and defensible space</p> <p>Access control—upgraded internal and external security. Enclosed the gap between the two blocks to restrict perimeter access and security</p>	<p>Make target enclosures harder to penetrate to increase the perceived effort associated with a crime</p> <p>Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users</p> <p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture</p>	<p>(Desirable effect)</p> <p>Intervention—61 percent decrease in overall crime rate July–December 1989 which has been sustained over time. Residential break-ins dropped from 53 in January–June 1987 to 17 in July–December 1990</p>	<p>Evaluation focus—outcome</p> <p>Evaluation design—before–after</p> <p>Research methods and source of data—police records</p> <p>Level on SMS—2</p>
Sturgeon-Adams, Adamson and Davidson (2005)	<p>Target crime—residential burglary</p> <p>Nature of problem—area characterised by high crime rates, drug use and antisocial behaviour</p> <p>Target location—Belle Vue and Rift House East, South Hartlepool, United Kingdom</p>	<p>Access control—upgraded internal and external security. Installed lockable gates</p> <p>Diversionary activities—provision of afterschool activities such as sports for local youths</p> <p>Awareness campaign—residents made aware of crime prevention techniques through leaflets</p> <p>Property marking—residents provided with property marking tools</p>	<p>Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose</p> <p>Make target enclosures harder to penetrate to increase the perceived effort associated with a crime</p> <p>Prevent potential offenders from being able to access locations in which there are potential targets (property or people) or where provocation may occur</p> <p>Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur</p>	<p>(Desirable effect)</p> <p>Intervention—28 percent decrease in overall burglaries over four years. No burglaries in houses protected by the early phase of alley gates</p> <p>Adjacent—13 percent decrease in residential burglary rates in local police division and eight percent in Cleveland Police Force Area. Decrease in burglaries of houses near the alley gating schemes</p>	<p>Evaluation focus—process and outcome</p> <p>Evaluation design—before–after</p> <p>Research methods and source of data—police records and surveys</p> <p>Level on SMS—2</p>

Table 9 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Tilley and Webb (1994) Birmingham: Primrose Estate—Safer Cities	<p>Target crime—residential burglary</p> <p>Nature of problem—high levels of residential burglary with the target area had a residential burglary rate of 21 percent</p> <p>Target group or beneficiaries—local residents</p> <p>Target location—the Primrose Estate is part of the Three Estates development on the southern outskirts of Birmingham, West Midlands, United Kingdom</p>	<p>Access control—installed rigid plastic combination door and wooden units. High security wooden doors were fitted according to housing designs, window locks were fitted to metal sliding windows and rear doors were replaced</p> <p>Awareness campaign—high levels of initial press coverage and a one day conference. A sign was placed on the estate advertising the scheme</p> <p>Natural surveillance—formation of Neighbourhood Watch Schemes in four of the eight streets</p>	<p>Make target enclosures harder to penetrate to increase the perceived effort associated with a crime</p> <p>Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur</p> <p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture</p>	<p>(Desirable effect)</p> <p>Intervention—the rate of residential burglary decreased 65 percent following the intervention</p> <p>Comparison—the rest of the three estates experienced a nine percent residential burglary rate decline, while the rest of the sub division experienced a 39 percent increase in the residential burglary rate for the same period</p>	<p>Evaluation focus—outcome evaluation</p> <p>Evaluation design—before–after, control</p> <p>Research methods and source of data—police records</p> <p>Level on SMS—3</p>
Ball Public Relations and Walters (2002); Henderson (2002) Tee Tree Gully	<p>Target crime—residential burglary</p> <p>Nature of problem—this intervention was implemented to prevent repeat residential burglaries in Tee Tree Gully and three nearby police subdivisions.</p> <p>Target group or beneficiaries—local residents</p> <p>Target location—Tee Tree Gully, Adelaide, Australia</p>	<p>Awareness campaign—home security audits conducted and recommendations around security improvements services</p>	<p>Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur</p>	<p>(Uncertain effect)</p> <p>Intervention v comparison—some evidence of a reduction in repeat residential burglary in treatment area compared with comparison area</p> <p>Intervention v comparison—increase in overall burglaries in the treatment area compared with the comparison areas</p>	<p>Evaluation focus—outcome evaluation</p> <p>Evaluation design—before–after, control</p> <p>Research methods and source of data—police records and surveys</p> <p>Level on SMS—3</p>

Table 9 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Bennett and Durie (1999) Preventing residential burglary in Cambridge	Target crime—residential burglary Nature of problem—the project was established by the Domestic Burglary Task Force (DBTF) in 1994 to examine the nature of residential burglary in Cambridge and design and implement initiatives to prevent it Target location—north of the City of Cambridge	Awareness campaign—through cocon neighbourhood watch; post watch, community seminar and community centre information link Access control—implementation of a loan alarm scheme. Installation of KeepSafe (fitting additional security locks), GateSafe (fitting additional external gates) and security pack to residents Police enforcement—targeted police patrols in high crime areas Diversionary activities—Youth Development Project provided potential offenders with focused activities in order to help the young person's development with particular attention to antisocial behaviour	Make target enclosures harder to penetrate to increase the perceived effort associated with a crime Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	(Null effect) Intervention v comparison—no marked difference in the level of residential burglary reduction between the intervention areas and comparison areas Similar or greater reductions in residential burglary in comparison area compared with intervention area No evidence of an overall reduction in repeat burglaries during the program attributable to interventions. Reductions were greater and/or similar in control areas Level on SMS—3	Evaluation focus—process and outcome evaluation Evaluation design—before–after, control Research methods and source of data—police records, interviews with local burglars, environmental survey, repeat residential burglary victim survey and household survey Level on SMS—3
Madensen and Skubak (2005) University Student Crime Prevention	Target crime—assault, rape, robbery, theft, vehicle theft and residential burglary Nature of problem—due to a spike in crime occurring over the academic winter break in residential areas adjacent to the University of Cincinnati campus this program was implemented Target group or beneficiaries—local residents Target location—residential areas adjacent to the University of Cincinnati campus	Awareness campaign—police focused on distributing information about how residents can avoid victimisation and what resources are available (eg, police contact telephone numbers, 'Nightwalk' program availability)	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur	(Null effect) Intervention—no significant decrease in residential burglary or vehicle theft Intervention—although there was a 42 percent decrease in robberies, the low base numbers prevent this decline from reaching significance Intervention—the significant reduction in overall crime during the treatment period was due primarily to a reduction in the number of thefts	Evaluation focus—outcome evaluation Evaluation design—before–after Research methods and source of data—Cincinnati Police Department Level on SMS—2

Table 9 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Pennington (1977) Open garage door burglary program	Target crime—residential burglary and garage residential burglary Nature of problem—increased percentage of burglaries committed in areas patrolled by the St. Louis County Police Department than in the rest of St. Louis County Target group or beneficiaries—local residents Target location—St. Louis, United States	Awareness campaign—police sent letters to homes where an open garage door was spotted and where no resident(s) appeared to be at home. The letter included general security information	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur	(Null effect) Intervention—no discernible impact on garage residential burglary Intervention—rate of garage residential burglary decreased by 32 percent, there was a 34 percent decrease in the control area Intervention v comparison—no apparent effect on home burglaries when compared with control area, although total burglaries in intervention area did increase by seven percent during the intervention	Evaluation focus—outcome evaluation Evaluation design—before–after, control Research methods and source of data—police records Level on SMS—3
Shaftee (1994a) Easton/Ashley, Bristol lighting improvements	Target crime—street robberies (muggings), theft from cars, residential burglaries, vandalism and damage Nature of problem—Easton and Ashley suffered from a higher than average rate of crime Target group or beneficiaries—local residents Target location—Easton/Ashley, Bristol	Street lighting—lighting improvements implemented in prioritised areas (as identified by the police and the city's lighting engineers). The overall result is a patchwork of original lighting, new low pressure sodium lamps and in particularly vulnerable areas, high-pressure sodium lamps	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Null effect) Intervention—some reductions in crimes committed at night but could not be associated with the lighting improvements Comparison—recorded crime levels decreased by nine percent and night-time crimes levels by 14 percent Intervention—recorded crime level decreased by eight percent and night-time crime by 14 percent The decrease in the three improved beats over the course of the monitoring period was a reflection of trends in the police division as a whole	Evaluation focus—outcome evaluation Evaluation design—before–after, control Research methods and source of data—police records Level on SMS—3

Table 9 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Tilley and Webb (1994) Nottingham—St Ann's Burglary Reduction Project—Safer Cities	<p>Target crime—residential burglary</p> <p>Nature of problem—high levels of residential burglary with at least half of the area consists of a local authority estate</p> <p>Target group or beneficiaries—local residents</p> <p>Target location region—St Ann's, Nottingham United Kingdom</p>	<p>Access control—installation of improved internal and external security (eg bolts on the secondary exit door)</p> <p>Property marking—visible stickers for marked items and for windows/doors</p> <p>Awareness campaign—formation of Neighbourhood Concern Groups, which were street-based groups encouraged to address any issues affecting their neighbourhood. Crime prevention advice and 'victim support' were given by the project staff when visiting residential burglary victims. Help Packs distributed information about crime prevention and security</p> <p>Education type project—offender interviews recorded and distributed on a video to form part of a pack to be used with offenders to enable them to understand the victim's perspective</p>	<p>Make target enclosures harder to penetrate to increase the perceived effort associated with a crime</p> <p>Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur</p> <p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p>	<p>(Uncertain effect)</p> <p>Intervention—residential burglary rate increased to 12.4 percent. However, residential burglary rate in St Ann's rose less than elsewhere (42.8%)</p> <p>Comparison—residential burglary rate rose 57.3 percent</p> <p>Intervention—re-victimisation rate of target hardened properties was 11 percent</p> <p>Comparison—Re-victimisation rate was 17 percent for those not target hardened</p>	<p>Evaluation focus—outcome evaluation</p> <p>Evaluation design—before–after</p> <p>Research methods and source of data—police records and victimisation surveys</p> <p>Level on SMS—2</p>

Table 9 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Donnelly and Kimble (1997)	Target crime—assault, residential burglary, larceny, auto theft, and vandalism Nature of problem—high crime rates in ‘permeable’ neighbourhoods Target group or beneficiaries—neighbourhood characterised by high crime rates and large ethnic population. Close to downtown area and interstate highway Target location—Five Oaks neighbourhood of Dayton Ohio	Access control—barricades erected in high crime thoroughfares OPTED—changed access points to streets to make outsiders more noticeable	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Make target enclosures harder to penetrate to increase the perceived effort associated with a crime Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur	(Desirable effect) Intervention—in the 12 month post-intervention period, the following crime types decreased: <ul style="list-style-type: none"> • violent crimes (-40%) • burglaries (-39%) • larceny (-25%) • vandalism (-21%) Evidence of displacement	Evaluation focus—outcome Evaluation design—before–after, some control Research methods and source of data—resident surveys and police records Level on SMS—2
Painter and Farrington (1999) in Farrington and Welsh (2006)	Target crime—residential burglary, vehicle crime (theft from and of), violence (primarily assault). Nature of problem—high crime rates on housing estates. Target location—local housing authority in Stoke-on-Trent, United Kingdom	Street lighting: Improved street lighting in high-crime areas	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender’s perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Desirable effect) Intervention v comparison—significant decline in violence crime in intervention area, over and above comparison area. Intervention—43 percent decrease in overall crime. A 68 percent decrease in violent crimes. A 15 percent decrease in residential burglary Comparison—two percent decrease in crime. A 39 percent decrease in violent crimes. Residential burglary increased by six percent Adjacent—45 percent decrease in crime. A 66 percent decrease in violent crimes. A 20 percent decrease in residential burglary Some evidence of diffusion of benefits	Evaluation focus—outcome Evaluation design—before–after, control Research methods and source of data—victim surveys and police records Level on SMS—3

Table 9 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Inskeep & Goff (1974) in Welsh & Farrington (2007)	Target crime—robbery, assault and residential burglary Nature of problem—residential neighbourhood with high crime rates Target location: Portland, United States	Street lighting—improved street lighting in high-crime areas	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Null effect) Intervention v comparison—no significant different between crime rates in the intervention and control areas No evidence of displacement or diffusion of benefits	Evaluation focus—outcome Evaluation design—before–after, control Research methods and source of data—police records Level on SMS—3
Sternhell (1977) in Welsh and Farrington (2007)	Target crime—residential burglary, vehicle theft and assault Target location—residential and commercial areas, Orleans, United States	Street lighting—improved street lighting in high-crime areas	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Null effect) Intervention v comparison—no significant different between crime rates in the intervention and control areas No evidence of displacement	Evaluation focus—outcome Evaluation design—before–after, control Research methods and source of data—police records Level on SMS—3



Stealing from motor vehicles

In this section of the report, the findings are presented from a review of community-based crime prevention strategies that have as a primary goal a reduction in stealing from motor vehicles. Following a brief review of the literature examining issues relating to the prevention of stealing from motor vehicles, a summary of the evidence in support of intervention types reviewed by the research team, an explanation of how they work and the characteristics of successful strategies are outlined.

Preventing stealing from motor vehicles

Stealing from motor vehicles is a category offence encompassing:

- theft of items left in cars, for example GPS, iPods, laptops, money and sunglasses;
- theft of interior car parts such as radios or batteries; and
- theft of external car parts such as wheels, registration plates and hubcaps (ABS 2011; Varshney & Fitzgerald 2008).

In 2010, there were 48,159 recorded incidents of theft from motor vehicle in New South Wales, a rate of 666 incidents per 100,000 population (Goh &

Moffat 2012). However, these figures are most likely an underestimation of the extent of theft from motor vehicle offending in New South Wales. Research suggests that theft from car offences are significantly underreported, especially when compared with auto theft. For instance, the British Crime Survey found that only 43 percent of theft from vehicle offences were reported to the police during the 2009–10 period (Flatley et al. 2010). Recent data shows that less than half of all victims of theft from motor vehicle in New South Wales reported the most recent incident to police (ABS 2012).

When a theft from car offence is reported, police apprehension rates appear to be very low. It has been estimated that between 2006 and 2007, 32,000 offenders engaged in theft from vehicle offences in New South Wales, 17 percent of which were identified and convicted (Weatherburn, Hua & Moffat 2009).

The most common location for stealing from motor vehicle offences is residential locations, followed by public places (BOCSAR 2012). Research from the United Kingdom has demonstrated the importance of considering parking provisions in housing developments, recommending that vehicles should be parked in garages or within the immediate vicinity of the property, that consideration should be given to ensuring adequate natural surveillance of parked

vehicles and that there is a need to consider both vehicle safety and the convenience of residents (Armitage 2011b).

However, a significant proportion of offences occur in parking facilities (BOCSAR 2012; Varshney & Fitzgerald 2008). Risk factors for theft from motor vehicle offences committed in parking facilities include:

- Type of parking facility:
 - 24 hour parking facilities are more likely to be targeted.
 - Large facilities tend to have higher rates of theft than smaller ones.
 - Parking lots are more likely to be targeted than parking decks and garages. This has been attributed to garages having more rigorous security measures in place than lots.
- Parking facility clientele:
 - Commuter car parks are more likely to be targeted than short-term parking facilities.
 - Parking facilities located on university campuses are more likely to be targeted and offenders may even be members of the student population.
- Location of parking facility:
 - There is some evidence to suggest that parking facilities in urban areas are more likely to be targeted than those in regional areas.
 - Parking facilities that are adjacent to other businesses are less attractive to offenders due to natural surveillance opportunities.
- Presence of pay-and-display meters and cash depositories.
- Presence of pedestrian thoroughfares.
- Poor perimeter security:
 - Cars parked in an open parking facility are more likely to be targeted than secured facilities.
- Absence of parking attendants.
- Inadequate lighting (Clarke 2002b; Clarke & Goldstein 2003).

Identifying risk factors for theft from car offences can inform the design and implementation of an

appropriate and effective prevention strategy.

To aid this process, a number of commentators have created a list of questions practitioners should answer during the earliest stages of project development (Clarke 2002b; Geason & Wilson 1990b).

- Are there favoured methods of gaining entry to cars?
- What is being stolen?
- Is lack of natural surveillance a factor?
- Is victim carelessness a contributory factor?
- Which places within the facility are at greatest risk? (Clarke 2002b; Geason & Wilson 1990b)

The answers to these questions can provide insight into an appropriate response to the problem of theft from motor vehicle offences at a particular site.

Many of the strategies that seek to reduce theft from vehicle offending attempt to reach this goal by making it difficult for offenders to gain access to parking facilities, typically through the use of fencing or parking attendants. However, the National Audit Office (2007) suggests that practitioners target the offenders themselves and address the underlying causes of their offending behaviour.

Research suggests that theft from vehicle offenders are typically young males, with the average age of onset being 12–14 years. Effective strategies could identify young people who are at risk of engaging in theft from vehicle offences and provide them with the opportunity to engage in programs that address multiple risk factors such as poor social skills and association with offending peer group. Potential strategies include youth groups and mentoring programs (National Audit Office 2007).

However, Geason and Wilson (1990b) argue that the majority of theft from car offences can be prevented by car owners adopting common sense precautions, such as:

- making sure that the car is locked;
- parking the car where they (or others) can see it;
- not leaving valuables in the car; and
- where possessions are left in the car, hiding them from sight.

Findings from the review

A comprehensive summary of the findings from a review of strategies designed to reduce theft from motor vehicles is presented in Table 10, which summarises the evidence for each intervention type identified by the review. Strategies examined as part of this review are described in Table 11. Overall, the review identified 13 studies that met the criteria for inclusion. While only two of these met level three on the SMS, it is possible to draw some conclusions about the effectiveness of specific interventions and their impact on stealing from motor vehicle offending rates.

The majority of the reviewed strategies were implemented in open air car parks, residential housing estate car parks and multi-storey parking facilities that had been identified as experiencing a specific theft from vehicle crime problem. This was determined after reviewing local crime statistics and/or on the basis of concerns raised by the community. It is important to note that there is limited research into the impact of strategies on offences that involve vehicles parked in the street. Therefore, the adaption of an intervention that was implemented in a parking facility to other contexts, such as public streets, needs to be considered carefully.

Interventions supported by evidence of effectiveness

After reviewing the available evidence, several interventions were supported by multiple evaluation studies finding evidence of effectiveness:

- Access control measures improve the perimeter security of parking facilities. Strategies involved the installation of improved security measures (such as metal fencing, lockable gates and secure doors) or the presence of parking attendants during high-risk periods during the day to prevent individuals accessing vehicles in deserted parking facilities. In addition to limiting access to parking facilities, attendants also provided natural surveillance.
- In five studies, with four showing evidence of effectiveness, access control measures were supported by other interventions.
- In the one study that was not supported by evidence of effectiveness, the intervention was found to reduce theft of cars but not theft from cars.
- In one study, also showing evidence of effectiveness, access control was the sole intervention.
- CCTV involved the placement of cameras to capture images that are recorded or transmitted to monitors. This included the installation or upgrade of CCTV systems, fixed and mobile systems, and systems located within and overlooking parking facilities and lots. In five studies, all showing evidence of effectiveness, the use of CCTV was supported by other interventions (most commonly access control, campaigns to raise awareness of the presence of the cameras and CPTED).
- The installation of improved lighting in and around car parks was included in seven of the reviewed strategies. In six programs, lighting improvements were introduced as part of a more comprehensive approach, with five showing evidence of effectiveness. Lighting improvements were also occasionally supplemented by measures to maximise luminosity, such as painting surfaces. In one study, which only appeared to have no impact on theft from auto offending, lighting improvements were the only intervention.
- Awareness raising campaigns were delivered in support of other interventions and typically involved some form of signage to inform the community about the presence of improved security or CCTV or raise awareness among car park users of the risk of stealing from motor vehicle offences and strategies to minimise their risk of victimisation. In four studies, all showing evidence of effectiveness, awareness campaigns were delivered as part of a suite of interventions. For one of these, the awareness campaign was part of (and difficult to separate from) a community policing strategy.

- Five of the six studies that involved some form of CPTED showed evidence of effectiveness. These interventions commonly involved improvements to visibility, either by designing spaces to increase natural surveillance or by removing obstructions (such as overgrown bushes). These projects also involved making improvements to the general amenity of parking facilities. All of these interventions were delivered in conjunction with other strategies.

Suitability for implementation by local government

The interventions identified in this section appear to be, for the most part, suitable for implementation by local government. These interventions are consistent with the types of strategies that frequently appear

in local crime prevention plans (Morgan & Homel 2011). For example, the implementation of access control measures, the installation of street lighting and CCTV and CPTED in public car parking areas are all strategies that can be implemented by local government as part of their role in managing public space and building design. However, as has been noted earlier in this report, the immediate and longer term costs of establishing, maintaining and monitoring a CCTV system can be prohibitively expensive.

The NSW CPD have developed a number of crime risk audit tools for car parks that can help local councils (and other car park owners) to more effectively identify and target risk factors for stealing from motor vehicle offences. Similarly, car park security signs have also been developed by the NSW CPD and could be used by local councils as part of an awareness campaign targeting car park users in support of other interventions to reduce stealing from motor vehicle offences.

Table 10 Evidence in support of crime prevention interventions targeting stealing from motor vehicle^a

Intervention	Description of intervention	Supported interventions	Evidence of effectiveness	Where it works	How it works ^a	Characteristics of successful strategies
Access control	Aims to increase the effort associated with committing an offence, usually through the alteration of the built environment or surroundings	Awareness campaigns Police enforcement Lighting CPTED Diversionary activities CCTV	Access controls measures were used in six of the reviewed strategies, five of which demonstrated evidence of effectiveness. Four of the effective interventions were delivered as part of a multifaceted strategy. In one intervention, also demonstrating evidence of effectiveness, access control was the sole intervention	Parking lots where there is an identified lack of security at access points Communities where there is a high level of support for preventative measures and concern about theft from motor vehicles	Make targets harder to penetrate and increases the perceived effort associated with the commission of a crime Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users	The majority of successful strategies were introduced alongside other interventions, most commonly lighting and CPTED Other factors that were present in at least some of the successful strategies included community involvement, the involvement of motivated and enthusiastic parking facility staff, and conducting an in-depth analysis of the crime problem during the early stages of program design and development
CCTV	CCTV involves the placement of cameras to capture images that are recorded or transmitted to monitors	Access control Lighting CPTED Community patrol CCTV Awareness campaign	Five of the reviewed strategies, all of which demonstrated evidence of effectiveness, involved installing and/or upgrading CCTV systems. Four of the programs implemented CCTV in conjunction with another intervention and one was delivered in isolation	Parking facilities in which management is amenable to the proposed changes and have an appropriate layout for CCTV intervention and monitoring	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur and/or encourage behaviour that minimises opportunities for crime to occur	The majority of the effective interventions were introduced alongside other strategies, such as an awareness campaign, which informed potential offenders of the presence of CCTV cameras. There were no other success factors that were common across interventions. This being said, there were a number of factors that could be attributed to program success. These included introducing cameras in areas that are suitable for CCTV monitoring eg flat car parks, the presence of motivate parking facility staff and stakeholder uptake and support of the scheme

Table 10 (continued)

Intervention	Description of intervention	Supported interventions	Evidence of effectiveness	Where it works	How it works ^a	Characteristics of successful strategies
CPTED	CPTED or urban renewal projects seek to reduce the opportunities for crime through the design and management of the built and landscaped environments. This includes modifying the built environment to create safer places that are less crime prone, or to make people safer	Access control Lighting Awareness campaigns CPTED Police enforcement Community patrol Service coordination CCTV	Six of the reviewed strategies involved some form of CPTED, all of which demonstrated evidence of effectiveness. Every program that used CPTED introduced the measure as part of a multifaceted scheme	Parking facilities in which management is amenable to the proposed changes	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	All of the effective strategies were implemented alongside other interventions, notably access control and lighting improvements A number of effective strategies involved an extensive consultation process with local residents and parking facility owners to ensure their support and compliance
Awareness campaigns	Awareness campaigns aim to provide information to a target group to raise awareness of specific issues, crimes services and/or prevention measures	Access control Community patrol Natural surveillance CCTV CPTED Police enforcement Service coordination	In four studies, all showing evidence of effectiveness, an awareness campaign was delivered as part of a suite of interventions	Communities where car owners are willing to adopt these measures	Encourage individuals (potential targets or individuals who facilitate access to the target) to consider the implications of their actions and discourage behaviours that may create opportunities for crime to occur Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	Effective programs delivered an awareness campaign in conjunction with other interventions. The aim of the campaign was typically to spread awareness of the program In a number of the effective strategies, the development of the project was facilitated by strong stakeholder support and uptake
Lighting	Involves the placement or improvement of lighting to increase visibility in public spaces and thoroughfares	Access control CPTED Police enforcement Diversionary activities CCTV Awareness campaign	Seven of the reviewed strategies involved upgrading or installing street lighting in and around parking facilities. Six were implemented alongside other interventions, five of which demonstrated evidence of effectiveness. Notably, one study that appeared to have no impact on offence rates was implemented in isolation	Parking facilities in which management is amenable to the proposed changes	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing the offence Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users	Strategies appeared to be more effective when delivered alongside other interventions, in particular CCTV and CPTED Other factors that were present in at least some of the successful strategies included community support, the presence of motivated and enthusiastic parking facility staff and the formation of a steering community comprised of representatives from key stakeholder groups to oversee the design, implementation and management of the project

a: Limited to those interventions for which there was more than one evaluated strategy

b: Based on those mechanisms that were identified for effective strategies

Table 11 Crime prevention strategies targeting stealing from motor vehicle

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Bozkurt in Osborn (1994)	<p>Target crime—residential burglary, assault, criminal damage, theft from auto, auto theft</p> <p>Nature of problem—high crime rates on public housing estates</p> <p>Target location—Golf Links Housing Estate in London. Area characterised by high crime rates, large ethnic minority population, high rates of unemployment and a transitory residential population</p>	<p>Access control—installation of improved security doors</p> <p>Lighting—upgraded lighting inside the estate and on the surrounding streets</p> <p>CPTED—improvements to the general amenity of the estate</p> <p>Police enforcement—police increased their presence on the estate and a police station was established in one of the blocks</p> <p>Diversory activities—provision of afterschool and weekend activities for children living on the estate</p>	<p>Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users</p> <p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture</p> <p>Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose</p> <p>Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur</p>	<p>(Desirable effect)</p> <p>Intervention—theft from car rates decreased by 48 percent</p>	<p>Evaluation focus: Process and outcome</p> <p>Evaluation design: Before-after</p> <p>Research methods and source of data: Police records</p> <p>Level on SMS—2</p>
Shatloe (1994a)	<p>Target crime—street robbery, theft from cars, residential burglary, vandalism and malicious damage</p> <p>Nature of problem—higher than average rates of crime</p> <p>Target group or beneficiaries—local residents</p> <p>Target location—Easton/Ashley, Bristol</p>	<p>Lighting—lighting was improved on streets that were identified as a priority by the local police and the city's lighting engineers</p>	<p>Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users</p> <p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p>	<p>(Uncertain effect)</p> <p>Intervention 1—some reductions in night-time offences but could not be definitively associated with the lighting improvements</p> <p>Intervention 2—recorded crime decreased by eight percent, while night-time crime decreased by 14 percent</p> <p>Comparison—recorded crime decreased by nine percent, while night-time crime decreased by 14 percent</p> <p>The police division as a whole experienced a decrease in overall recorded crimes</p>	<p>Evaluation focus—outcome evaluation</p> <p>Evaluation design—before-after, control</p> <p>Research methods and source of data—police records</p> <p>Level on SMS—3</p>

Table 11 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Hesseling (1995)	Target crime: Theft from cars Nature of problem: Significant increase in theft from car offences, particularly in the CBD Target group or beneficiaries: Vehicle owners Target location: Rotterdam CBD, Netherlands	Police enforcement: Increased police presence at 10 identified 'hot spots'. Increased enforcement of theft from vehicle offences- apprehended offenders were taken into custody immediately Access control: Small car park near a popular tourist attraction was guarded by employees, 7 days a week between 11am and 7pm	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Prevent potential offenders from being able to access locations in which there are potential targets (property or people) or where provocation may occur	(Desirable effect) Intervention—substantial reduction in the number of theft from car offences in the inner city and East precinct Adjacent—relative changes in theft from cars since 1991 in the inner city was zero percent compared with the North precinct (+33%), West precinct (+6%), East (+2%), South (+18%) and Grijs (+18%) in the same period	Evaluation focus—outcome evaluation Evaluation design—before–after Research methods and source of data—police records Level on SMS—2
Earle & Edmunds (2004) Operation COBRA	Target crime—steal of and from motor vehicle Nature of problem—increase in vehicle crime Target group or beneficiaries—vehicle owners Target location—Portsmouth, England	Awareness campaign—two different awareness campaigns with two different aims (1) Street signs provided drivers with information about how to reduce their risk of victimisation (2) Community provided with information about Operation Cobra through local media, road shows, resident briefings and posters displayed in police stations, residential areas and Local Authority foyers	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Desirable effect) Intervention—33 percent reduction in theft from vehicle offences Comparison—similar reductions were not experienced elsewhere in Hampshire.	Evaluation focus—process and outcome Evaluation design—before–after Research methods and source of data—police records Level on SMS—2

Table 11 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Tilley (1993) Safer Cities	Target crime—steal of and from motor vehicle Nature of problem—high rates of vehicle crime in car parks. Target group or beneficiaries—vehicle owners Target location—Coventry, United Kingdom	CCTV—installation of CCTV Access control—installation of high fencing Lighting—improvement in lighting CPTED—painted fences, cut back bushes and overgrown foliage	Make target enclosures harder to penetrate to increase the perceived effort associated with a crime Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users	(Desirable effect) Intervention—thrift from vehicle offences decreased by 64 percent Comparison—thrift from vehicle offences decreased by 11 percent	Evaluation focus—outcome Evaluation design—before–after Research methods and source of data—police records Level on SMS—2
Tilley (1993) Safer Cities	Target crime—steal of and from motor vehicle Nature of problem—high rates of vehicle crime in parking facilities Target group or beneficiaries—vehicle owners Target location—Hartlepool, United Kingdom	Community patrol—security guards respond to CCTV alerts CCTV—installation of CCTV Awareness campaign—signs placed round the car park indicating the use of CCTV	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Desirable effect) Intervention—nine percent reduction in theft from vehicle offences Comparison—three percent increase in theft from vehicle offences	Evaluation focus—outcome Evaluation design—before–after Research methods and source of data—police records Level on SMS—2

Table 11 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Tilley (1993) Safer Cities	Target crime—steal from motor vehicle, theft of motor vehicle Nature of problem—high levels of car crime in parking facilities Target group or beneficiaries—vehicle owners Target location: Bradford, United Kingdom	CCTV: Installation of CCTV on each floor of the car park Awareness campaign: Signs placed round the car park advertising the use of CCTV Lighting: Improvement in lighting in and around parking facility	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users	(Desirable effect) Intervention—68 percent reduction in theft from car offences Comparison—some increase in overall car crime	Evaluation focus—outcome Evaluation design—before–after Research methods and source of data—police records Level on SMS—2
Tilley N (1993) Safer Cities	Target crime—steal from and damage to motor vehicle, theft of motor vehicle Nature of problem—high levels of car crime in a car park Target group or beneficiaries—vehicle owners Target location: Hull, United Kingdom	CCTV—installation of CCTV cameras within and around parking facility	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	(Desirable effect) Intervention—theft from car offences reduced by 76.3 percent Comparison—theft from car offences rose by three percent	Evaluation focus—outcome Evaluation design—before–after Research methods and source of data—police records Level on SMS—2

Table 11 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
McCauley and Ople (2007) Car safe project	Target crime—steal from motor vehicle, theft of motor vehicle.	Awareness campaign—signage in the car park encouraged drivers to minimise their risk of victimisation ‘keep it safe, keep it hidden, keep it locked’	Introduce or improve informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	(Desirable effect) Intervention—reported theft from car offences decreased from 25 during the pre-intervention period (2003–04) to one incident in the post intervention period (2005–06)	Evaluation focus—outcome Evaluation design—before–after Research methods and source of data—police records Level on SMS—2
	Nature of problem—increasing rates of vehicle crime, especially during holiday periods.		Increase an offender’s perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence		
	Target group or beneficiaries—vehicle owners	Community patrol—increased park ranger presence in the car park and surrounding areas	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users		
	Target location—Bethells Beach, Waitakere, New Zealand	Police enforcement—increased police presence in the car park and surrounding areas			
		Service coordination—enhanced communication between police, rangers, parking staff, key council members and the wider community CPTED—installed a picnic table in the car park, trimmed overgrowth and vegetation and a mobile cafe began operating	Minimise the likelihood of stressful events that may influence the behaviour of potential offenders or, when these events do occur, minimise their potential negative impact Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur		
Laycock and Austin (1992)	Target crime—steal from motor vehicle	Access control: Presence of two parking attendants during high-risk periods	Introduce or improve informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	(Desirable effect) Intervention—66 percent reduction in theft from car offences	Evaluation focus—outcome Evaluation design—before–after, some control
	Nature of problem—high levels of vehicle crime		Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur	Adjacent—nearby catchment areas showed slight increase of 14 percent and seven percent in steal from motor vehicle offences	Research methods and source of data—police records Level on SMS—3
	Target group or beneficiaries—vehicle owners Target location—Basingstoke, Southern England, United Kingdom		Make target enclosures harder to penetrate to increase the perceived effort associated with a crime		

Table 11 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Tseng, Duane and Harpriono (2004)	Target crime—steal from motor vehicle	Lighting: Installed bright lighting and luminaries. Increased illumination by painting ceilings a highly-reflective white	Introduce or improve informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	(Desirable effect) Intervention—in the two year post-intervention period, the average annual incidence of crime fell by more than half	Evaluation focus—outcome Evaluation design—before–after Research methods and source of data—police records Level on SMS—2
	Nature of problem—persistent and high levels of theft from car offences in university parking facilities	CPTED—located elevators and stairwells in places open to public view. Planted shrubs along the garage perimeter to limit criminal access and hiding spots	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence		
	Target group or beneficiaries—vehicle owners	Access control—installed black chain-link inserts in lower wall openings to limit access while maintaining visibility	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users		
	Target location—parking garages at Ohio State University				
Poyner B (1991)	Target crime—theft from motor vehicle, auto theft	Access control—installation of mesh in the gaps above the ground level floor. Pedestrian exit points fitted with a self-closing steel door so it could only be used as an exit	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users	(Null effect) Intervention—no reduction in theft from vehicle offences	Evaluation focus—process and outcome Evaluation design—before–after Research methods and source of data—police records Level on SMS—2
	Nature of problem—high levels of theft and vandalism over a long period of time	CPTED—an office was constructed next to the garage's main entrance and leased to a taxi company to operate from the parking garage	Introduce or improve informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	Significant reduction in auto theft rates	
	Target group or beneficiaries—vehicle owners	Lighting—improved lighting at the main entrance and pedestrian exit door	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence		
	Target location—multi-level public parking garage in Dover, Kent				

Table 11 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Poyner B (1991)	<p>Target crime—steal from motor vehicle</p> <p>Nature of problem—significantly high rates of theft from motor vehicles in an open car park</p> <p>Target group or beneficiaries—vehicle owners</p> <p>Target location—open parking lot at the University of Surrey, Guildford England</p>	<p>CPTED—cutting back and pruning trees</p> <p>Lighting—improved lighting</p> <p>CCTV—CCTV cameras installed in a tower overlooking the two largest adjacent parking facilities</p>	<p>Introduce or improve informal surveillance to increase the perceived risk that committing an offence will result in identification or capture</p> <p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p> <p>Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users</p>	<p>(Desirable effect)</p> <p>Intervention—thrift from car offences dropped substantially (64%) between 1985–86 (following introduction of CCTV)</p>	<p>Evaluation focus—process and outcome</p> <p>Evaluation design—before–after</p> <p>Research methods and source of data—university security records</p> <p>Level on SMS—2</p>



Malicious damage

In this section of the report, the findings are presented from a review of community-based crime prevention strategies that have as a primary goal a reduction in malicious damage. Following a brief review of the literature examining issues relating to the prevention of malicious damage, a summary of the evidence in support of intervention types reviewed by the research team, an explanation of how they work and the characteristics of successful strategies are outlined.

Preventing malicious damage

Malicious damage is broadly defined as the intentional 'destruction or defacement of public, commercial and private property' (Howard 2006: 1). Common forms of malicious damage include vandalism, such as breaking windows and knocking over letterboxes, and graffiti. Graffiti is the act of marking property with writing, symbols or graphics, and is illegal when committed without the property owner's consent (White 2001). Types of graffiti include tagging, large and elaborate 'pieces', political graffiti and urban art. Notably, urban art is legal in certain contexts (Morgan & Louis 2009).

Crime statistics indicate that malicious damage is the most commonly reported criminal offence in New South Wales. In 2011, nearly 87,000 incidents of malicious damage were reported to the NSW Police (Goh & Moffat 2012). The rate of malicious damage to property incidents per 100,000 population has decreased in recent years (Goh & Moffat 2012). However, it is unclear what proportion of these incidents were graffiti related. Between 2001 and 2006, of the 591,321 incidents of malicious damage that were reported in New South Wales, eight percent were graffiti offences (Parliament of NSW 2008).

However, these figures are most likely an underestimation of the extent of malicious damage offending in New South Wales. Determining the prevalence of malicious damage offending in any given area is difficult as most offences are not reported to the police (Morgan & Louis 2009). Malicious damage is significantly underreported due to:

- disincentives in insurance policies to report minor damages;
- the perceived minor nature of malicious damage offences; and
- the low expectation that victims have that the offender will be caught (Howard 2006; LaGrange 1999).

- The last point appears to be supported by some evidence that suggests that there is a very low clear-up rate for malicious damages offences. In 2011 only 13.4 percent of reported incidents resulted in legal proceedings within 90 days of the offence (Goh & Moffat 2012).

Although generally perceived as a minor offence, the costs of malicious damage are estimated to be quite high at approximately \$700 per offence (Howard 2006). Notably, the costs associated with these offences are usually incurred by private property owners, local and state governments and businesses (Morgan & Louis 2009). However, determining the true cost and frequency of malicious damage offences is difficult due to under-reporting and the absence of centralised record keeping protocols (Parliament of NSW 2008).

Apart from considerable monetary costs, graffiti and vandalism can undermine a community's feeling of safety, reducing the quality of life of residents (Department for Transport 2003; Morgan & Louis 2009). Other evidence suggests that malicious damage offences may encourage further criminal acts through the process sometimes referred to as the 'broken windows' effect (LaGrange 1999). Further, the commission of a malicious damage act may involve some risk for the vandals themselves. There have been reports of graffitiists being hurt or even killed while tagging in a dangerous location, such as a train yard (Keats 2008).

The understanding of the nature and extent of malicious damage offences is limited because the overwhelming majority of incidents are not witnessed. However, research has identified a number of common characteristics:

- the majority of malicious damage incidents occur between 3 pm and midnight with a peak between 6 pm and 9 pm;
- most offences occur between Friday and Sunday;
- alcohol is an important contributing factor to many malicious damage offences;
- regional areas experience higher rates of malicious damage offending;
- the most common vandalism targets are residential properties, private cars and commercial premises;
- residential properties and education facilities are frequently targeted by graffitiists; and
- young people are generally the main perpetrators of graffiti as well as other forms of malicious damage. The British Transport Police estimate that young people are responsible for 90 percent of railway vandalism, with a peak age of 17 years (Department of Transport 2003; Donnelly et al. 2006; Howard 2006).

Also, research conducted by LaGrange (1999) indicated that malicious damage offending rates are higher in areas characterised by:

- high unemployment rates;
- high percentage of 'new' residents (residents who have lived in the area for less than a year);
- high percentage of vacant residences; and
- high percentage of rental properties (LaGrange 1999).

The same study also found that the presence of a public high school and/or a shopping centre was a significant predictor of high malicious damage offending rates (LaGrange 1999). It was argued that shopping malls and high schools draw a large number of non-residents, in particular young people, into an area and this increase in traffic makes it difficult to distinguish between people who are there for legitimate purposes and those that are there for non-legitimate purposes (LaGrange 1999).

It appears that the majority of malicious damage offenders are opportunistic and this can be addressed through better design and planning (Geason & Wilson 1990a; Howard 2006). A selection of interventions that have been implemented at the local level to address malicious damage offending are described in Table 12. However, it should be noted that many of these have not been evaluated; therefore, their effectiveness in reducing malicious damage offending rates is unknown.

Table 12 Strategies to reduce malicious damage

Intervention	Description
Polycarbonate laminates	Highly durable plastic microfilm that can be applied to smooth surfaces like glass. It protects surfaces from vandalism in two ways—first, it protects the original glass from etching and scratching; second, it reinforces the glass so it cannot be easily broken
Injection moulded seating	Seats that are covered with a material that is highly resistant to slashing and cigarette burns. Would typically be used in public transport seating
Anti-graffiti paint	Specially designed paints that allow for the easy removal of graffiti. They are widely used in Australia currently

Source: Howard 2006

These interventions are situational crime prevention strategies, aiming to change the environment in which crime occurs to reduce opportunities for offending. However, research suggests that some malicious damage offences are not opportunistic—rather, they may be motivated by other factors such as the pleasure associated with risk-taking, the expression of ideas and creativity (in the case of graffiti) or feelings of boredom, frustration and disengagement (Morgan & Louis 2009). Changing the behaviour of these offenders may require a different response to that seen in Table 12. Strategies may focus on building the young person's self-esteem, engaging them in positive activities and diverting them away from offending peer groups and negative activities (Geason & Wilson 1990a).

Findings from the review

A comprehensive summary of the findings from a review of strategies designed to reduce malicious damage is presented in Table 13, which summarises the evidence for each intervention type identified by the review. Strategies examined as part of this review are described in Table 14.

Only a small number of strategies that aim to reduce malicious damage offending have been evaluated. Overall, the review only identified 11 studies that met the criteria for inclusion. Therefore, any conclusions made about the effectiveness of specific interventions and their impact on malicious damage should be interpreted with caution.

The reviewed interventions were either targeted at malicious damage (which is a category offence

inclusive of graffiti) or graffiti by itself. Although the interventions used to prevent malicious damage more broadly and graffiti in isolation were typically the same, there were some differences that have been highlighted in the following discussion.

Interventions supported by evidence of effectiveness

Overall, the evidence in support of interventions that aim to prevent malicious damage is relatively weak, due to the small number of evaluations that have been completed and could be located (of the 11 studies, only 3 reached level three on the SMS). Nevertheless, several interventions were supported by a small number of evaluation studies finding evidence of effectiveness.

- Strategies involving some form of CPTED (3 studies in total) all showed some evidence of effectiveness. Interventions typically involved making improvements to the general amenity of vandalism-prone public housing estates and public transport. All three were delivered alongside other measures, the most common being community patrols and/or police enforcement. One of the interventions only had a slight impact on offending rates.
- Community patrols were an important component in four strategies, all of which showed some evidence of effectiveness. Interventions typically involved engaging local residents to perform patrols of high-crime areas, such as uninhabited residential estates, either as a volunteer or paid employee. A professional security guard detail was also used in one of the reviewed strategies.

- Three of the reviewed interventions were delivered as part of a broader, multifaceted program, two of which appeared to be effective in reducing malicious damage offences while the other only had a slight impact. The most common supportive interventions were CPTED and police enforcement.
- One of the reviewed strategies involved the implementation of a community patrol in isolation and appeared to be effective.
- Access control measures were used in three of the reviewed strategies and all demonstrated evidence of effectiveness. The interventions typically involved the installation of improved security measures on behalf of residents, such as fencing and security doors. All three interventions were supported by other measures, the most common being police enforcement.
- Three of the reviewed strategies involved upgrading or installing street lighting in crime-prone streets and/or areas. Two interventions were implemented as part of a multifaceted strategy and both demonstrated evidence of effectiveness. Common supportive interventions across the two strategies were police enforcement and CPTED. One intervention was implemented in isolation and only had a minor impact on malicious damage offending rates.
- An education project was used in two of the reviewed strategies, both demonstrating evidence of effectiveness. Both interventions aimed to raise the target population's awareness of the implications of their actions in either facilitating or committing malicious damage offences. Both educational projects were implemented as part of a broader, multifaceted scheme. A common supporting intervention across the two strategies was police enforcement.

Interventions with limited evidence of effectiveness

Two of the reviewed strategies involved the rapid removal of graffiti and both were implemented

in isolation. One intervention appeared to have a modest impact on offending rates, while the evidence around the success of the other was inconclusive. Rapid removal shares characteristics with CPTED as they both involve improving the general amenity of an area with the aim of increasing community feelings of safety and pedestrian movement through the area, thereby providing more opportunities for natural surveillance. However, rapid removal also aims to reduce the rewards offenders associate with the commission of a graffiti offence. Further research into the impact of rapid removal as a graffiti prevention measure is required in order to determine whether it is an effective strategy.

Suitability for implementation by local government

The interventions identified in this section are, for the most part, suitable for implementation by local government. These interventions are consistent with the types of strategies that frequently appear in local crime prevention plans (Morgan & Homel 2011). As has already been identified, the implementation of access control measures, the installation of street lighting and use of CPTED in public spaces are all strategies that can be implemented by local government as part of their role in managing public space and building design. While none of the studies reviewed were from Australia, local councils have been responsible for the provision of private security patrols in local communities (through contracting security companies), although some of the locations targeted by graffiti offenders (such as shopping centres and public transport facilities) may be patrolled by security provided by other agencies or private companies.

Table 13 Evidence in support of crime prevention interventions targeting malicious damage^a

Intervention	Description of intervention	Supported interventions	Evidence of effectiveness	Where it works	How it works ^b	Characteristics of successful strategies
CPTED/urban renewal	CPTED projects include strategies that involve modifying the built and landscape environment to create safer places that are less crime prone or to make people feel safer, as well as strategies to improve the overall appearance of a residential area	Access control Police enforcement Community patrol Diversionary activities Lighting Education-type project	Three strategies involved CPTED and all demonstrated evidence of effectiveness. All of the interventions were implemented as part of a multifaceted strategy	Residential neighbourhood where residents are amenable to the proposed changes	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Introduce of improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification and capture	A number of the effective strategies were delivered alongside other interventions, the most common being a community patrol A number of the effective schemes encouraged the participation and engagement of the community during the early stages of the project
Rapid removal	Involves the rapid removal of graffiti, ideally within 24–48 hours of detection. Improves the general amenity of an area to make people feel safer and increase pedestrian movement. Also reduce the rewards offenders associate with the commission of a graffiti offence	n/a	Two of the reviewed strategies involved the rapid removal of graffiti. One was modestly effective, while the evidence around the other was unclear. Both were implemented in isolation	Areas where there are high rates of graffiti offending	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the rewards of crime to discourage them from committing an offence	The strategy that demonstrated a modest degree of effectiveness conducted removal activities five days a week whereas the other only did this twice a week
Access control	Aims to increase the effort associated with committing an offence, usually through the alteration of the built environment or surroundings. Specifically, access control aims make it harder for potential offenders to enter a property or building by limiting its accessibility	Education-type project Police enforcement CPTED Community patrol Lighting Diversionary activities Rules and regulations for business	Access control measures were used in three of the reviewed strategies and all demonstrated evidence of effectiveness. All three of the interventions were supported by other strategies	Locations where there is an identified lack of security at access points Communities where there is a high level of support for preventative measures and concern about vandalism and malicious damage	Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose. Make target enclosures harder to penetrate to increase the perceived effort associated with a crime Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users	Appeared to be most effective when delivered in combination with a number of other interventions, the most common being police enforcement The development and implementation of a number of the effective interventions was overseen by a committee comprising members of a number of different stakeholder groups. There were clear accountability mechanisms in place to ensure that interventions were delivered as promised and there was strong leadership from the project coordinator

Table 13 (continued)

Intervention	Description of intervention	Supported interventions	Evidence of effectiveness	Where it works	How it works ^b	Characteristics of successful strategies
Education-type project	An education-type program is any structured set of activities that aim to deliver information to the target group with a view to improving their skills or knowledge. Unlike awareness campaigns, education type projects rely on the active participation of the recipient. This can include community education and workshops, vocational education and training, professional development, strategies that aim to improve school performance and drug and alcohol education	Access control Community patrol Police enforcement Rules and regulation for business CPTED Lighting	Of the two studies that included an education-type project, one demonstrated strong evidence of effectiveness, while the other only appeared to have a minor impact. Both were implemented as part of a multifaceted strategy	Commuters, patrons and service staff that are amenable to the training and information provision	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations where their risk of offending might be increased	Interventions appeared to be more effective when delivered in conjunction with other interventions The development and implementation of both interventions was overseen by a committee comprised of representatives from different stakeholder groups. There were clear accountability mechanisms in place to ensure that interventions were delivered as promised and there was strong leadership from the project coordinator
Community patrols	A community patrol is a group of people that actively patrol their community, reporting incidents and information to police, and in some instances provide a security service to help maintain social order. Engagement in a community patrol can be on a voluntary basis, or as a paid employee	CPTED Police enforcement Support services Arts' development project Access control Lighting Education-type project	Community patrols were used in four strategies, all of which showed some evidence of effectiveness. Three were delivered as part of a broader, multifaceted program and one was implemented in isolation	Residential areas where there are engaged and proactive participants, prepared to participate in community patrols and report incidents and information to police	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture	Effective strategies typically involved engaged and proactive participants who were prepared to become actively involved in community patrols. In two of the strategies, practitioners targeted unemployed people who would be eager to participate
Lighting	Involves the placement or improvement of lighting to increase visibility in public spaces and thoroughfares	CPTED Access control Community patrol Police enforcement Education-type project Diversionsary activities	Three of the reviewed strategies involved upgrading or installing street lighting in crime-prone streets and/or areas. Two of the strategies appeared to be very effective in reducing malicious damage offences, whereas one only seemed to have a minor impact	Areas and streets that attract high rates of malicious damages offences	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing the offence Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users	Strategies appeared to be more effective when delivered alongside other interventions, in particular CPTED and police enforcement The development and implementation of the effective interventions was overseen by a committee comprised of representatives from different stakeholder groups. There were clear accountability mechanisms in place to ensure that interventions were delivered as promised and there was strong leadership from the project coordinator

a. Limited to those interventions for which there was more than one evaluated strategy

b. Based on those mechanisms that were identified for effective strategies

Table 14 Crime prevention strategies targeting malicious damage

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Mueller, Moore, Doggett and Tingsstrom (2000)	<p>Target crime—graffiti</p> <p>Nature of problem—high concentration of gangs and graffiti.</p> <p>Target group or beneficiary—local residents</p> <p>Location—San Diego</p>	<p>Support services—chronic juvenile offenders provided with counselling</p> <p>Community patrol—citizen volunteers monitored and cleaned graffiti-prone areas.</p> <p>Police coordinated a juvenile bicycle patrol to monitor the neighbourhood for graffiti</p> <p>Police enforcement—increased police involvement in the probation of graffitiists and enforcement of anti-graffiti laws</p> <p>Arts development project—graffitists allowed to paint murals in designated areas.</p> <p>Other—convicted juvenile offenders painted over graffiti as a condition of probation (penalty)</p>	<p>Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur</p> <p>Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased</p> <p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification and capture</p>	<p>(Desirable effect)</p> <p>Intervention—90 percent reduction in graffiti offences in the police division. Several chronic offenders who had received counselling stopped painting graffiti altogether. Counselling resulted in 30 percent of graffiti taggers involved in the program desisting</p>	<p>Evaluation focus—process and outcome</p> <p>Evaluation design—pre-post</p> <p>Research methods and source of data—administrative data</p> <p>Level on SMS—2</p>
Knight in Osborne (1994)	<p>Target crime—assault, robbery, residential burglary and attempted residential burglary, theft and attempted theft, theft of motor vehicle, arson, malicious damage and breach of the peace</p> <p>Nature of problem—unoccupied residences on Public housing estates are regularly vandalised and stripped of their copper and lead</p> <p>Target group or beneficiaries—local residents</p> <p>Target location—Possil Park, north central Glasgow</p>	<p>Community patrol—unemployed locals given work patrolling estates with empty residences</p> <p>CPED—estate repairs and improvements—painting, cleaning and decorating</p>	<p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture</p> <p>Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users</p>	<p>(Uncertain effect)</p> <p>Intervention—property damage offences decreased from 252 in 1985 to 188 in 1987. However, by 1990 offence rates had risen to 313</p> <p>Adjacent—27 percent increase in overall crime in 1987</p>	<p>Evaluation focus—process and outcome</p> <p>Evaluation design—before–after, weak control</p> <p>Research methods and source of data—police records</p> <p>Level on SMS—2</p>

Table 14 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Shaffoe (1994a)	Target crime—street robberies (muggings) theft from cars, burglaries, vandalism and damage. Nature of problem—Easton and Ashley suffered from a higher than average rate of crime. Target group or beneficiaries—local residents Target location—Easton/Ashley, Bristol	Lighting—lighting improvements on streets that were identified by the police and the City's lighting engineers as high priority	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Uncertain effect) Intervention 1—some reductions in crimes committed at night but could not be associated with the lighting improvements Intervention 2—recorded crime level decreased by eight percent and night-time crime by 14 percent Comparison—recorded crime levels decreased by nine percent and night-time crimes levels by 14 percent Adjacent—reduction in crime rates in the police division as a whole	Evaluation focus— outcome evaluation Evaluation design— before-after, control Research methods and source of data—police records Level on SMS—3
Musheno, Levine and Palumbo (1978)	Target crime—robbery, attempted robbery, aggravated assault, simple assault, purse-snatching, residential burglary, attempted residential burglary Nature of problem—significantly high residential victimisation rates Target location—three buildings in Bronxdale Houses, a New York City public housing project. Area characterised by low-income tenants, high African American and Puerto Rican populations	CCTV—installation of CCTV equipment in high-risk areas such as lifts. Constant video stream broadcast onto televisions of residents	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Undesirable effect) Intervention—increase in observed incidences of vandalism. Increased from 50 during pre-intervention period, 57 during post-intervention period Comparison—slight increase in vandalism offences. Increased from 46 during the pre-intervention period to 52 during the post-intervention period	Evaluation focus— outcome Evaluation design—pre-post, control Research methods and source of data—resident surveys and interviews Level on SMS—3

Table 14 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Rumbold et al. (1998) Geelong Local Industry Accord	Target crime—alcohol-related assault (primary), underage drinking, and property damage Nature of problem—escalating rates of violent crime in and around licensed establishments Target group or beneficiaries—patrons and service staff Target location—Geelong, Vic	Education-type project—servers and management provided with information about safe alcohol service standards Police enforcement—stricter enforcement of liquor licensing and sale of alcohol to underage patrons Access control—patrons denied access to bars/pubs after certain times Rules and regulations for business—established a code of practice for licensees, endorsed by key project stakeholders, with particular focus on refusing service to intoxicated patron, underage drinking, drink promotions and pub-hopping	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Prevent offenders from being able to access the resources they need in order to commit an offence or that might be used as an excuse	(Desirable effect) Intervention—65 percent of surveyed licensees and nominees said that property damage offending rates had decreased	Evaluation focus—process and outcome Evaluation design—before–after, control Research methods and source of data—police records, interviews, surveys, observations and administrative data Level on SMS—3
Crime Research Centre, University of Western Australia (2008) Eyes on the Street Program	Target crime—residential burglary, theft, vandalism, vehicle theft and assault Nature of problem—high rates of residential burglary rates in the South East Metropolitan Police District Target location—metropolitan Western Australia	Natural surveillance—people in the community were encouraged to keep an eye out and report any suspicious incidents Awareness campaign—community awareness of program elevated through media campaign and easily recognisable insignia	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Uncertain effect) Intervention—property offences decreased, but this trend was present prior to program introduction	Evaluation focus—process and outcome Evaluation design—before–after Research methods and source of data—stakeholder interviews, administrative data (crime statistics and reports submitted by EOTS participants) Level on SMS—2

Table 14 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
van Andel (1989)	<p>Target crime—fare dodging, vandalism and aggression</p> <p>Nature of problem—significant number of petty offences against property and other forms of minor vandalism on Dutch public transport</p> <p>Target group or beneficiaries—public transport commuters</p> <p>Target location—Amsterdam, Rotterdam and the Hague, Netherlands</p>	<p>Community patrol—1,200 young people were employed to increase the level of inspection, safety, information and control on the tram and bus system</p>	<p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture</p> <p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p>	<p>(Desirable effect)</p> <p>Amsterdam—a slight reduction in repair costs</p> <p>Rotterdam—minimal reduction in repair costs. No reduction in frequency of damage and graffiti in buses and trams. Amount of graffiti on external walls in metro stations unchanged but the amount inside the stations fell by 30 percent. Decline in the number of broken windows in metro stations</p> <p>Hague—minimal reduction in repair costs</p>	<p>Evaluation focus—process and outcome</p> <p>Evaluation design—before–after</p> <p>Research methods and source of data—quantitative and qualitative. Interviews with stakeholders, administrative data (crime statistics and interviews with commuters, public transport staff)</p> <p>Level on SMS—2</p>
Sloan-Howitt and Kelling (1992)	<p>Target crime—graffiti</p> <p>Nature of problem—persistent problem of graffiti on NY subway system</p> <p>Target group or beneficiary—New York commuters</p> <p>Location—New York City subway</p>	<p>CPTED—onsite train carriage cleaning activities</p> <p>Access control—improved security measures in the yard and lay-up areas. Fences checked daily and mended within 24 hours if damaged</p> <p>Community patrol—increased presence of security guards in the yard</p> <p>Lighting—lighting improvement in the yard</p> <p>Police enforcement—police introduced undercover patrols and increased presence on trains. Concentrated their efforts on times and locations when students tended to ride trains. Undercover officers were placed on especially difficult lines</p> <p>Education type project—development of a program to educate high school students and youths in general about the effects of graffiti</p>	<p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture</p> <p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p> <p>Prevent potential offenders from being able to access locations in which there are potential targets (property or people) or where provocation may occur</p>	<p>(Desirable effect)</p> <p>Intervention—by 1989, trains were free of graffiti</p>	<p>Evaluation focus—process and outcome</p> <p>Evaluation design—before–after</p> <p>Research methods and source of data—quantitative and qualitative. Interviews with stakeholders, administrative data</p> <p>Level on SMS—2</p>

Table 14 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
NSW Department of Justice Attorney General (2009)	<p>Target crime—graffiti</p> <p>Nature of problem—significant increase in the number of graffiti offences recorded by the NSW Police over the last decade</p> <p>Target group or beneficiaries—local residents</p> <p>Target location—Cronulla Plaza, New South Wales. Pedestrian plaza and road lined by businesses</p>	<p>Rapid removal—graffiti removed within 24 hours of detection. Rapid removal program was already in place for removing graffiti from council property, extended to include residential and business properties. Removal was conducted twice a week</p>	<p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p>	<p>(Uncertain effect)</p> <p>Intervention—number of graffiti offences increased from 89 to 150 incidents per month during post-intervention period</p> <p>Reported that intervention site was more graffiti free (in relation to both size and visibility) than the control site. The Council determined the intervention to have been a success</p> <p>Comparison—number of incidents increased from 80 to 122 per month during the post-intervention period</p>	<p>Evaluation focus—outcome</p> <p>Evaluation design—before–after, some control</p> <p>Research methods and source of data—council records</p> <p>Level on SMS—3</p>
NSW Department of Justice Attorney General (2009)	<p>Target crime—graffiti</p> <p>Nature of problem—persistent, high rates of graffiti offences over the last five years</p> <p>Target group or beneficiaries—local residents</p> <p>Target location—Five Dock Park, New South Wales. Busy recreational park with a skate ramp and war memorial.</p>	<p>Rapid removal—intervention site was subject to daily inspections and same or next day graffiti removal. Removal was conducted five days a week (Mon–Fri)</p>	<p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p>	<p>(Desirable effect)</p> <p>Intervention—slight decrease in recorded graffiti offences. Number of graffiti offences decreased from 11 to seven per month during the post-intervention period</p> <p>Despite this albeit modest decrease, the Council did not consider the intervention to be effective</p>	<p>Evaluation focus—outcome</p> <p>Evaluation design—before–after</p> <p>Research methods and source of data—police records</p> <p>Level on SMS—2</p>
Bozkurt in Osborn (1994)	<p>Target crime—residential burglary, assault, criminal damage, theft from auto, auto theft</p> <p>Nature of problem—high crime rates on public housing estates</p> <p>Target location—Golf Links Housing Estate in London. Estate characterised by high crime rates, large ethnic minority population, high rates of unemployment, transitory residential population</p>	<p>Access control—installation of better security doors</p> <p>Street lighting—improved lighting</p> <p>CPTED—repairs and 'beautification' of the estate</p> <p>Police enforcement—local police dedicated more time to patrolling the estate and a police officer was set up in one of the blocks to establish a permanent presence</p> <p>Diversions activities—provision of afterschool and weekend activities for kids</p>	<p>Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users</p> <p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture</p> <p>Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose</p> <p>Prevent potential offenders from being able to access locations in which there are potential targets (property or people) or where provocation may occur</p>	<p>(Desirable effect)</p> <p>Intervention—71 percent decrease in criminal damage offences between 1983 and 1990</p>	<p>Evaluation focus—process and outcome</p> <p>Evaluation design—before–after</p> <p>Research methods and source of data—police records</p> <p>Level on SMS—2</p>



Stealing from person

In this section of the report, the findings are presented from a review of community-based crime prevention strategies that have as a primary goal a reduction in stealing from person. Following a brief review of the literature examining issues relating to the prevention of personal theft, a summary of the evidence in support of intervention types reviewed by the research team, an explanation of how they work and the characteristics of successful strategies are outlined.

Preventing stealing from person

The ABS (2011: 55) define stealing from person as

[the] taking of money, personal goods or personal information from the immediate possession or control of a person without the use of force, threat of force or violence or putting the victim in fear.

Stealing from person encompasses a range of activities, such as bag snatching and pickpocketing, and may be perpetrated using different techniques. An overview of common theft techniques is provided in Table 15.

Recorded crime data suggests that theft from person is less common in New South Wales than the other major property offence types. There were

8,504 stealing from person incidents recorded in New South Wales in 2011, a rate of 118 incidents per 100,000 population (BOCSAR 2012). However, determining the extent and cost of stealing from person offences is difficult as they are typically surreptitious acts and therefore difficult to detect. For instance, Smith, Bowers and Johnson (2006) reviewed bag thefts occurring in UK pubs and clubs and found that 89 percent of victims did not actually see the theft take place, while another 35 percent did not even notice that their bag was missing until they were leaving the premises. Due to their surreptitious nature, only a small number of completed theft from person offences are reported to the police. Many victims may not even be aware that their property has been stolen; instead thinking it is simply missing or lost.

Despite its seemingly trivial nature, the costs of theft from person offences are considerable. Besides the obvious impact of the offence on the victim who has to replace their property (usually at their own expense), some research suggests that thieves use stolen personal items (eg credit cards, drivers licences etc) to perpetrate identity theft (Johnson et al. 2010). As such, theft from person offences may facilitate more serious crime.

Research suggests that certain locations such as licensed establishments are more attractive to thieves. Licensed establishments such as bars, pubs and nightclubs attract large crowds of people,

Table 15 Common techniques used in the commission of a theft from person offence

Technique	Description
Lifting	Picking up property (from a table, chair etc) while the owner is not looking
Dipping	Involves reaching into the victim's purse, pocket or bag which the victim is 'wearing' and taking an item without the victim's knowledge
Slashing	Cutting the straps of the victim's bag to gain easier access to their property
Distraction	Involves the distraction of the victim (eg an accomplice engages them in conversation) so that they exercise less care around their possessions
Snatching	Overtly pulling the victim's property away from them and then hastily leaving the scene

Source: Johnson et al. 2010; Smith, Bowers and Johnson 2006

typically standing in the same position for long periods of time, who are distracted and not paying attention to their personal belongings (Johnson et al. 2010). Alcohol also potentially reduces both the offender's and victim's perceptions of risk, making theft more likely to occur (Smith, Bowers & Johnson 2006).

Busy locations in general appear to attract higher rates of theft from person offences. This has been attributed to the ability of offenders to 'blend' into the crowd', and reduced surveillance opportunities (Smith, Bowers & Johnson 2006).

A significant risk factor for theft is the presence of unprotected and desirable items (Whitehead et al. 2008). Products that are especially attractive to thieves are CRAVED—concealable, removable, available, valuable, enjoyable and disposable (Clarke 2002a). Examples of CRAVED goods include:

- iPhones/iPods/iPads;
- cash;
- personal gaming devices;
- debit/credit cards;
- personal identification eg driver's licenses;
- mobile phones; and
- laptops.

Very little research has examined which strategies are effective in reducing personal theft. Notably, determining the effectiveness of a localised prevention scheme is difficult considering that a theft from person offence may occur at any point in a person's travels and go undetected for significant periods of time (Webb & Laycock 1992).

However, there are a range of devices currently on the market that aim to reduce opportunities for theft.

A number of these measures are described in Table 16; however, these interventions have not yet been evaluated.

Findings from the review

A comprehensive summary of the findings from a review of strategies designed to prevent theft from person is presented in Table 17, which summarises the evidence for each intervention type identified by the review. Strategies examined as part of this review are described in Table 18. Very few strategies that aim to reduce stealing from person offending have been evaluated. Overall, the review identified only five studies that met the criteria for inclusion and, of these, two met level three on the SMS. Therefore, any conclusions about the impact specific interventions on stealing from person offences should be interpreted with caution.

Interventions supported by evidence of effectiveness

Overall, the evidence in support of interventions that aim to prevent stealing from person is relatively weak, due to the small number of studies and variable quality of the evaluations that have been conducted. However, two interventions were supported by a small number of evaluation studies finding evidence of effectiveness.

- Two strategies involved an awareness campaign, both of which appeared to be effective in reducing theft rates. Both interventions were used as part of a broader, multifaceted program.

Table 16 Schemes to reduce stealing from person

Intervention type	Description/mechanism	How it works
Microdots	Microdots are very small and invisible to the naked eye. They are attached to a person's property and can be traced back to the original owner. Makes property identifiable to their owners and reduces ambiguity over ownership	Makes selling stolen goods more difficult, reducing the rewards that an offender associates with the crime
Chelsea Clips	A clip that is built into chairs at restaurants, pubs etc. They allow patrons to secure their bags/purses off the ground	Increase the effort offenders' associate with stealing an item
GPS	Many of latest mobile phones have inbuilt GPS that allows owners to track the phone within two metres of its location	Reduces the rewards associated with offending and increases risk of detection
IMEI blacklisting	If a mobile phone is stolen, network operators can block the phone's International Mobile Equipment Identity (IMEI) which renders the phone inoperable, even if the SIM card is replaced	Renders the property useless, thereby reducing the reward an offender associates with the offence
Karrysafe Karryfront Screamer bag	Bags that have an inbuilt anti-attack alarm that is triggered if the bag is removed with force, for instance when they are snatched	Makes it obvious to the victim and passerbys that an offence is being committed. Increases the risk that an offender associates with the commission of an offence

Source: Briscoe 2001; Whitehead et al. 2008

- In one of the strategies, the awareness campaign involved project staff working with retail store management to identify risk factors for bag theft (ie security audit).
- In the other strategy, the purpose of the awareness campaign was to inform the public about the primary intervention and provide potential victims with information about how they could avoid theft.
- CCTV was used in three of the reviewed strategies, two of which appeared to be effective in reducing theft rates. Interventions typically involved staff or security professionals identifying theft blind spots or hotspots and positioning cameras accordingly. Two of the interventions were implemented as part of a multifaceted strategy, one of which was effective. The third strategy involved the use of CCTV as the sole intervention and also appeared to be effective.
- CPTED was used in two of the reviewed strategies, although only one appeared to be effective in reducing theft rates. Interventions involved redesigning spaces, for instance installing windows or increasing the width of gangways, to provide increased surveillance opportunities. Both of the interventions were implemented as part of a broader, multifaceted program. Further research is required to determine the effectiveness of CPTED

as a theft prevention strategy but, given the lack of research into effective strategies to prevent steal from person offences, it may still be regarded as a promising approach (and for that reason has been included).

Suitability for implementation by local government

Awareness campaigns and CCTV are both suitable for implementation by local government, although the suitability of CCTV as a strategy for local government will depend on the location being targeted (ie whether it is a public area). The immediate and longer term costs of establishing, maintaining and monitoring a CCTV system may also be prohibitively expensive, particularly where stealing from person offences do not occur in a small, well-defined area. These interventions are consistent with the types of strategies that frequently appear in local crime prevention plans (Morgan & Homel 2011). Given the prevalence of theft from person offences, more research is required to determine which types of interventions (and combinations of interventions) are effective.

Table 17 Evidence in support of crime prevention interventions targeting stealing from person

Intervention	Description of intervention	Supported interventions	Evidence of effectiveness	Where it works	How it works ^a	Characteristics of successful strategies
CPTED/urban renewal	CPTED or urban renewal projects include strategies that involve modifying the built and landscaped environment to create safer places that are less crime prone or make people feel safer, as well as strategies to improve the overall appearance of a residential area	Education-type project Awareness campaign Access control CCTV Community policing Lighting	Two of the reviewed studies utilised CPTED in combination with other interventions. One appeared to be effective	Retail environments eg busy marketplaces Areas with high volumes of people	Manipulate the physical environment (built or landscaped) to improve surveillance, define ownership of spaces and minimise conflict between users Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification and capture	In one of the successful strategies, CPTED was part of a broad multifaceted strategy. In the other program, the researchers adopted a problem-solving approach and engaged in a comprehensive analysis of the intervention site's crime problem. They located hotspots for bag theft and targeted their intervention accordingly
CCTV	CCTV involves the placement of cameras to capture images that are recorded or transmitted to monitors. However, occasionally non-functional CCTV cameras may be placed in highly visible locations for their deterrent effect	CPTED Community policing Awareness campaign	Three strategies utilised CCTV, two of which appeared to be effective. Two were implemented as part of a multifaceted strategy, with only one being effective. One of the effective interventions was implemented in isolation	Theft hotspots eg lobbies and elevators in public housing estates and train stations	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification and capture	In one program where effectiveness was clearly demonstrated, the installation of cameras was preceded by a media campaign that informed the public about the cameras
Awareness campaign	An awareness campaign aims to provide information to a target group, to raise awareness of specific issues, crimes, services and/or preventative measures	Education-type project Access control CPTED CCTV	Two of the reviewed studies utilised awareness campaigns in combination with other intervention strategies. Both interventions were effective	Retail environments and train stations Areas with high volumes of people	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	In both of the reviewed studies that used an awareness campaign, it was used in combination with other interventions. In one of the programs, the purpose of the awareness campaign was to inform the general public about the primary intervention

a: Limited to those interventions for which there was more than one evaluated strategy

b: Based on those mechanisms that were identified for effective strategies

Table 18 Crime prevention strategies targeting stealing from person

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Fairbrother and Sowerbutts (nd)	<p>Target crime—bag theft.</p> <p>Nature of problem—increasing rates of theft from person offences in a busy shopping strip. Rising rates of elderly victimisation</p> <p>Target location—Southport United Kingdom. Area characterised by low crime rates, tourism population and an older than average demographic</p>	<p>Education-type project—tourism and retail staff provided with training to recognise opportunities for bag theft and to rectify risk factors</p> <p>Awareness campaign—visible signage in the shopping strip gives locals and tourists knowledge to reduce their risk of victimisation. Crime reduction officers worked with premises experiencing high rates of bag theft to redesign the space to address crime risk factors</p> <p>Access control—installation of Chelsea clips in hotspot premises</p>	<p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p> <p>Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose of</p> <p>Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users</p>	<p>(Desirable effect)</p> <p>Intervention—thfts from persons reduced from seven (1 Jan–1 May 2009) to zero (1 Jan–1 May 2010)</p> <p>Comparison—thft rates increased (1–2)</p> <p>Adjacent—thft rates decreased from four to two</p>	<p>Evaluation focus—process and outcome</p> <p>Evaluation design—pre-post, control</p> <p>Research methods and source of data—quantitative- crime records</p> <p>Level on SMS—3</p>
Webb and Laycock (1992)	<p>Target crime—robbery and theft from person.</p> <p>Nature of problem—high rates of theft in London Underground</p> <p>Target location—Oxford Circus station. Very busy central London Underground train station</p>	<p>CCTV—34 passenger alarms were installed around the station, the majority of which were monitored via CCTV. Cameras were monitored by staff at all times</p> <p>CPTED—walls of the train station operator rooms were replaced with waist length glass windows so that commuters could see staff and vice versa. Four information booths were placed around the station. At least one booth was manned between 10 am–4.30 pm and 6 pm–10 pm</p> <p>Community patrol—two transport officers patrolled the station at all times</p>	<p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification and capture</p> <p>Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users</p> <p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p>	<p>(Undesirable effect)</p> <p>Intervention—thfts from person increased from 380 (April 1987– March 1988) to 407 (April 1988–March 1989). Robbery increased from 23 to 30 in the same period</p>	<p>Evaluation focus—process and outcome</p> <p>Evaluation design—pre-post</p> <p>Research methods and source of data—quantitative- transit police records</p> <p>Level on SMS—2</p>
Poyner and Webb (1992)	<p>Target crime—thft from shopping bags</p> <p>Nature of problem—high rates of theft</p> <p>Target location—busy marketplace in Birmingham United Kingdom</p>	<p>CPTED—market space was redesigned, gangways were widened from two metres to three metres and stalls were rearranged to create more space between them</p> <p>Lighting—market building received a significant lighting upgrade, inside and out</p>	<p>Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users</p> <p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p>	<p>(Desirable effect)</p> <p>Intervention—thfts decreased by 40 percent in first years of operation and 70 percent in second</p> <p>Adjacent—positive displacement effect to surrounding markets</p>	<p>Evaluation focus—outcome</p> <p>Evaluation design—pre-post</p> <p>Research methods and source of data—quant and qualitative—police records, interviews with market management team</p> <p>Level on SMS—2</p>

Table 18 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Musheno et al. (1978)	Target crime—robbery, attempted robbery, aggravated assault, simple assault, bag snatching and pick-pocketing, residential burglary, attempted residential burglary and vandalism Nature of problem—significant crime problem in Bronxdale, New York City Target location—Bronxdale Houses—a New York City public housing estate consisting of 26 seven-storey buildings, each containing 53 apartments	CCTV—installation of cameras in lobby and elevators. Cameras transmitted continuously to every resident's television and could be viewed on Channel 3. Residents were encouraged to leave the sets tuned to Channel 3 when they were not watching other programs and to report any irregularities to housing authority police	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification and capture	(Desirable effect) Intervention—self-report victimisation rates for pick-pocketing and bag snatching decreased from 6.5 to 4.2 Comparison—rates of pick-pocketing and bag snatching increased from 3.8 to 4.8	Evaluation focus—process and outcome Evaluation design—pre-post, some control Research methods and source of data—qualitative—self-report victimisation surveys Level on SMS—2
Winge and Knutsson (2003)	Target crime—robbery and theft from person Nature of problem—high crime rates and drug abuser population Target location—Oslo, Norway. Busy railway station characterised by concentration of shops, hotels, restaurants and pubs. Area attracts a large drug using population	CCTV—six CCTV cameras installed in an area just outside the train station. Cameras were monitored 24/7 by specially trained security personnel located in the station. CCTV feed directly linked to police command Awareness campaign—public informed about the use of CCTV cameras through signage	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification and capture	(Desirable effect) Intervention—robbery/theft from person rates decreased by 26.3 percent (133 to 98 incidents in a 12 month period) Comparison 1—robbery/theft from person rates decreased by 3.3 percent (30 to 29) Comparison 1—robbery/theft from person increased by 35 percent (20 to 27)	Evaluation focus—outcome Evaluation design—pre-post, control Research methods and source of data—quantitative and qualitative—police incident log book, crime data, local business/customers/employee victimisation surveys Level on SMS—3

Stealing from retail stores

In this section of the report, the findings are presented from a review of crime prevention strategies that have as a primary goal a reduction in stealing from retail stores. Following a brief review of the literature examining issues relating to the prevention of stealing from retail stores, a summary of the evidence in support of intervention types reviewed by the research team, an explanation of how they work and the characteristics of successful strategies are outlined.

Preventing stealing from retail stores

- *Stealing from retail store* is broadly defined as the 'theft of goods for sale, other than motor vehicles, by avoiding payment for those goods' (ABS 2011: 56). Although generally believed to be a common and costly crime, the actual extent of retail theft (commonly known as *shoplifting*) is unknown, largely due to under-reporting and the inaccuracy of retail stock systems (Krasnovsky & Lane 1998). However, the Australian Retailers Association has suggested that the annual cost of shoplifting to the Australian retail industry is estimated to be in the billions (Binnie 2008). Further, recent crime

statistics suggests that between 2007 and 2011 NSW shoplifting rates increased by three percent, but have stabilised over the last 24 months (Goh & Moffat 2012).

Research that examines stealing from retail offending shows a number of trends:

- females are more likely than males to be apprehended for a shoplifting offence;
 - adolescents are over-represented in shoplifter populations; and
 - very few shoplifters are ever caught (Hayes 1999; Hayes et al. 2011; Krasnovsky & Lane 1998).
- Further, research suggests that acts of shoplifting can be categorised as either rational or non-rational. While rational thieves are motivated by profit or gain, the behaviour of non-rational shoplifters may be symptomatic of psychological issues and stressors such as familial conflict or, in a small number of cases, kleptomania. Some strategies, most notably Shoplifters Anonymous, deal exclusively with the latter category of shoplifter, attempting to reduce shoplifting rates by treating offenders therapeutically. However, very few of these programs have been rigorously evaluated so their effectiveness is unclear (Krasnovsky & Lane 1998).

- The majority of shoplifters are motivated by profit or gain and their crimes are typically opportunistic (Hayes 1991). A number of situational factors facilitate and encourage shoplifting:
- the presence of CRAVED goods such as makeup and CDs/DVDs.
- liberal store return policies;
- store floor plans that provide opportunities for thieves to conceal items and exit without detection (eg numerous exits and changing rooms);
- unsecured merchandise—retail staff may not place CRAVED items in secure cabinets as this increases staffing requirements and reduces impulse purchasing; and
- the absence of security guards or EAS gates (Clarke 2002a; Hayes 1999).
- pre-employment screening (eg background checks);
- promoting, communicating and enforcing strong anti-theft policies; and
- bag checks (Greenberg & Barling 1996).

Research also suggests that retail stores in which staff and management have negative working relationships may have higher rates of employee thefts than stores where these relationships are positive (Greenberg & Barling 1996). When relationships between retail management and staff are negative, employee shoplifting may be legitimised by offenders as ‘punishing’ the business. Promoting strong, open and positive relationships between staff and management may go some way to addressing employee theft.

The above list of situational risk factors suggests that multifaceted strategies may be more effective in reducing retail theft than singular interventions. Hayes (1991) argues that effective shoplifting prevention schemes involve CPTED principles, upgrading or introducing security systems such as CCTV and EAS tagging, and most importantly, employee awareness and education.

- Other elements of shoplifting prevention programs may include:
- the enforcement of strict stock monitoring procedures;
- banning known shoplifters from the store; and
- the implementation and communication of strict store policies around what to do when shoplifting is detected and how to detain a suspect (Clarke 2002a; Hayes 1991).

It should be noted that a large number of retail thefts (approximately 62%) may be perpetrated or facilitated by employees (Barnfield 1994). Determining whether it is staff or customers who are committing the majority of shoplifting offences in a particular store is vital and has direct implications for the type of intervention that should be implemented. For instance, although CCTV may deter customers from shoplifting, employees are usually able to circumvent these security measures (Greenberg & Barling 1996).

- Interventions that specifically target employee theft include:

Findings from the review

A comprehensive summary of the findings from a review of strategies designed to prevent retail theft is presented in Table 19, which summarises the evidence for each intervention type identified by the review. Strategies examined as part of this review are described in Table 20. Overall, the review identified 16 studies that met the criteria for inclusion. Seven of these studies met level three on the SMS, while the other nine included before and after measures of shoplifting. Therefore, it is possible to draw some conclusions about the impact specific interventions have on stealing from retail store.

It was evident from the majority of evaluations that the areas targeted had been identified, usually through local crime statistics and retailers self-identification, as having a specific shoplifting problem. Further, an important factor that seemed to impact on the effectiveness of interventions was staff attitudes towards the program. Researchers noted complacent staff attitudes towards shoplifting in a number of studies. It appeared that the introduction of security measures in some stores made staff less likely to engage in basic crime prevention measures, such as approaching suspicious customers. It was suggested that perhaps the staff believed that their crime prevention duties had been made redundant by the introduction of CCTV cameras or security guards. This appeared to be addressed sufficiently

in a number of studies where management encouraged staff to take their crime prevention duties seriously.

Further, a number of the reviewed strategies that were effective in reducing shoplifting rates involved a comprehensive security audit of the intervention site, conducted during the initial development stages of the project. This process provided program managers with valuable information about the profile of offenders, the goods they were targeting and how they were getting away with it. Security audits also assisted resource-strapped retailers to target their efforts more efficiently.

Interventions supported by evidence of effectiveness

After reviewing the available evidence, there was support for the effectiveness of a number of interventions:

- Awareness campaigns involved providing retail staff or customers with information about a crime prevention initiative or skills to avoid victimisation, informing customers about harms caused by retail theft and publically identifying 'hot' merchandise. Two of the interventions involved staff or external parties conducting a security audit of the business to identify potential risk factors for shoplifting.
 - Awareness campaigns were used in nine of the reviewed programs, seven of which appeared to be effective in reducing inventory shortages. Two interventions had an immediate impact on shoplifting rates but this effect deteriorated over time.
 - Two of the effective strategies were targeted at school age children, one utilising a reward system to promote positive consumer behaviours.
 - Four of the effective strategies involved an awareness campaign as the sole intervention.
 - Three of the effective strategies involved awareness campaigns as part of a multifaceted strategy.

- Access control measures were used in seven of the reviewed studies, six of which appeared to be effective in reducing retail theft. One had an immediate impact on shoplifting rates but this effect deteriorated over time. Interventions typically involved attaching EAS and/or ink tags to commonly stolen merchandise, or on a storewide basis, supported by stocktake counts of merchandise performed by security personnel or staff. Four of the effective strategies were accompanied by other intervention strategies, the most common being an education-type project (typically aimed at training staff to respond to EAS gates) and awareness campaigns. In two effective strategies, access control was implemented in isolation.
- Four of the reviewed strategies used an education-type project, all of which appeared to be effective. Interventions typically involved teaching retail staff how to identify suspicious consumer behaviour and how to respond to suspected retail theft. Education projects were always accompanied by other interventions, the most common being awareness campaigns and access control measures such as EAS tagging.

Interventions with limited evidence of effectiveness

The evidence in support of the use of CCTV was unclear, due to the small number of studies and the lack of a sustained impact on crime rates. Two of the reviewed strategies introduced or upgraded a CCTV system. Both appeared to have an immediate impact on shoplifting rates, but this effect was not sustained over time. Interventions typically involved store management or security professionals identifying blind spots or hotspots that provide opportunities for theft and positioning cameras accordingly. CCTV was used as part of a broader multifaceted scheme in one program, whereas it was the primary and only intervention in the other program.

Suitability for implementation by local government

The majority of the reviewed strategies, except for one (Hiew 1981), were implemented by retail management. Consequently, the role of local government in projects aiming to reduce retail theft is less clear than it was in other areas, such as residential burglary. However, local government can provide information to retailers about effective crime prevention strategies and encourage retail

operators to implement crime prevention strategies that are supported by evidence. Similarly, both local government and central agencies can develop resources (such as security audit tools and signage) that can be used by retail store owners and operators as part of an awareness campaign and to help inform access control measures. NSW CPD has previously worked with retail peak bodies to develop a training program for retail store owners and operators to build their capacity to prevent shoplifting and other offences in stores.

Table 19 Evidence in support of crime prevention interventions targeting stealing from retail stores^a

Intervention	Description of intervention	Supported interventions	Evidence of effectiveness	Where it works	How it works ^b	Characteristics of successful strategies
Access control (specifically EAS/ink tagging or security audits)	Aims to increase the effort associated with committing an offence, usually through the alteration of the physical environment or surroundings to make specific crimes more difficult	Education-type project Community patrol Awareness campaign	Seven of the reviewed studies utilised access control measures either by themselves or in combination with other interventions. Six of the strategies appeared to be effective in reducing shoplifting rates, while one had an immediate impact that was not sustained over time	Busy retail environments where the staff are willing to participate	Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose	In two of the effective strategies, staff received EAS and crime prevention training and were encouraged to respond to all alarms. In another two successful programs, security audits were followed up with visible enforcement activities
Education-type project	Any structured set of activities that aim to deliver information to a target group. This involves the active participation of the target group	Access control Awareness campaign Community engagement project CPTED	Four of the reviewed studies utilised some form of education-type project either by themselves or in combination with other intervention strategies. All of the strategies demonstrated evidence of effectiveness	Busy retail environments where the staff are willing to participate	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur	Three of the effective studies used education projects in conjunction with a number of other strategies. In two of these programs, the implementers encouraged the community to become involved and support the program
Awareness campaign	An awareness campaign aims to provide information to a target group to raise awareness of specific issues, crimes, services and/or preventative measures. In the case of retail theft, this may involve posters alerting customers to the presence of CCTV cameras, reminding shoplifters that if caught they will be prosecuted or informing staff about security audits and stock counts	Education-type project Community engagement/mobilisation project CPTED CCTV Community patrol Access control	Of the nine reviewed strategies that utilised an awareness campaign, seven appeared to be effective. Two studies appeared to have an immediate impact but the deterrent effect was not sustained in the long term	Busy retail environments where the staff are willing to participate	Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	Two of the effective strategies were specifically targeted at children and juveniles as they were seen as being the main offenders. Notably, one of these programs used positive reinforcement rather than threatening enforcement. A number of the effective strategies also used awareness campaigns to inform the target group about the implementation of the program
CCTV	CCTV involves the strategic placement of cameras to capture images that are recorded or transmitted to monitors. However, occasionally non-functional CCTV cameras may be used for their deterrent effect	Awareness campaign CPTED Education-type project	The evidence around the effectiveness of CCTV is mixed. Of the two reviewed strategies that utilised CCTV, both appeared to have caused an initial decrease in theft rates. However, this effect was not sustained in the long term	Busy retail environments	Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification and capture	The inability of CCTV to sustain its deterrent effect could be attributed to shoppers becoming acclimatised to the presence of the cameras and becoming adept at avoiding them. It may be that revitalising the advertising campaign around the use of CCTV cameras, store layout and the position of cameras may help sustain its deterrent effect.

a: Limited to those interventions for which there was more than one evaluated strategy

b: Based on those mechanisms that were identified for effective strategies

Table 20 Crime prevention strategies targeting stealing from retail stores

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Hayes and Blackwood (2006)	Target crime—retail theft Nature or problem—high rates of retail theft in a single national mass merchant retail chain. Target location—regional areas of the United States.	Access control—EAS tags and gates were installed in a number of stores. Twenty-one stores separated into three cells. Cell 1—50 percent EAS tagging and gates; Cell 2—100 percent EAS tagging and gates; Cell 3—100 percent EAS tagging, no gates. Door greeters were also placed on every entrance Education-type project—retail staff received EAS and crime prevention training	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose of	(Uncertain effect) Intervention—54.5 percent decrease in inventory losses: 1.28 items per week per store Comparison—61.2 percent decrease in inventory losses 1.77 items per week per store	Evaluation focus—outcome Evaluation design—pre-post. Control Research methods and source of data—quantitative and qualitative—stocktake data, observations, CCTV footage. Level on SMS—3
Hiew (1981) Operation SOS (Stop our shoplifting)	Target crime—retail theft Nature of problem—high costs of shoplifting and rising rates of juvenile involvement in retail theft. Target location—Fredericton, Canada. Small urban area—shoplifting rates comparable with larger urban townships.	Awareness campaign—middle school and high school students attended shoplifting seminar presented by a police officer. Student representatives created and disseminated a pamphlet about shoplifting. Posters displayed in shop windows informed shoppers about the dangers of shoplifting Education-type project—police and crown prosecutors ran retail staff training sessions, teaching them how to detect and prevent retail theft Community engagement/mobilisation project—rotary club talks encouraged the community to help fight retail theft	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose of	(Desirable effect) Intervention—42.2 percent decrease in shoplifting prosecutions between 1977 (pre) and 1978 (post) (303 to 175 incidences). More marked decrease within juvenile offenders (58.8%) when compared with adult arrests (36.3%). Shoplifting apprehensions by security personnel declined by 60.3 percent	Evaluation focus—process and outcome Evaluation design—pre-post Research methods and source of data—quantitative and qualitative—interviews with store owners, community surveys, police and crown prosecutor crime data Level on SMS—2
McNees et al. (1976)	Target crime—retail theft Nature of problem—escalating rates of shoplifting and retail losses, in particular in the young woman's apparel section. Target location—department store in Tennessee, United States.	Awareness campaign—Phase 1—large anti-shoplifting posters were displayed in the young women's apparel department and informed shoppers that shoplifting is a crime and increases the cost of merchandise. Phase 2—tags were attached to merchandise identified as being frequent targets of theft. Posters informed shoppers that marked clothing was hot merchandise	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Desirable effect) Intervention—Phase 1—number of missing items (per day) reduced from 1:30 to 0.88. When the signs were removed, missing items increased to 1:4. Phase 2—greater reduction in the theft of popular items: 0.66 reduced to 0.06 (tops) and 0.50 to 0.03 (pants) Adjacent—no change in theft rates, no diffusion effect	Evaluation focus—process and outcome Evaluation design—pre-post Research methods and source of data—quantitative- stocktake data Level on SMS—2

Table 20 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Farrington et al. (1993)	Target crime—retail theft Nature of problem—very high rates of inventory loss in department store chain (more than 10% of stock was stolen) Target location—areas characterised by high levels of unemployment and violence—Altrincham and Wolverhampton, United Kingdom	Access control—stores provided with EAS tags Education type project—staff provided with EAS training	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose of	(Desirable effect) Intervention—decrease in shoplifting rates in both treatment sites. Altrincham—decrease from 12 to two. Wolverhampton—18 items reduced to five Comparison—constant rates of retail losses	Evaluation focus: Outcome Evaluation design: Pre-post. Control Research methods and source of data: Quantitative and qualitative—stocktake data, observations, CCTV footage Level on SMS—3
Farrington et al. (1993)	Target crime—retail theft Nature of problem—very high rates of inventory loss in department store chain (more than 10% of stock was stolen) Target location—areas characterised by high levels of unemployment and violence—Bradford and Glasgow, United Kingdom	Awareness campaign—trainee managers were set with the task of identifying opportunities for crime that could be reduced through redesign Posters warned shoppers that CCTV was being used, although this was not true in Glasgow. In Glasgow, management ran staff information sessions about shoplifting and crime prevention strategies CCTV—in Bradford, staff cleaned up cameras and pointed them at hotspot areas and on hot merchandise	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users	(Uncertain effect) Intervention—initial decrease in shoplifting rates in both sites. This effect was not maintained at follow up—shoplifting rates had increased again Comparison—constant rates of shoplifting	Evaluation focus—outcome Evaluation design—pre-post, control Research methods and source of data—quantitative and qualitative—stocktake data, observations, CCTV footage Level on SMS—3
Farrington et al. (1993)	Target crime—retail theft Nature of problem—department store chain with very high rates of inventory loss (more than 10% of stock was stolen). Seven months prior to intervention there was a serious security problem in one of the intervention stores that resulted in all of the staff being fired Target location—areas characterised by high levels of unemployment and violence—Leeds and Reading, United Kingdom	Community patrol—uniformed security guards were hired to patrol the treatment sites. They walked around the store, but typically focused their presence on the cash desk and the exit/entrances	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification and capture	(Null effect) Intervention—no decrease in shoplifting rates Comparison—constant rates of shoplifting	Evaluation focus—outcome. Evaluation design—pre-post, control Research methods and source of data—quantitative and qualitative—stocktake data, observations, CCTV footage Level on SMS—3

Table 20 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Casteel et al. (2004)	<p>Target crime—retail theft and violent crime</p> <p>Nature of problem—high rates of personal and property crime in liquor stores</p> <p>Target location—Santa Monica, United States. Area with a large tourist population</p>	<p>Awareness campaign—researchers conducted preliminary interviews with management in order to identify risk factors for crime. Recommendations included (1) keeping a minimal amount of cash on the premises (2) ensuring good visibility inside and outside the premises (3) maintaining bright interior and exterior lighting (4) limiting access and escape routes</p> <p>Education-type project—staff trained to detect and respond to robbery and shoplifting events</p>	<p>Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users</p> <p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p>	<p>(Desirable effect)</p> <p>Intervention—87.1 percent decrease in shoplifting events and 82.2 percent decrease in robbery events</p> <p>Comparison—increasing rates of all measured crimes. Control stores were five times more likely to experience a robbery/shoplifting event than intervention stores</p>	<p>Evaluation focus—outcome</p> <p>Evaluation design—pre-post, control</p> <p>Research methods and source of data—quantitative—police crime records</p> <p>Level on SMS—3</p>
Beck and Willis (1999)	<p>Target crime—retail theft</p> <p>Nature of problem—high rates of retail theft, especially in fashion stores</p> <p>Target location—15 stores in the United Kingdom operated by a large fashion retailer. All stores were operating in a similar retail environment</p>	<p>CCTV—intervention stores separated into three different groups which received different CCTV systems. Three received high-level system, 2–4 pan, tilt and zoom colour cameras, 8–12 static colour cameras, monitors stationed at every entrance, facility to record, security staff monitoring system at all times. Six received medium-level system, 6–12 static colour cameras, public monitors at every customer entrance, facility to record, monitoring performed by store manager from their office when time permitted. Six stores received low level system, up to 12 dummy cameras, public monitors at every customer entrance but no facility to record</p>	<p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p>	<p>(Uncertain effect)</p> <p>Intervention—overall decrease in retail losses from 72 to 52. High-level CCTV stores 39.8 percent reduction in lost goods (166 to 100). Medium-level CCTV stores 16.7 percent reduction (54 to 45). Low-level stores 20.4 percent reduction (44 to 35)</p> <p>Effect was not sustained after six months. High-level stores 26 percent reduction (123 to 91). Medium-level stores 31.8 percent increase (44 to 58). Low-level stores 9.1 percent increase (44 to 48)</p>	<p>Evaluation focus—outcome</p> <p>Evaluation design—pre-post</p> <p>Research methods and source of data—quantitative—stocktake data</p> <p>Level on SMS—2</p>
DiLonardo and Clarke (1996)	<p>Target crime—retail theft</p> <p>Nature of problem—high rates of retail theft despite the use of EAS tags</p> <p>Target location—four established stores, all branches of a single division, in demographically similar areas</p>	<p>Access control—ink tags replaced existing EAS tags. Ink tags attached to merchandise and if tampered with will break, staining the garment</p>	<p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p>	<p>(Desirable effect)</p> <p>Intervention—retail shortages dropped from 4.5 percent of sales to 2.4 percent (42% decrease). After five years, there appeared to be slight deterioration in its deterrent effect</p>	<p>Evaluation focus—outcome</p> <p>Evaluation design—pre-post</p> <p>Research methods and source of data—quantitative—stocktake data</p> <p>Level on SMS—2</p>

Table 20 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
Barnfield (1994)	<p>Target crime: Retail theft</p> <p>Nature of problem: High rates of theft in the retail chain. Poor store environment- aggressive customers and violence towards staff</p> <p>Target location: Four stores in a retail chain. Had previously implemented EAS tagging but this proved to be ineffective in reducing shrinkage rates</p>	<p>Access control—90 percent of all merchandise was EAS tagged and detection gates placed at every entrance/exit. A security guard was placed at the store exit</p> <p>Awareness campaign—management placed posters advertising the use of the EAS system around the store</p>	<p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p> <p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification and capture</p> <p>Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose of</p>	<p>(Desirable effect)</p> <p>Intervention—stores A and B achieved a decline of 40 percent or more in shrinkage. Store C reduced shrinkage by 22 percent, while Store D experienced a slight increase in shrink (5%). Importantly, during the evaluation, four staff members from Store D were arrested for complicity in an organised theft operation.</p> <p>Comparison—shrinkage increased by three percent</p>	<p>Evaluation focus—outcome</p> <p>Evaluation design—pre-post, control</p> <p>Research methods and source of data—quantitative and qualitative— interviews with management and stocktake data</p> <p>Level on SMS—3</p>
Masuda (1992)	<p>Target crime—retail theft</p> <p>Nature of problem—escalating rates of shrinkage in a electronics/appliance retailer. Recent expansions in the business were accompanied by an increase in stock levels and an increase in staff thefts</p> <p>Target location—New Jersey (US)</p>	<p>Access control—preventive survey audits. VCRs and camcorders were identified by audit team as being particularly prone to theft. Loss prevention personnel would enter locked storage areas where merchandise is kept to make daily counts of targeted merchandise. Physical counts are compared with stock records and discrepancies noted</p>	<p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p>	<p>(Desirable effect)</p> <p>Intervention—in the first month, theft of VCRs/camcorders dropped by 90 percent. 2nd month 83 percent and by the 3rd month was 100 percent. Some diffusion effect- big screen TVs were not included in the counts but theft rates reduced significantly (85%)</p>	<p>Evaluation focus—outcome and process</p> <p>Evaluation design—pre-post</p> <p>Research methods and source of data—quantitative— stocktake data</p> <p>Level on SMS—2</p>
Carter et al (1988)	<p>Target crime—employee theft</p> <p>Nature of problem—high rates of employee perpetrated retail theft</p> <p>Target location—independently owned and operated large grocery store in Uppsala, Sweden</p>	<p>Awareness campaign—observers informed staff that they were conducting inventory checks on merchandise which was popular with thieves. Staff were given information and handouts with the store's theft statistics</p> <p>Access control—on a bi-weekly basis, observers entered the store and conducted manual counts of the targeted merchandise</p>	<p>Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence</p> <p>Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose of</p>	<p>(Desirable effect)</p> <p>Intervention—overall, targeted item thefts decreased from eight per day to two. Candy thefts decreased from 4.7 to 1.2. Personal hygiene products reduced from 1.6 to 0.8 per day. Only one piece of jewellery was stolen during the intervention period. Interviews with staff revealed that some had changed their behaviour as they had become more observant of customer behaviour around certain merchandise</p>	<p>Evaluation focus—outcome</p> <p>Evaluation design—pre-post</p> <p>Research methods and source of data—quantitative and qualitative- stocktake data and interviews with staff and management</p> <p>Level on SMS—2</p>

Table 20 (continued)

Source	Context	Intervention(s)	Mechanism(s)	Outcomes	Research design
McNees et al. (1980)	Target crime—retail theft perpetrated by school age children Nature of problem—perception that a large number of petty thefts are committed by elementary school age children Target location—convenience food store, close to an elementary school and affluent area. Nashville, United States	Awareness campaign—clerks asked children when they came to the counter if they had paid for all of their items. If they responded yes, the child received a cardboard shark tooth. When they collected five teeth, they received a prize. If the child came in when the shark was 'hooked', they received two prizes, or a special surprise. The shark was hooked if shop theft rates had decreased significantly	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Desirable effect) Intervention—thfts dropped from 32 per week to 15 (58%). The theft rate rose to 44 after the program ended	Evaluation focus—outcome and process Evaluation design—pre-post Research methods and source of data—quantitative- stocktake records Level on SMS—2
Carter and Holmberg (1992)	Target crime—retail theft Nature of problem—rising rates of retail theft in Sweden Target location—independently owned and run grocery stores in Vasteras, Sweden	Awareness campaign—posters informed customers that tagged items were those targeted by thieves	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Desirable effect) Intervention—overall thefts of targeted items reduced from 3.71 per week to 0.19	Evaluation focus—outcome Evaluation design—pre-post Research methods and source of data—quantitative- stocktake data Level on SMS—2
Hayes et al. (2011)	Target crime—retail theft Nature of problem—high rates of theft around certain hot products in a supermarket chain Target location—major US supermarket chain in the Southeast	Access control—clear plastic lockable boxes (keeper boxes) were used to protect hot products from theft	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Desirable effect) Intervention—shrinkage levels dropped approximately two thirds from 527 to 195 Comparison—shrinkage levels dropped but less significantly 341 to 248	Evaluation focus—outcome Evaluation design—pre-post. Control Research methods and source of data—quantitative- stocktake data Level on SMS—3
Carter et al. (1979)	Target crime—retail theft Nature of problem—management self-identified as having a significant shoplifting problem in certain departments Target location—independently owned and operated department store in Uppsala, Sweden.	Awareness campaign—large anti-shoplifting posters were displayed near items that were identified by managements as hot merchandise (halogen bulbs, leather jackets, Elvis Presley CDs and lip-gloss). Posters informed customers that merchandise marked with a red circle are frequently targeted by shoplifters	Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence	(Desirable effect) Intervention—decrease in inventory shortages for all targeted items. Lip gloss (18% to 9%), Elvis CDs (9% to 3%), leather jackets (18% to 0%) and halogen bulbs (31% to 20%)	Evaluation focus—process and outcome Evaluation design—pre-post Research methods and source of data—quantitative- stocktake data Level on SMS—2



Requirements for implementation by local government

Even when supported by evidence of effectiveness, interventions can sometimes fail due to focusing too heavily on replicating a successful intervention and not on the factors needed to implement that approach (Ekblom 2010; Knutsson & Clarke 2006). This has been termed ‘implementation failure’ (see Ekblom 2010, 2002; Tilley 2009). Implementation failure refers to problems with translating an idea into practice, resulting in either no interventions being delivered, the desired interventions not being delivered, or the interventions being implemented so poorly that the intended results are not produced (Tilley 2009). The risk of implementation failure increases with the number and complexity of the interventions being delivered, the number of agencies that are involved, the presence of separate lines of accountability, personnel changes, the absence of support and the volatility and changeability of the context in which the intervention is being delivered (Knutsson & Clarke 2006; Tilley 2009). Implementation failure has proven to be a significant issue impacting upon the effectiveness of crime prevention programs and initiatives, both in Australia and overseas (Homel 2009a; Sutton, Cherney & White 2008; Tilley 2009, 2005).

A common theme across many of the strategies reviewed as part of this project was the use of situational approaches to crime prevention. These are supported by a strong theoretical framework and

a range of established techniques. The situational crime prevention literature also provides strong guidance around how to implement effective crime prevention strategies. It is also a common approach adopted with some success by local government in New South Wales and other jurisdictions (Morgan & Homel 2011; NSW DAGJ 2012). In addition, the majority of strategies involved community-based organisations, such as local government, often working in partnership with police, private businesses or other community-based organisations. Therefore, the interventions identified are suitable for local government implementation and adaptation.

As with other practitioners, local government are frequently encouraged to adhere to a problem-solving process in the development, implementation and review of crime prevention initiatives (Cherney 2006; Henderson 2002; Homel 2009a; Laycock 2005; Tilley & Laycock 2002). Various models have been developed to guide this process (Cherney 2006; Ekblom 2010; Tilley 2009). All of these models involve some combination of problem analysis, strategy selection, implementation, partnership working and review (Cherney 2006). Problem solving involves a systematic analysis of current and emerging crime problems, their causes and risk factors. Once these problems are identified and understood, an appropriate response can then

be identified and developed based on evidence regarding the effectiveness of different approaches and a consideration of the circumstances to which it will be adapted. The process then involves identifying the key parties that need to participate and mobilising them for action to implement the response. The response is then subject to regular review and evaluation, and feedback on implementation and the effectiveness of the strategy is used to inform improvements (either to the current or future strategies).

In order to develop factsheets and handbooks to assist local government to select and then implement suitable interventions to address local crime priorities (based upon this problem-solving process), the AIC collected information on the characteristics of successful strategies and on the requirements for implementation. This review aims to contribute to the knowledge base on the requirements for successful implementation, as well as providing an assessment on the effectiveness of different intervention types. This will help to build the capacity of practitioners to select an appropriate intervention, adapt that intervention to the local context and minimise the problems commonly associated with implementation.

Since the strategies reviewed for this research often involved a suite of interventions delivered in combination and relied on similar approaches to crime prevention, it is possible to identify common requirements for successful implementation. There may be unique factors relevant to the different intervention types, but there are many requirements that were common across all interventions. It was therefore possible to identify a number of common factors among those strategies that were successfully implemented and reviewed as part of the current project, which fall into the following categories:

- a thorough and systematic analysis of a range of data sources to identify significant crime problems and to understand their causes and risk factors;
- community engagement and consultation in the development of the strategy (including but not limited to residents, business operators, local service providers etc);

- strong interagency partnerships, led by a driver responsible for maintaining project momentum and implementation; and
- availability of appropriate expertise, technology and resources.

The application of these generic principles to the preferred intervention types is described in detail in the relevant factsheets and handbooks, along with a number of examples to demonstrate how these principles should be applied in practice.

Analysis of the problem

An important dimension of the evidence-based approach to crime prevention is the selection of a response based on an understanding of the problem being addressed and its underlying causes (Clarke & Eck 2003). Determining how, where and when to intervene requires an understanding of the nature of the crime problem being addressed (Hirschfield 2005).

Unless there is a clear definition of the crime problems to be addressed, with evidence for them, it will not be possible to work out what to introduce or how to implement it (Laycock 2005: 572).

The effectiveness of a particular intervention is highly dependent upon how appropriate that intervention is for the crime problem being addressed (Hirschfield 2005). Experience from problem-oriented policing projects has shown that crime prevention projects may fail because the targeted problem was inaccurately identified or inadequately analysed, leading to the selection of a response that does not address the actual problem or its causes (Scott 2006). There needs to be a clear rationale for the proposed intervention, based on an understanding of the problem being addressed and its causes (Hough & Tilley 1998). This requires the systematic identification and analysis of crime problems (Laycock 2005). Comprehensive analysis of the crime and contextual factors will help to inform an understanding of the problem and of environmental factors that may help facilitate or inhibit the implementation of the chosen solution and influence

its overall effectiveness (Hirschfield 2005). In some instances, the most obvious and appropriate solution will emerge through the analysis of the problem (Clarke & Eck 2003; Goldstein & Scott 2001). In others, a range of potential solutions may be identified. Further analysis will help determine whether the proposed interventions are appropriate for the problem being addressed.

The majority of the interventions reviewed as part of this research involved situational approaches to crime prevention. A key feature of situational crime prevention is that it works most effectively when it is targeted at a specific crime problem in a specific context. However, this principle applies irrespective of the problem being addressed or the approach to prevention. For example, a common element of effective comprehensive responses to gang-related crime in the United States is that there was an extensive research process undertaken before developing the scheme in order to understand the key issues associated with gang-related violence in the local community (Braga et al. 2001; Skogan et al. 2008; Tita et al. 2010). This involved wide-ranging consultations with police, community leaders and service providers. The result of this process was the identification of a discrete and manageable problem. Similarly, in the case of residential burglary, effective strategies were those that had been able to identify high-risk households (based on local crime data and previous victimisation), factors that contributed to this high risk and access points for burglary offenders, so as to inform the development and implementation of appropriate responses (Bowers, Johnson & Hirschfield 2004; Ekblom, Law & Sutton 1996; Forrester, Chatterton & Pease 1988; Forrester et al. 1990). Recorded crime data from police were frequently used to identify the locations of recent burglaries, the extent of repeat victimisation, common access points for offenders, the types of premises that were targeted and the types of property that were stolen. Strategies were then developed to address these specific risk factors. Conversely, a meta-evaluation of burglary prevention strategies across three countries, undertaken by Grove (2011), concluded that many unsuccessful strategies had failed to accurately diagnose the problem and tailor the interventions adopted accordingly.

Overall, the studies reviewed as part of this project showed that effective strategies were targeted at relatively small or well-defined areas with high rates of offending. The areas that were targeted had been identified as having a specific crime problem or high crime rate, either through local crime statistics and/or on the basis of concerns raised by the community. This requires access to information to identify crime hotspots and targets, as well as information about the characteristics of offences (such as when offences are most common) to inform a more targeted approach. Various sources of data were used in the development of the strategies reviewed for this project, including:

- recorded crime data, which is a valuable source of information about crime trends and temporal patterns (ie by month, day of week and time of day), the types of locations that are targeted, people or households at risk of becoming a victim, offenders apprehended by police and the types of property that is stolen; (mention limitations—ie data is only that which is reported).
- hotspot maps, which provide a visual representation of the locations within each neighbourhood with the highest concentration of recorded offences, as well as the specific locations where these offences occur;
- surveys or interviews with victims of crime provided useful information about the level and nature of victimisation, risk factors and the types of measures that were already in place (and may not be working);
- surveys of the wider community were used to assess the degree of concern among residents about the prevalence of offending in their neighbourhood, possible explanations for this offending, high-risk locations, perceptions of safety and the level of support for different types of prevention strategies;
- surveys or interviews with offenders, while less common due to the challenges associated with their implementation, have been used to develop a better understanding of the motivation of offenders and the reasons they target specific locations or victims and the techniques used to conduct the offences; and

- consultation with relevant local stakeholders (potentially as part of a working group or project committee, see below) was often used to seek useful information regarding other organisations' experience and understanding of offending in the local community, the possible causes of offending and information on local initiatives trialled in the past.

Effective strategies frequently relied upon a combination of data sources to provide a more in-depth understanding of the problem being addressed. This is in recognition of the fact that relying on individual data sources provides a limited understanding of a problem. For example, police-recorded crime data is limited to offences that are reported to police (which can vary considerably between different offence types) and restricted to the type of information that may be recorded and made available to assist with planning interventions. As well as requiring high-quality data, this also requires someone with the ability to analyse and accurately interpret the data that has been collected.

Further, effective strategies often had a process in place to monitor the impact of the strategy as it was being implemented and throughout the life of the project. Regular data collection and analysis enabled project managers to monitor progress and identify new issues as they emerge. Given the concerns regarding the impact of situational measures over the long term, it is vital that key indicators continue to be monitored so that interventions can be modified in response to changing crime rates and patterns.

Community engagement, involvement and commitment

Community engagement is a key feature of effective crime prevention (Camina 2004; Mistry 2007). Community engagement, involvement and commitment to the project were also important factors in the successful implementation of the strategies described in this report. Experience has shown that interventions involving the community are more likely to be more effective when members

of the community are enthusiastic and supportive of the initiative. Experience has also shown that it is important to begin working with the community as early as possible, involving them in both the design and implementation of a strategy.

It is therefore necessary to establish appropriate consultation mechanisms at the commencement of the project to seek input from members of the community, business operators and local service providers (and others) into the development of strategies that are likely to require their involvement (or at least compliance) and that will impact upon them. This was particularly true of projects targeting young people, such as mentoring or diversionary schemes.

Stakeholder commitment

Stakeholder commitment is also important and requires the establishment of appropriate partnership arrangements. There are a range of stakeholders who make a valuable contribution to the development, implementation and evaluation of crime prevention initiatives. In Australia, contemporary crime prevention has generally embraced the value of interagency partnerships, collaborative policy development and program delivery, in recognition that the causes of crime are wide ranging, complex and frequently require a coordinated response (Homel 2009). Partnerships are an effective mechanism for the delivery of integrated solutions, comprising closely linked and coordinated interventions that can achieve shared outcomes. However, experience has shown that establishing and maintaining effective partnerships can be challenging (Morgan 2011; Morgan & Homel 2011) and that while partnerships offer numerous benefits, they also present significant operational challenges (Knutsson & Clarke 2006; Laycock & Tilley 1995).

The degree of partnership working between two agencies can vary across a continuum ranging from networking through to collaboration, depending on the need, purpose and willingness of two agencies to work together (Morgan 2011; VicHealth 2006). Research has identified several important features of effective crime prevention partnerships:

- a clear mission and agreement on the objectives of the partnership;
- good knowledge and understanding of one another's roles, responsibilities and motivation for being involved in the partnership;
- a high level of trust between partner agencies;
- similar organisational perspectives, objectives, performance indicators and cultures;
- members who work well together, respect one another and are committed to ensuring the partnership succeeds;
- strong leadership at senior levels to exercise some level of influence and 'champions' for the project working at the local level;
- the capacity of agency representatives to commit resources to enable partnerships to function and to address barriers to implementation as they arise;
- clear lines of accountability within the partnership and its parent agencies through performance management processes;
- division between strategic management and the management of operational and implementation issues, with clear lines of communication and accountability;
- partnership structures that are relatively small, businesslike, with a clear process for making decisions and a focus on problem solving;
- adequately resourced, including ensuring that staff have enough time away from agency core business to provide input to the partnership;
- data sharing policies and protocols; and
- continuity in partner representation and participation, and documentation of processes and decision making (Gilling 2005; Rosenbaum 2002; Scott 2006).

These characteristics can act as a checklist against which policymakers and practitioners are able to assess whether the necessary conditions exist for a proposed solution involving multi-agency collaboration. The review of projects as part of this research has also highlighted a number of practical lessons for developing and maintaining effective stakeholder partnerships. This is particularly important given that the majority of strategies involve multiple components and related interventions and

will therefore require local government to work with other stakeholders.

Where projects involve multiple interventions requiring input from a range of different stakeholders, a committee with representatives from the various parties should be established early to oversee the development, implementation and ongoing review of the project. This will help to ensure strong partnerships between key agencies and provides a process whereby all parties can be held accountable for delivering different aspects of the program. It is also a forum for sharing ideas regarding potential solutions to new problems as they arise. This was a common feature of many of the projects reviewed. Ideally, this group should be led by a dedicated project coordinator. Membership stability among agency representatives involved in governance or management committees is also important (Anderson & Tresidder 2008; Morgan & Homel 2011).

Similarly, multicomponent strategies should be supported by a comprehensive implementation plan that describes the key stages in project delivery and the interrelationships between different but complementary interventions. Experience has shown that having a clear strategy is important in ensuring that a project can be implemented as it was originally intended. It can also help to outline relevant roles and responsibilities. Progress against the plan can then be documented and monitored by the stakeholder committee to ensure that key information and lessons are passed on to new staff.

There are occasions where it can be difficult to engage or maintain the involvement of key stakeholders. This was evident in a number of the studies reviewed and when it occurred, often had a detrimental impact on the implementation of the project. There is a range of different reasons that this might occur. Stakeholders may be unable to take action to prevent crime (eg due to a lack of resources), they may perceive it to be the responsibility of someone else, they might think the cost outweighs any potential benefits and in some extreme cases, may actually benefit from the problem that is being addressed (Clarke & Eck 2003). Scott and Goldstein (2005) have identified a number of ways police can shift ownership to other agencies as part of problem-oriented policing

projects, some of which may be appropriate to local government. Overcoming strong resistance may require legislation mandating action to be taken or withdrawing (or threatening to withdraw) particular services or support for the other agency. Generating positive media coverage about a project (or negative media coverage about a problem) may foster support for a project or shame another party into taking action (Scott 2006; Scott & Goldstein 2005). Other strategies can include:

- pushing for the establishment of a new organisation that can assume responsibility for a particular activity;
- approaching alternative organisations who might be able to help address the problem;
- making more targeted and/or formal requests for assistance where informal approaches have been unsuccessful, such as producing evidence that might help convince other agencies of the need for their involvement or by approaching senior management (Scott & Goldstein 2005).

The suitability of these responses will depend on who the partner is, what role they perform in the project, how important that role is and what the potential negative consequences of some of these options could be.

Expertise, technology and resources

Projects often require specific expertise. For example, as part of an access control and awareness campaign to reduce residential burglary, suitably qualified personnel such as police are required to undertake security audits. Further, in order to provide assistance with the installation of security devices, qualified personnel may need to be engaged to improve the physical security of doors, windows and fencing, as well as to install entry systems and security lighting. Similarly, strategies that involve making improvements to street lighting require professionals such as lighting engineers. They will have an understanding of lighting design and technology and be aware of issues that may reduce the effectiveness of an intervention (eg the need to ensure lighting is bright enough and to prevent obstructions that will limit its impact).

Further, trained personnel will ensure that lighting equipment is hardwearing, vandalism-proof or resistant and (where necessary) is maintained over time. This will help to ensure that the appropriate technology is employed.

Recruitment strategies should aim to attract appropriate project staff with the skills, experience and knowledge relevant to the position. Strategies also need to be developed to ensure the longer term stability and sustainability of projects, particularly in the event of staff turnover.

It is also important that projects are adequately resourced. Interventions should be selected on the basis that there are adequate available resources to enable them to be implemented in accordance with their design. This includes resources to support the purchase and installation of equipment, employing qualified personnel, preparing relevant materials and promoting the project and (in the case of CPTED) changes to buildings and/or landscaping. It may be possible to adapt interventions to meet funding constraints, but this needs to take into consideration the potential impact upon the effectiveness of the intervention.

Selecting a response

In this review, a number of intervention types have been identified that are supported by evidence of effectiveness and the requirements for their implementation. However, there are a number of factors that need to be considered in deciding what to do when selecting a response to an identified crime problem. In some instances, the most obvious and appropriate solution will emerge through the analysis of the problem (Brown & Scott 2007; Clarke & Eck 2003; Goldstein & Scott 2001). In others, a range of potential solutions may be identified (even within the one type of intervention, such as access control).

There are a number of important factors that need to be considered in determining which of the preferred interventions is the most appropriate and most likely to be effective for a local government area with an identified crime problem. Brown and Scott (2007) have identified 10 questions to ask about planned interventions as part of the planning stage:

- What is the change mechanism?
- What evidence is there that the intervention has worked before?
- How difficult will it be to implement the intervention?
- Does the intervention rely on external partners' actions?
- Are regulatory or high-level policy changes required to implement the intervention?
- How will the intervention interact with other interventions being implemented in the same area/ with the same group?

- What will be the stakeholders' reactions to the intervention?
- Will any negative consequences accrue from the intervention?
- How long will it take for the intervention to show results?
- Can the impact be measured?

The answers to each question will help inform the process of deciding what to do to address an identified crime problem, and which of the intervention types should be implemented by local government with the support of the NSW CPD.



Improving the evidence base for local government crime prevention

The AIC has identified a significant number of interventions that are supported by evidence of effectiveness in the prevention of the priority crime types currently being targeted by the NSW CPD. It has therefore been possible to draw a number of conclusions based upon the findings presented in this report, both about the effectiveness of different intervention types and the requirements for successful implementation. However, there are important limitations that need to be acknowledged. This section ends with some suggestions for improving the available evidence base to inform local government crime prevention.

Limitations of systematic reviews

There are a number of limitations with the methodology used for this review (and systematic reviews more broadly) that should be acknowledged. The majority of evaluated strategies involved multiple interventions delivered as part of a multifaceted, comprehensive program. Therefore, isolating the intervention or interventions that were most effective is difficult. Similarly, it is difficult to determine the relative contribution of each intervention type to the overall effectiveness of strategies involving multiple

interventions. Instead, the research suggests that interventions are most effective when delivered in combination with one another. While there were some exceptions, there was limited evidence that the implementation of a single intervention type would, on its own and in the absence of other strategies, be effective in reducing the priority crime types examined for the purpose of this report.

It is also important to acknowledge that the integration of theory with the experimental method may not entirely overcome some of the methodological limitations that are associated with the absence of a comparison group; specifically threats to internal validity. The quality of evaluations (in terms of the SMS) also varied considerably between the priority crime types. For example, the quality of evaluations of strategies aimed at preventing residential burglary was higher than for malicious damage. This report has been careful not to describe certain interventions as having been 'proven' to be effective, particularly as there are a number of intervention types supported by a small number of evaluation studies. Nevertheless, these evaluations have provided valuable lessons both in terms of the process and outcomes from crime prevention interventions and as such, warrant inclusion in the review.

The focus on evaluations for which there is a measure of one of the priority crime types is also likely to have biased the results towards those interventions that deliver short-term outcomes and is likely to have contributed to a greater focus on those interventions that involve the manipulation of situational factors for crime (ie situational crime prevention). Programs targeted at offenders (or people at risk of offending) frequently report on general individual-level outcomes such as self-reported delinquency (for juveniles), arrests and reoffending. They often do not include measures specific to involvement in certain crime types. Where the program has been specifically established to address one of the priority crime types but includes general measures of offending by the recipients or participants in the intervention, the study was included in the review. However, studies were excluded if they did not include a specific measure relating to the relevant crime type(s) and did not have a reduction in one of the priority crime types as an explicit objective. This does not necessarily mean that interventions targeting offenders or individuals at risk of offending would not be effective in preventing the priority crime types examined as part of this review.

Further, since this review was focused on finding evaluations for strategies that addressed the priority crime types, interventions that were identified have then been categorised and general conclusions regarding their effectiveness in addressing the crime types are drawn. This process differs from reviews that have examined the impact of prevention strategies delivered in different settings on crime generally (eg Sherman et al. 2006, 1998) and those that have reviewed the evidence in relation to specific strategies (eg the meta-reviews undertaken on behalf of the Swedish National for Crime Prevention).

There is a risk that following this approach may have led to some studies being overlooked on the basis that they included one measure among many that related to the relevant crime type and were therefore not easily detected as part of the literature search. To overcome this, in instances where a particular intervention has been identified from one study as having impacted (or not) on one of the priority crime type, the research team searched for

additional evaluations relating to that intervention (not otherwise detected by the search terms outlined below).

Among those strategies included in the review, few had results that suggested the intervention had been ineffective in reducing the targeted crime problem. It is not surprising that fewer unsuccessful studies were identified compared with those that showed positive results, as it has been recognised that organisations are more likely to release studies that provide favourable results than studies that do not show success. This may serve to overestimate the relative success of strategies examined as part of this review (known as *publication bias*). Finally, given the short timeframe for this project, it is likely that some evaluation studies have been overlooked, particularly unpublished (or not widely published) and older studies.

The standard of evaluation in crime prevention

These issues aside, it has been demonstrated that the level, quality and strength of the evidence in support of different crime prevention intervention types vary considerably. Some of the prevention approaches described in the introductory sections of this report do not appear to be supported by evidence of effectiveness (or evidence demonstrating that they are not effective). There was strong evidence to suggest that environmental approaches to crime prevention were effective in reducing the priority crime types examined as part of this research. There was less evidence in support of social approaches, even taking into account the methodological limitations described above. For example, there was little research into the effectiveness of diversionary projects targeting young people (particularly as a primary intervention), which are a common strategy employed by local government. This review has also demonstrated that there continues to be limited research into the effectiveness of efforts to modify community-level factors to reduce crime (or involvement in those volume crimes examined as part of the current research project; Homel 2005; Hope 1995; Tonry & Farrington 1995; Welsh & Hoshi 2006).

The age and source of the majority of the evaluations located and reviewed as part of this project is also worth noting. A significant proportion of the studies cited in this report were released more than a decade ago. Further, the majority were from the United States and the United Kingdom, with fewer studies examining the impact of community-based crime prevention in Australia found to meet the criteria for inclusion.

Consistent with previous reviews of situational crime prevention strategies (Eck 2006a), there appeared to be little evidence of displacement of offending to adjacent areas. However, the proportion of studies that examined issues of displacement to surrounding areas (or other forms of displacement) or the diffusion of benefits was relatively low, given the number of studies that examined the impact of situational crime prevention. Similarly, a small number of studies found a long-term positive effect on crime, while others observed that the impact on crime levels appeared to diminish over time. However, relatively few studies monitored the impact of a project beyond 12 months, making it difficult to draw conclusions about the long-term effectiveness of different strategies.

The lack of high-quality evidence from Australia or in relation to common intervention types is possibly due to the fact that most crime prevention programs have, for the most part, placed less emphasis on systematically generating evidence than on the practical application of the available research (Homel 2009a, 2005; Sutton, Cherney & White 2008). The emphasis on short-term and non-recurrent funding has resulted in projects that have been limited in duration and scope, which has impacted on attempts to implement and evaluate interventions that can address the underlying causes of crime. Adherence to the community-based approach to crime prevention has seen much of the responsibility for evaluation devolved to local agencies, including local government and non-government organisations (Anderson & Homel 2005; Anderson & Tresidder 2008; Homel et al. 2007).

Experience from both national and state and territory crime prevention programs suggest that this approach has been largely unsuccessful in terms of generating high-quality evaluations. Numerous initiatives have been implemented that have not been subject to evaluation or ongoing

monitoring and where they have been evaluated, the methodological rigour of those evaluations has often been poor (Crawford 1998; English, Cummings & Stratton 2002; Eck 2005; Lipsey et al. 2006; Sherman et al. 2006; Weatherburn 2009, 2004). There are a variety of reasons that this approach has proven problematic, including:

- a lack of clarity and shared understanding of the need for and purpose of evaluation;
- a lack of relevant knowledge, experience and expertise in evaluation among those responsible for overseeing and responsible for conducting evaluations;
- limited training and professional development opportunities to build expertise and capacity to undertake evaluation, a lack of technical support to overcome the challenges posed by a lack of professional experience or expertise and limited access to useful information and resources to assist organisations in undertaking evaluation;
- issues relating to access to useful data and where that data is available, limited expertise in data collection and analysis;
- insufficient resources and in some cases, resistance to allocate resources to evaluation that would otherwise be directed to service delivery;
- application of narrow models of evaluation, often focusing on outcomes at the expense of process or vice versa;
- an emphasis on accounting for financial investment (ie funding acquittal) rather than demonstrating the benefits that have been delivered;
- the length of time allocated to implementing and reporting on projects is often insufficient to observe and measure crime prevention outcomes;
- an inconsistent record of academic interest and engagement in crime prevention evaluation; and
- a failure to commit adequate funding to evaluation (Cameron & Laycock 2002; Crawford 1998; English, Cummings & Stratton 2002; Sutton, Cherney & White 2008).

There is considerable scope to improve the way crime prevention programs and projects are evaluated (Cameron & Laycock 2002; Crawford 1998; English, Cummings & Stratton 2002; Homel & Morgan 2008; Sutton, Cherney & White 2008).

Improving the quality of evaluation

Comparing the volume of crime prevention activity delivered in Australia and overseas with the number of studies available for inclusion in a review such as this one has highlighted the fact that there is considerable scope for improving the way crime prevention is evaluated. Selecting an appropriate evaluation model requires consideration of the characteristics of a program, the purpose of the evaluation study, the available options and the views of key stakeholders (English et al 2002). Consideration must also be given to the capacity of those conducting the evaluation. There is no single best approach to evaluation; rather there are a variety of different approaches to evaluation, including experimental research designs (including randomised control trials, quasi-experimental designs and pre and post-test comparisons) and realist or theory-driven approaches. There is also a range of different quantitative and qualitative research methods that can be used. In this report, a strong case is made for finding an appropriate balance between evaluation approaches and methods that aim to identify what works in crime prevention through rigorous scientific methods, and those that place greater emphasis on developing a more detailed understanding of good practice and what can be done in what circumstances to prevent crime (Cherney & Sutton 2007; Tilley 2009, 2006).

In addition, where possible, the evaluation of crime prevention strategies should incorporate both process and outcome evaluation. A process evaluation will aim to improve understanding of the activities that are delivered as part of a program. It is also focused on the implementation, operation and management of these activities; assessing whether they were (or are being) delivered as planned and in accordance with the design of the program, determining how well they were delivered (ie to an acceptable standard and the satisfaction of various parties involved) and identifying any factors that may have impacted upon the delivery of these activities. An outcome evaluation is concerned with the overall effectiveness of the program, examining whether the stated objectives have been achieved and determining what outcomes (intended or unintended) have been delivered as a result

including the impact of the program on participants, stakeholders and the broader community.

In order to improve the evidence base available to local government around effective crime prevention interventions and the requirements for their implementation, it is important that there are strategies in place to increase both the amount and quality of evaluation research being conducted. This might involve establishing mechanisms to:

- encourage local government and other community-based organisations to undertake or sponsor evaluation work;
- appoint qualified personnel to undertake high-quality evaluation studies on behalf of community-based organisations;
- review evaluation proposals and provide input into evaluation design and methodologies developed by community-based organisations;
- provide guidance and support to local government entrusted with evaluation, in developing the methodology and on an ongoing basis; and
- provide training and develop resources that help to build the capacity of those involved in evaluation and performance measurement (Homel 2009b; Lipsey et al. 2006).

Determining the most effective approach to supporting evaluation work will need to be based on an assessment of the existing capacity and potential needs of those likely to be entrusted with the responsibility for evaluation.

Further research may seek to fill the gaps in the evidence base for local government by targeting specific intervention types for evaluation. Rather than aiming to evaluate all projects, evaluation effort could be targeted at clustered groups of projects (classified according to intervention type, target crime etc) to draw conclusions about effectiveness of specific interventions or projects targeting specific priority areas. Decisions regarding which interventions should be subjected to more rigorous evaluation can be based on an assessment of the potential practical and policy significance of the findings, and of the ability of the intervention to be effectively evaluated (Lipsey et al. 2006). By focusing evaluation on clusters of projects that are identified as being important and/or of interest, the knowledge base on effective crime prevention practice can be

developed in a strategic and systematic way. Similar approaches to evaluation have been adopted in New South Wales for graffiti prevention through rapid removal, CPTED and volunteer programs (NSW Department of Justice Attorney General

2009). This approach would be particularly useful for those intervention types that are common in local government crime prevention plans but for which there is little evidence of effectiveness.

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Appendix

Appendix A: Linking interventions and mechanisms

Table A1 Interventions and underlying mechanisms

Intervention	Description	Examples	Possible mechanism(s)
Access control	Aims to increase the effort associated with committing an offence, usually through the alteration of the physical environment or surroundings to make specific crimes more difficult	Providing rebates for security alarms and devices Increasing perimeter fencing Alley gating Street closures	Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose of Make target enclosures harder to penetrate to increase the perceived effort associated with a crime Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur Manipulate the physical environment (built or landscaped) to improve surveillance, define ownership of spaces and minimise conflict between users
Arts development project	An arts development project is one that uses art (including visual art, theatre, dance etc) as the medium for social or community development	Urban art projects Theatre workshops	Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations where their risk of offending might be increased
Awareness campaign	An awareness campaign aims to provide information to a target group to raise awareness of specific issues, crimes, services and/or preventative measures	Marketing and advertising campaigns, including the distribution of material with crime prevention advice Distributing information about crime and security Distributing road safety material to drivers Security audits, including the distribution of security risk assessment toolkits or risk assessments conducted by skilled professionals	Encourage individuals (potential victims or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence

Table A1 (continued)

Intervention	Description	Examples	Possible mechanism(s)
CCTV	CCTV involves the placement of cameras to capture images that are recorded or transmitted to monitors	Installation or upgrade of CCTV systems, fixed and mobile	<p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture</p> <p>Encourage individuals (potential targets or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur and/or encourage behaviour that minimises opportunities for crime to occur</p>
Community engagement or mobilisation	Community engagement or mobilisation projects seek to change the social structure of particular communities, through enhancing social networks, increasing informal social controls and empowering communities to take action to reduce crime	Community events that encourage individuals to engage with one another	<p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture</p> <p>Encourage individuals (potential victims or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur and/or encourage behaviour that minimises opportunities for crime to occur</p>
Community patrol	A community patrol is a group of people that actively patrol their community, possibly offering an outreach service to provide information and assistance to members of the community (including referrals to support services and mediation), safe transport, reporting incidents and information to police, and in some instances provide a security service to help maintain social order	<p>Local government security patrols</p> <p>Indigenous night patrols</p> <p>Neighbourhood wardens</p>	<p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture</p> <p>Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending</p>
CPTED/urban renewal	CPTED or urban renewal projects seek to reduce the opportunities for crime through the design and management of the built and landscaped environments. This includes strategies that involve modifying the built environment to create safer places that are less crime prone, or to make people feel safer	<p>Integration of CPTED principles into town planning</p> <p>Development of CPTED policy</p> <p>CPTED audits of public spaces</p> <p>Urban regeneration initiatives</p>	<p>Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users</p> <p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture</p> <p>Make target enclosures harder to penetrate to increase the perceived effort associated with a crime</p>

Table A1 (continued)

Intervention	Description	Examples	Possible mechanism(s)
Diversionsary activities project	Diversionsary activities attempt to divert people away from engaging in criminal or antisocial behaviour by providing alternative activities in a safe environment that are rewarding, challenging and age appropriate. These activities can reduce boredom or reduce the opportunity to engage in less desirable behaviour and can also have a socialising effect. These activities can include sport, art, media projects, music and camps (see sub-classification)	After school, weekend and vacation sport and recreational activities Youth drop in centres Establishing recreational facilities such as skate parks Music festivals	Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased Prevent potential offenders from being able to access locations where there are potential targets (property or people) or where provocation may occur
Education-type project	An education-type program is any structured set of activities that aims to deliver information to the target group with a view to improving their skills or knowledge. Unlike awareness campaigns, education-type projects rely on the active participation of the recipient. This can include community education and workshops, vocational education and training, professional development, strategies that aim to improve school performance and drug and alcohol education	Providing training on crime prevention to seniors, business owners, victims of crime, young people, community groups or culturally and linguistically diverse communities Drug and alcohol education in schools	Encourage individuals (potential victims or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased
Employment project	An employment program may actively seek or assist an individual to find employment, or provide vocational/job skills training that will increase the opportunities for employment available to the individual	Mechanical skills workshops Projects that help young people to develop resumes and applications for employment	Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence

Table A1 (continued)

Intervention	Description	Examples	Possible mechanism(s)
Mentoring project	Mentoring is when a more experienced person takes on a role advising a less experienced person. Mentoring programs as a crime prevention strategy are characterised by contact between individuals that have had contact with the criminal justice system, or are at risk of becoming involved in offending or antisocial behaviour, with positive role models. These role models are usually older and more experienced, and provide support, guidance and encouragement to the less experienced young person	Projects that engage members of sporting clubs to mentor young people	<p>Intervene at key developmental stages to alleviate risk factors and enhance protective factors; or address the underlying factors that contributed to an offender's behaviour in the first place and support their transition back into the community</p> <p>Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased</p> <p>Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending</p>
Natural surveillance	Strategies that are designed to increase the natural surveillance of an area encourage people to monitor the areas where they live or work as part of their everyday activity	Neighbourhood Watch Eyes on the Street	<p>Introduce or improve formal or informal surveillance to increase the perceived risk that committing an offence will result in identification or capture</p> <p>Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users</p>
Personal development	Personal development strategies seek to address those risk factors relating to the individual and their social environment, such as social skills, life skills and parenting skills. Early intervention or developmental intervention projects often incorporate personal development strategies	Parenting courses and support programs for young parents	<p>Intervene at key developmental stages to alleviate risk factors and enhance protective factors; or address the underlying factors that contributed to an offender's behaviour in the first place and support their transition back into the community</p> <p>Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased</p>
Police enforcement	Police enforcement of the existing legislation	Enforcement of liquor licensing legislation in entertainment precincts	Introduce or improve formal surveillance to increase the perceived risk that committing an offence will result in identification or capture
Property marking	Aims to decrease the rewards associated with crime by making it more difficult to move on stolen property	Provide property engraving services	Increase the perceived effort or rewards associated with a crime by making targets harder to access, remove or dispose of

Table A1 (continued)

Intervention	Description	Examples	Possible mechanism(s)
Restricting (or controlling) access to products	Strategies that restrict access to certain products aim to limit the ability of potential offenders to access weapons, tools or inhibitors that increase their ability or risk of offending	Restrictions on purchasing knives or graffiti implements Restrictions on purchasing alcohol while underage or intoxicated	Prevent offenders from being able to access the resources they need in order to commit an offence or which might be used as an excuse
Rules and regulations for business	Setting informal or formal regulations that guide the operation of businesses and organisations	Code of conduct for licensees Restrictions on secondhand dealers	Encourage individuals (potential victims or individuals who facilitate access to targets) to consider the implications of their actions and discourage behaviour that may create opportunities for crime to occur Prevent offenders from being able to access the resources they need in order to commit an offence or which might be used as an excuse
Service coordination	Service coordination includes projects that specifically aim to improve the way in which various organisations work together to address crime problems or to provide services to offenders, victims or those at risk of becoming an offender or victim of crime. They may involve a range of other interventions, but have as their primary goal improving the way agencies work together	Projects that include police to develop referral mechanisms to improve access to services for victims of domestic violence Audits/promotion of existing services	Minimise the likelihood of stressful events that may influence the behaviour of potential offenders or, when these events do occur, minimise their potential negative impact
Street lighting	Involves the placement or improvement of lighting to increase visibility in public spaces and thoroughfares	Increasing street lighting around public transport	Manipulate the physical environment (built or landscape) to improve surveillance, define ownership of spaces and minimise conflict between users Increase an offender's perceived risk of crime, the perceived effort of crime or reduce the anticipated rewards of crime to discourage them from committing an offence

Table A1 (continued)

Intervention	Description	Examples	Possible mechanism(s)
Support services	Support services aim to provide some type of customised support for individuals (typically on an individual basis but also in small groups) that are victims or offenders of crime, or at risk of becoming a victim or offender. This often involves individual case management or an assessment of an individual's needs, often with a view to improving access to essential services (such as counselling, emergency accommodation etc) by way of referrals	<p>Support services for victims of domestic violence</p> <p>Outreach services for young people</p> <p>Counselling for people with substance use problems</p>	<p>Alleviate (or minimise the impact of) stressors (relating to the individual or environment) that may influence the behaviour of potential offenders or that might be used as an excuse for offending</p> <p>Build a person's resilience to offending by providing them with the resources, skills, knowledge and ability to avoid situations in which their risk of offending might be increased</p> <p>Intervene at key developmental stages to alleviate risk factors and enhance protective factors; or address the underlying factors that contributed to an offender's behaviour in the first place and support their transition back into the community</p>