COMMUNITY CRIME PREVENTION

VICTORIA State Government

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Guide to evaluating your public safety infrastructure project

Prepared by the Australian Institute of Criminology in partnership with the Victorian Department of Justice and Regulation Community Crime Prevention Unit

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Contents

Tables

Figures

Introduction

What you need to know

- Evaluation usually refers to the process of collecting and analysing data to determine whether a project has been implemented as planned, how well it has been delivered, what impact it has had on crime and safety and the reasons it did or did not work.
- There are plenty of good reasons to conduct an evaluation. It is not just about meeting the requirements of your funding agreement.
- There are many different approaches to evaluation, and no single best approach. There are, however, certain principles to follow for good evaluation.
- There are many examples of evaluations of public safety infrastructure projects. It is possible to measure the impact of these projects on crime and safety.

This guide has been prepared to assist you to evaluate your public safety infrastructure project and forms part of the Evaluation Toolkit. It will help you to produce a better quality evaluation and to meet the requirements of your funding agreement.

In addition to the guide, there are a number of evaluation resources available to you. These resources can be used to complete certain stages of the evaluation process. These resources are referred to throughout the guide, and are included as part of the Toolkit.

What is evaluation?

Evaluation can be broadly defined as 'the systematic collection and analysis of information to make judgements, usually about the effectiveness, efficiency and/or appropriateness of an activity' (Australian Evaluation Society 2013: 3). In crime prevention, evaluation usually refers to the process of collecting and analysing data to determine whether a project has been implemented as planned, how well it has been delivered, what impact it has had on crime and safety and the reasons it did or did not work.

Almost as important as understanding what evaluation is, is understanding what it is not. Evaluation is not just summarising what has been done, or reporting that there were no problems. It's also not just about seeking feedback from people who were involved to see whether they were happy with you have done. And it's not about saying that people who received the service or product you delivered are better off, simply because it now exists, without any evidence to support this conclusion.

Why evaluation?

A good evaluation can determine whether a project has been implemented as planned, what outcomes have been delivered as a result, and whether the stated objectives of a project have been achieved. It can also tell you the reasons that a project did or did not work. Evaluation is important for a number of reasons, including:

- to work out whether a project has been successful in reducing crime or improving community safety;
- for accountability purposes, particularly where a project receives funding from an external source;
- reporting against accountabilities in a strategic plan, including community safety and municipal public health and wellbeing plans;

- to help assess what parts of a project are working well and what could be improved;
- to understand and explain why a project or parts of a project didn't work as well as you would have liked;
- to contribute to the evidence base around effective crime prevention and characteristics of effective projects; and
- to identify and share important lessons with other communities confronted with similar problems, provide guidance on good practice and highlight potential challenges associated with implementing similar projects in the future.

While it is a requirement of your funding agreement, it is also part of good project management. Evaluation can be extremely useful, but it doesn't have to be difficult. This guide aims to help demystify the evaluation process and make it easier for you to complete your evaluation.

What makes a good evaluation?

There are many features of a good evaluation. Importantly, the type, complexity and overall standard of evaluation will depend on the capacity of the person doing the evaluation. Some larger, more complex evaluations are best outsourced to someone with the relevant skills and experience. But internal evaluations can still be good quality.

There are several qualities of good evaluation to keep in mind when evaluating your project:

- Decisions about the evaluation approach, design and methods are based on the purpose of the evaluation, the characteristics of the project being evaluated and an understanding of the needs of evaluation stakeholders.
- The process is transparent so that people reading your evaluation report can see how you came to your conclusions, including by making explicit the methods that you used.
- The research design and methodology is as rigorous as possible, given the circumstances and capability of the people conducting the evaluation and taking into account the total investment in the project.
- The methodology is replicable—someone else should be able to use the same approach as you and come to the same conclusions.
- Positive and not so positive findings are described, to show that you have remained objective and honest throughout the evaluation process.
- Different viewpoints are taken into account and input is sought from a wide range of project stakeholders.

Following these simple principles can help to ensure that your evaluation is as high quality and as useful as possible. This guide has been developed to help you adhere to these principles.

Which approach to evaluation is best?

There are many different approaches to evaluation. Five of the more common evaluation approaches are presented in Table 1. While they may use similar methods and are not mutually exclusive, each approach has a slightly different focus. More information about these approaches, and others, is available on the Better Evaluation website: www.betterevaluation.org.

In practice, there is no single best approach to conduct an evaluation. This evaluation guide draws on elements of several different approaches to evaluation in recommending how to evaluate your public safety infrastructure project.

Table 1 Some of the major approaches to evaluation

Approach	Focus
Experimental	Determining causal relationships between variables and using quantitative designs and data
Utilisation-focused	Meeting the needs and requirements of the intended user/s and using evaluation findings to inform decisions
Theory-driven	Understanding what works for whom and in what circumstances
Participatory	Active involvement of project stakeholders—providers, partners, beneficiaries and others—in conducting the evaluation
Empowerment	Providing communities with the tools and knowledge that allows them to monitor and evaluate their own performance

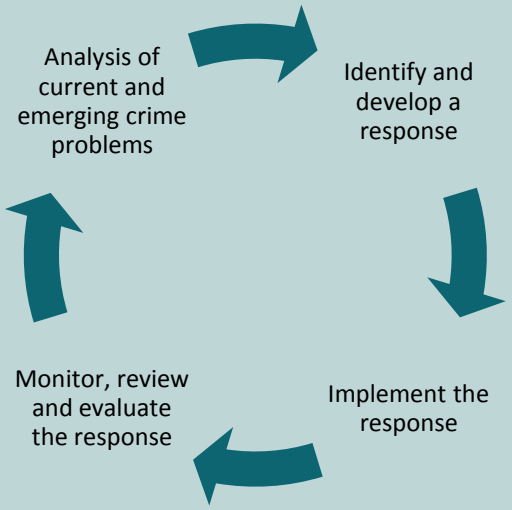
Source: www.betterevaluation.org

How does evaluation fit as part of the problem solving process?

People working in crime prevention are often encouraged to follow a problem-solving process in developing, implementing and reviewing local initiatives. Various models have been developed to guide this process. All of these models involve some combination of problem analysis, strategy selection, implementation, partnership working and review and evaluation (Cherney 2006). These steps are described in Figure 1.

At its most basic, problem solving involves a thorough analysis of current and emerging crime problems, their causes and risk factors. Once these problems are identified and understood, a response can be chosen based on what works and the context in which it will be implemented. The process then involves identifying the key partners that need to be involved and working with them to implement the response.

Figure 1 Problem solving process for crime prevention



Source: Cherney 2006

It's at the next stage where evaluation is important. The response needs to be subject to regular review and tracking to make sure that things are going as planned, but it should also be evaluated. An evaluation can assess whether the response was implemented as planned, and whether the project has actually made a difference to the problem it set out to address. The results from this evaluation, along with regular monitoring, can then be used to make changes to the project and/or to develop new strategies.

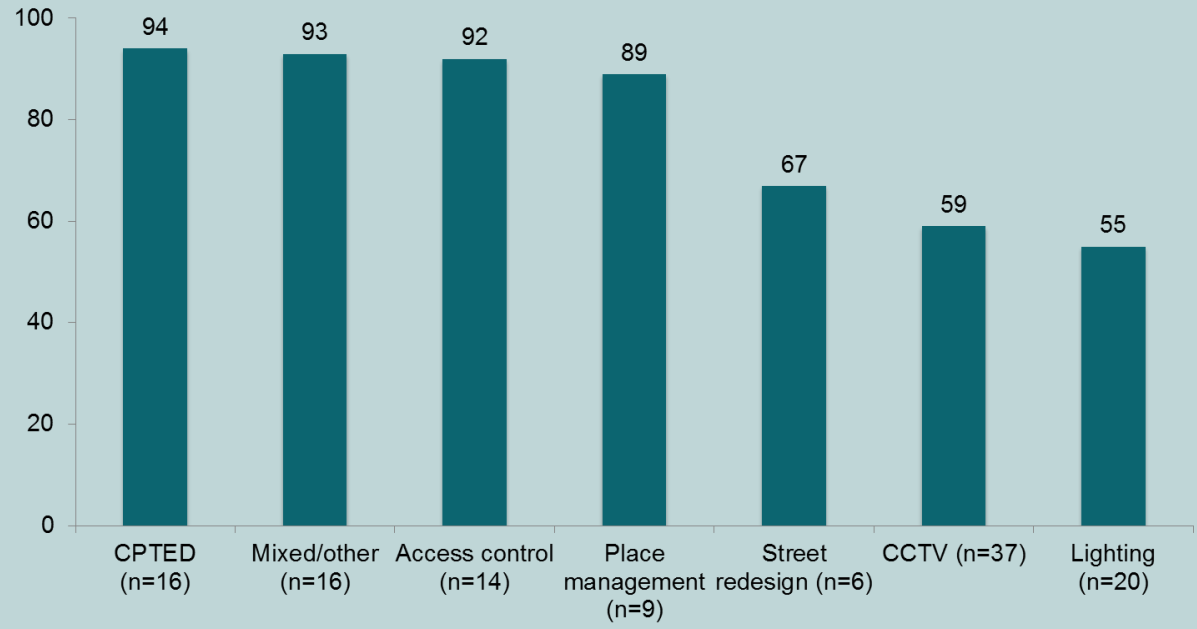
Is it possible to evaluate infrastructure projects designed to prevent crime?

The short answer is yes. A recent review by Eck and Guerette (2012) found well over 100 studies evaluating place-based interventions, including infrastructure projects involving CPTED, CCTV and lighting, in terms of their impact on crime. The review found that three quarters (77%) of all projects were effective in reducing crime. There was some variation between the different intervention types, but in all cases projects were more often effective than they were ineffective (Figure 2).

Of course, this doesn't mean every project will work. There are many factors that contribute to the success (or not) of situational prevention. Similar reviews have shown that these interventions don't work equally well in all settings, and that they work best when they are tailored in response to an understanding of the problem (Morgan et al. 2012). They tend to also work more effectively when they are delivered in combination with other strategies.

It also doesn't mean that you won't encounter challenges in trying to conduct your evaluation. You might find it difficult to measure changes in crime because of small numbers of recorded offences, find it hard to identify suitable comparison areas, or receive only a small number of completed surveys measuring perceptions of crime and safety. However, good evaluation is still possible, and this guide aims to help you to overcome some of these common challenges.

Figure 2 Effectiveness of place-based interventions in reducing crime, by type of intervention (%)



Source: Eck & Guerette 2012

How to use this guide

This guide has been developed to assist you evaluate your public safety infrastructure project funded by the Department of Justice and Regulation Community Crime Prevention Unit. The information in this guide can be adapted to suit the various types of projects that may be funded as part of this funding stream.

To get the most from this guide, it's recommended you start by reading through the document in its entirety. This will give you an appreciation of all of the decisions you may need to make and the options for evaluation that might be available to you.

Then return to the planning section. Use the prompts in this section to make key decisions about your evaluation. Once you have done this, certain sections of the guide may become more relevant to your own project. You can then refer to these sections when it's helpful.

As well as the guide, there are a number of resources that have been developed and form part of the Evaluation Toolkit. This includes a number of templates that you can adapt to your project and use as part of your evaluation. There are bookmarks to these resources throughout the guide.

Planning your evaluation

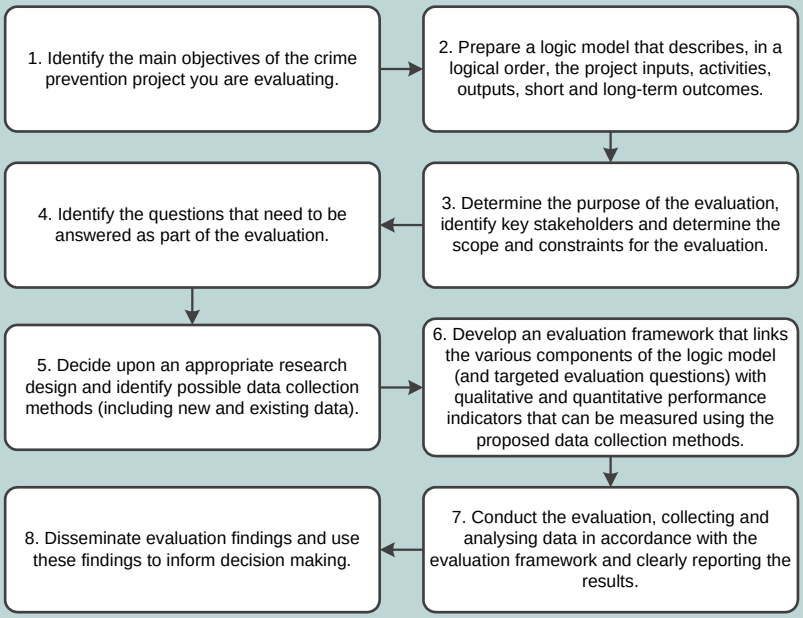
What you need to know

- If you spend enough time planning your evaluation early in the life of your project, then you will increase your chances of producing a useful evaluation.
- Before you start work on your evaluation, you should have clear project aims and objectives and a logic model that describes your project, so you know what it is you will be evaluating.
- You should prepare an evaluation plan that describes the type of evaluation you will be doing, your performance indicators, and how you will conduct the evaluation.
- You will need a baseline measure of performance that describes the situation before you started doing anything. You should be able to build upon the information you already collected to develop the project.

Evaluation isn't something that happens at the end of a project. It is a process that begins with the development of the project plan and continues throughout the life of the project. There are a number of steps in the evaluation process. These are described in Figure 3. Most of these steps happen at the planning stage.

In practice, the evaluation process is not as rigid as these steps imply. However, following these steps as closely as possible, particularly during the evaluation planning stages, can help to make sure you don't overlook anything important.

Figure 3 Steps in the evaluation process



Source: Morgan & Homel 2013

Start with clear aims and objectives

It is important to have clear aims and objectives to guide your project—not just for evaluation. These should emerge from an understanding of the problem and relate directly to the activities that will be

delivered as part of the project. You will have likely set out your aims and objectives in your original proposal, and they will also be in your funding agreement.

Project aims describe what impact you expect the project will have—such as a reduction in crime or improved perceptions of safety—while project objectives describe what will be delivered as part of the project.

Both the aims and objectives should follow SMART principles:

Specific: Focus on a problem, people and/or place;

Measurable: With available quantitative and qualitative data;

Achievable: With the skills and resources available to the project;

Relevant: To the activities being delivered and the people involved in the project; and

Timely: Can be achieved (and measured) in the project period.

If you don't already have project aims and objectives consistent with these principles, you should revisit them as part of planning for the evaluation. Remember—you will be assessing how the project performed against these aims and objectives, so it's important you get them right.

Know your purpose, and your audience

Evaluation can serve many purposes. If you are clear about why you are evaluating your project, then you can make decisions about how you will evaluate your project to meet these goals.

At a minimum, you will need to meet your funding requirements. This means accounting for how you have spent the funding and delivered what you said you would, and demonstrating whether the project achieved its aims and objectives. Beyond that, why are you doing the evaluation? Do you want to understand what impact you've had, work out what about your project made it work (or not work), identify areas for improvement, or share the lessons learnt with other councils and practitioners? Some of the different reasons for doing evaluation, and what it means for how an evaluation is conducted, are described in Table 2.

As you can see, there are different evaluation stakeholders, depending on what you set out to achieve in undertaking the evaluation. It's important to identify these stakeholders early in the process, and to think about what they might want from your evaluation. Some potential stakeholders for an evaluation of your public safety infrastructure project might include:

- your own council and, in particular, senior management and local councillors;
- your partners on the project;
- local business owners and operators, as well as the people who work for them;
- local residents, including those who are affected by and those who are concerned about crime and safety;
- other members of the community, including those people who visit the areas targeted by your project;
- Department of Justice and Regulation Community Crime Prevention Unit, which funded the project, and government more broadly;
- other funding providers;
- Victoria Police;

- Crime Statistics Agency (CSA); and
- any other agencies who may provide data as part of the evaluation.

Some of these stakeholders might have particular requirements in terms of your evaluation, or might need to be involved in the evaluation process. Others may simply have an interest in the evaluation and wish to see the outcomes. In any case, you should think about who your stakeholders are and their evaluation needs.

Table 2 Purpose and benefits of evaluation

Purpose of the evaluation	Potential benefits	Why is this important?	What does it mean for evaluation?
Show you've had an impact on crime and community safety, or at least some of the factors that influence these things	Help to reassure the community that you are doing things that make them safer	Projects are often started because of community concern and complaints about crime, whether it is real or perceived Building trust and legitimacy among residents and businesses may contribute to increased satisfaction with council	An evaluation design that allows you to measure crime and safety and attribute changes to the project
Understand what about the project contributed to the positive or not so positive results	Identify the active ingredient within your project that led to success and replicate this in other infrastructure projects	If you don't understand why your project has worked then it's much harder to replicate the results somewhere else	A greater focus on testing theories about how your project was supposed to work
Assess what parts of a project are working well and what could be improved	Identify areas for improvement that might otherwise lead to less positive outcomes	Implementation failure is common in crime prevention You can help your own council and others avoid repeating past mistakes You'll get better outcomes if you address problems early, rather than wait to the end	Conducting a process evaluation and collecting information on what you have done and done well
Meeting accountability requirements as per your funding agreement	Show your ability to manage funds appropriately and account for expenditure Build trust among funding providers	Your council may have a better chance when applying for infrastructure funding because of a good track record in acquitting past grants	Completing a financial analysis that documents how you have allocated the funds to the project
Contribute to the evidence base and share the lessons learnt	Help other councils learn from your experience, improve their own performance and avoid repeating past mistakes	Other councils will benefit from the knowledge they gain from your experience Your own council might become a leader in crime prevention practice	Producing a report that has clear findings, based on a robust methodology and is accessible to a wide audience

Ask the right questions

The type of information needed and the methods used to evaluate a project will also depend on the questions that need to be answered. The most common types of evaluation in crime prevention are process and outcome evaluations. Many evaluations involve some combination of the two.

A process evaluation aims to improve understanding of the activities that are delivered as part of a project and assess whether they have been implemented as planned. This is called implementation fidelity. A process evaluation can be undertaken at any stage of a project and helps to inform changes to project activities, if they are needed.

Important questions for a process evaluation can include:

- What were the main activities delivered as part of the project?
- What were the characteristics of the problem, places and/or people being targeted by the project?
- Was the project implemented as it was originally designed (ie implementation fidelity)? If not, why not?
- How did the project attempt to prevent or reduce the targeted problem and how was it adapted to the local problem and context?
- Was the project consistent with best practice in terms of its design and implementation?
- What was the nature and extent of stakeholder (incl. business operators and residents) involvement in all stages of the project?

An outcome evaluation is concerned with the overall effectiveness of the project, including the impact of the project on participants, stakeholders and the broader community. This is usually undertaken at the end of a project or after a certain period of time has passed (eg 12 months); however, you will need to start collecting data from the very beginning of the project.

Important questions for an outcome evaluation can include:

- What impact did the project have on the level of crime in the target area?
- Has the project contributed to improved perceptions of safety?
- What other outcomes were delivered as a result of having implemented the project?
- Were there any unintended consequences?
- What factors influenced the effectiveness of the project?
- What changes could be made to the design, implementation and management of the project in the future to help improve its overall effectiveness?
- What were the main lessons learned from the project that could help inform similar initiatives in other areas?
- What were the financial benefits of the project relative to its cost?

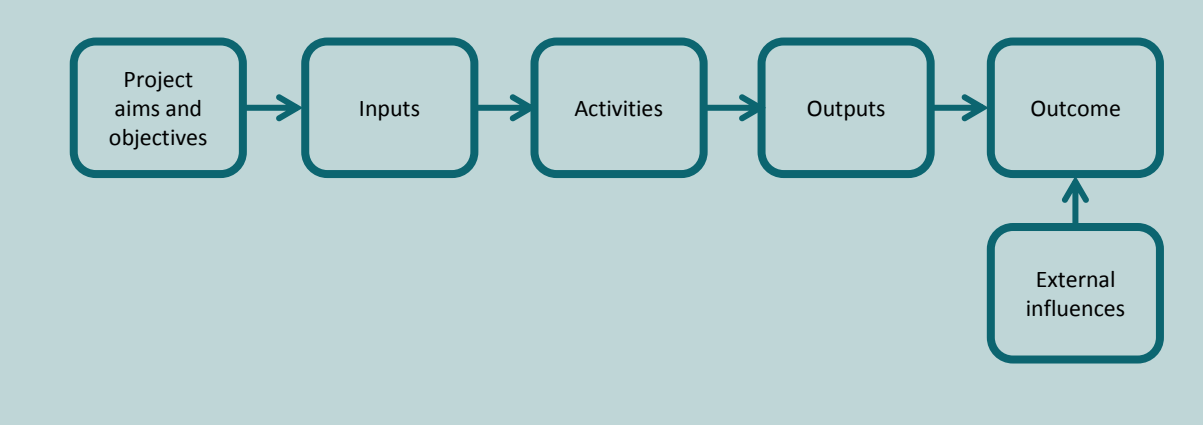
Recipients of funding from the CCPU are encouraged to conduct both a process and outcome evaluation. You can use these questions—tailored to suit your own project and circumstances—as the basis for your own evaluation.

Think logically about the project and what you hope to achieve

Read almost anything about evaluation and you will come across logic models. A logic model is a way of describing—usually in a table or as a diagram—the inputs, activities, outputs and outcomes involved in a project and the links between them.

A logic model can help you to clarify the relationships between the different parts of a project and make explicit underlying assumptions about how you think it will work. It encourages you to focus on the impact of your project, not just what you are going to do. Developing a logic model will help you to think through what the project aims to accomplish in the short and longer term, and what outcomes can likely be attributed to your project. It is useful not just for evaluation, but for helping to explain your project to other people and justify decisions about what you are going to do.

Figure 4 Simple logic model



A simple logic model is presented in Figure 4. As well as describing the project aims and objectives, there are several other parts to a logic model:

- Inputs: The resources used to carry out the work.
- Activities: All of the things (work) that people involved in the design and/or delivery of a project actually do.
- Outputs: The products and services made available to the target of a project.
- Outcomes: Changes that result from having produced the outputs, such as changes in people's knowledge, attitudes, behaviour and circumstances.
- External influences: Things outside of your control and external to the project that may influence whether the expected outcomes are delivered.

If you don't already have a logic model for your own project, then you need to develop one as part of the evaluation process.

To help you with this process, three different logic models have been developed as part of this Evaluation Toolkit—one for public space CCTV networks, one for lighting installation and upgrades, and one for urban development and design projects. You can take the parts of these three logic models that are relevant to your project and use them to develop your own logic model. You may want to do this in partnership with the other people involved in your project, so that you are all in agreement about the expected outcomes.

Checklist for your logic model

- Are the outcomes in your logic model results focused?
- Do the outcomes include action words (increased, reduced, improved etc) and direction of change?
- Is there a logical link between the short, medium and longer-term outcomes?
- Is it reasonable based on past experience, crime prevention theory or research to expect these outputs to result in these outcomes?
- Are the short-term outcomes within the control of your project and can they be measured as part of the evaluation?
- Is there a link between the outcomes and at least one output?
- Are all of the project activities and outputs required to produce the desired outcomes?

See RESOURCE 1 – SAMPLE LOGIC MODELS AND EVALUTION FRAMEWORKS for more information and some example logic models for different types of public safety infrastructure projects.

Choose an evaluation design and data sources

By developing the logic model, you will have a better idea about what things you will need to measure as part of your evaluation. You'll likely want to focus mostly on the outputs and outcomes in your logic model. The former will tell you what and how much you have done, and whether you had done it well (process evaluation), while the latter is focused on the effectiveness of your project in addressing crime and safety problems in the target area (outcome evaluation).

Several factors can influence the choice of evaluation design and data sources. These include:

- the characteristics of your project, including the timeframe for implementation, size and complexity of the intervention;
- evaluation questions, including whether you are conducting a process or outcome evaluation or both;
- the target audience for your evaluation, and what you want to be able to tell them about your project;
- the availability and accessibility of data that will be used to measure performance;
- the budget and timeframe you have set aside for evaluation;
- ethical considerations, such as making sure the evaluation is an inclusive process and that information is kept private and confidential;
- stakeholder views regarding the approach that will best meet their needs, or with which they are most familiar; and
- the knowledge and skills of the people doing the evaluation.

For example, if the purpose of your evaluation is to measure the impact of your project on crime and safety, then you will need to use an approach that will let you measure these things and be able to attribute any changes to your project. Likewise, your project might lend itself to a particular type of approach, or you might already have data you have been collecting that others might not have access to. Your stakeholders, meanwhile, might have very strong views about how you conduct your evaluation.

Ultimately, the aim should be to develop an evaluation design and identify data sources that are as high quality as possible, while also being fit for purpose and commensurate to the total investment in the project. When you are investing in evaluation you need to make sure you are investing your finite resources in something worthwhile.

How do you conduct a process evaluation?

Assessing whether a project has been implemented as planned, which is the major focus of a process evaluation, does not require any particular evaluation design per se. What it does require, however, is maintaining accurate project records over the life of the project. You'll need a record of what activities have been delivered as part of the project. For example, if your project involves the installation of CCTV, then you will need records on how many cameras were installed (and when), the placement of those cameras, the areas covered by those cameras, and the amount of time (on average) the cameras are operational. Similar information would be collected for a lighting project.

Any discrepancies between what was originally proposed and what has been delivered should be noted, along with information on the reasons for any changes to the project. This is particularly important when reporting against the milestones in your project plan.

These project records can be combined with feedback from your project partners and key stakeholders. This feedback can help to identify any issues in how the project has been implemented, as well as any explanation for these issues. You might also seek feedback on the design and management of the project, and the partnerships between those involved. This will likely involve some type of interview with your project partners, which should take place after you have made at least some progress in implementing the project. If you want to use this information to make improvements to the project, then make sure you leave yourself enough time for these changes to take effect before the final outcome evaluation.

How do you measure change and establish cause and effect?

To conduct an impact evaluation, you first need to demonstrate that there has been a change in the problem you are trying to address. This might be certain types of crime, the fear of crime, or the causes of these problems.

To measure change, you will require a baseline measure of performance. This is an assessment of the current situation using data collected before the project has been implemented. You might have already done this as part of the process of applying for funding. In the case of some infrastructure projects, there may be a period of construction before the project is fully implemented. In this case, baseline data will need to be collected before any work has commenced.

You will then need to measure how things have changed post-implementation. In most cases, this will require data be collected for an equivalent period, usually around 12 months, after the project has been fully implemented. Performance must be measured at each time period in a consistent way to enable direct comparison. Issues related to measuring changes in recorded crime and community safety are discussed in more detail in later sections of this guide.

Once you have been able to show whether the problem has changed, you then need to try and establish whether this change was caused by your project. This is one of the biggest challenges for evaluation. In other words, trying to answer the questions:

- Did our project really cause this change or result?
- Would this change have occurred anyway?
- What else might have caused this change?

- Can we rule out alternative explanations?

These questions are all concerned with what is known as internal validity—the degree to which you can be confident the observed changes are the result of your project and not some other factor or alternative explanation.

Experts in crime prevention evaluation have developed a hierarchy of evaluation designs based on how well they deal with the issue of cause and effect and maximise internal validity (Table 3). This is used as the basis of systematic reviews of crime prevention undertaken by the Campbell Collaboration and many others (Farrington et al. 2006). This ranks the different options from level one to level five, ranging from simple post-test only designs, which represent the weakest option (level one), through to randomised controlled trials, increasingly recognised as the gold standard, albeit difficult to achieve (level five).

Table 3 Hierarchy of evaluation designs for crime prevention

Level	Evaluation design	Things to consider
1	Compares the level of crime in the location targeted by the project with crime in another location not targeted by the project at a single time point (post-implementation)	Without a baseline measure from before the project was implemented there is no way of measuring change over time Cannot assume that differences in crime levels between the two areas did not exist prior to the project being implemented
2	Measure changes in the level of crime before and after the project in the area targeted by the project, but without a comparison area	Without a comparison area it is not possible to rule out that any observed changes might have happened anyway, or be due to some other cause
3	Measure changes in the level of crime before and after the project in the area targeted by the project and a similar area that did not receive the intervention.	Widely regarded as the minimum level for drawing conclusions about the impact of a crime prevention intervention
4	Measure changes in the level of crime before and after the project in multiple target and comparison areas, controlling for other variables that influence crime	Possible for an intervention in which streets are the unit of analysis; however, this would require multiple streets with a relatively high number of recorded offences, and depends on the type of intervention
5	Random assignment of intervention to target and comparison areas	Regarded as the gold standard in minimising selection bias and accounting for alternative explanations As with level 4, may be possible using streets as the unit of analysis, depending on the intervention, but only in areas with a high number of offences Very difficult to achieve with small-scale interventions targeting an area that has been chosen based on evidence of a crime problem

Adapted from Farrington et al. 2006

An evaluation design that reaches level three on this hierarchy, with measures of the outcome pre and post intervention and a comparison area against which to compare results (a quasi-experimental design), is generally regarded the minimum design for drawing valid conclusions about the effectiveness of a crime prevention project (Farrington et al. 2006).

If you are unable to identify a suitable comparison area, then you may end up with an evaluation design that only meets level two—a pre- and post-test design. If this is the case, there are other ways of trying to deal with the attribution question. You might be able to analyse the contribution of your project to the observed outcomes by testing the underlying theory. For example, if you are measuring the impact of improved lighting on crime, and have observed a reduction in crime at night, then you may want to try and see whether there is evidence that the lighting has helped to reassure people using the area and encouraged a greater presence at night, which might deter potential offenders. You could achieve this through a complementary survey, interviews or observation.

Alternatively, you might instead choose to focus on ruling out alternative explanations for the observed changes. This requires being explicit about what those alternatives may be, and then trying to find evidence that they are, or aren't, valid explanations for the observed changes. Neither of these options entirely compensates for the lack of a comparison area, but they may help to build a stronger case in support of your findings.

Table 4 Pros and cons of different data sources

Data source	Examples	Pros	Cons
Administrative data	Police recorded crime data; Complaints to local government about safety problems; Project records on CCTV footage requests	Existing data collection, useful for measuring high-level outcomes	Not always intended for research purposes, can be difficult to access, analysis can be complex
Surveys	Resident or business survey to measure perceptions of crime and safety	Can be inexpensive to run, possible to use or adapt existing tools, useful for getting the views of multiple people	A lot of work required to get them right, potential for low response rates, analysis and interpretation can be difficult
Interviews	Interviews with local residents and businesses; Interviews with stakeholders involved in project delivery	Great for detailed explanation and providing contextual information	Can be time consuming and resource intensive to conduct and analyse
Focus groups	Group interviews with local businesses or stakeholders involved in project delivery	Great for detailed explanation, less time consuming than interviews	Analysis can be time consuming and resource intensive, not suitable for all topics or stakeholder groups
Observation	Pedestrian counts	Useful for collecting information about people's behaviour	Can be extremely resource intensive

What data sources can you use?

There is a variety of different sources of quantitative and qualitative data that might be useful for an evaluation. Some data will be readily available and some may need to be collected at different stages of the project. Quantitative data are more concerned with counting and measurement, and will generally provide a better indication of how much or how often something is happening and any patterns over time. Qualitative data are better for understanding how people feel about particular issues or their experiences of certain situations.

The collection of data from multiple sources is important as it helps to validate evaluation findings and overcome the limitations associated with relying on any single data source. Combining quantitative and qualitative data can help you to not only understand overall patterns but also explain how and why those trends are observed. While you might prefer working with one type of data over another, a mixed methods approach may prove far more useful.

To evaluate a public safety infrastructure project, you may wish to consider the following data sources.

- Police recorded crime data from the CSA for offences in the target area for at least 12 months before and after the project was completed. This can be compared with adjacent areas to assess whether there has been any increase or decrease in areas not targeted by the intervention (ie displacement or diffusion of benefits); to other areas that share similar characteristics to the location in which the project was implemented to assess whether any changes in recorded crime can be attributed to the project; and/or compared with overall trends for the rest of the suburb, local government area or state wide.
- A survey of the community (eg commercial premise operators and/or local residents) could be conducted before anything is done and again 12 months post-implementation to measure rates of self-reported victimisation, concern about crime, awareness of the project and satisfaction with the services delivered as part of the project. As with recorded crime data, this could also be administered in a second location not targeted by the project.
- A review of administrative data collected over the course of the project (ie project records) relating to the various activities that were undertaken, such as the number of locations with improved security, the number of CCTV cameras installed, the number of requests for CCTV footage received, the number of hours of footage monitored, the number of lights installed, or the number of CPTED audits completed.
- In-depth and semi-structured interviews or focus groups with business operators or residents who have been involved in the project in some way can be used to gauge their satisfaction with the services delivered as part of the project and views regarding the effectiveness of the project in reducing crime.
- In-depth and semi-structured interviews with key stakeholders involved in the management and/or delivery of the project to obtain their views regarding the project and its effectiveness in reducing crime, and their satisfaction with the services that were delivered.

Each of these data sources and collection methods are explored in more detail in later sections of this guide.

Questions to ask when deciding which data sources to use as part of your evaluation

- Are these data needed to answer the evaluation questions?
- Are these data already available to us, either within council or from external sources?
- If these data are not available, are they accessible?
- What resources—time, staff and budgetary—will be needed to collect the data we need but don't have? What resources are available for us to do this?
- Do we have the expertise needed to collect and analyse these data?
- What are the limitations associated with using these data?

Your answers to these questions will help to shortlist those data sources that may be used as part of your evaluation. You can further refine these at the next stage, while you are developing your evaluation framework.

Bring it all together in an evaluation framework

Having determined the evaluation questions, developed a logic model and chosen some potential data sources, it is possible to develop a framework that can help guide the evaluation. An evaluation framework outlines the key evaluation questions, performance indicators and sources of data and links them together in a structured way. It forms the basis of the evaluation and helps guide the collection and reporting of data.

Table 5 Evaluation framework template (with an example)

Project component (from the logic model)	Evaluation question	Performance indicators	Likely data source	Comments
Potential offenders are deterred and the incidence of crime and antisocial behaviour in the target area is reduced (outcome)	To what extent has there been a reduction in property and violent crime in the area where CCTV is installed?	Number of recorded property offences (break and enter, stealing motor vehicle, steal from motor vehicle, theft and property damage) and violent offences (assault) in the target area, comparison area and buffer zone	Police recorded crime data provided by the CSA	Data should be collected for an equivalent period (minimum 12 months) pre and post-implementation

See RESOURCE 1 – SAMPLE LOGIC MODELS AND EVALUTION FRAMEWORKS for more information and sample evaluation frameworks that you can use for different types of public safety infrastructure projects.

Performance indicators

Performance indicators describe what is measured to assess a project's performance. They can be measured using quantitative or qualitative data. Performance indicators should be identified early in the life of the project so that information relating to those indicators can be routinely collected.

Your evaluation framework should include indicators relating to the outputs and outcomes from the logic model. Output indicators provide evidence that the project has been delivered as planned, including what and how much has been done and whether it has been done well. Outcome indicators provide evidence that an output has caused a change in the problem you were trying to address, including how much change and the value of that change.

Planning your evaluation

At this point, and before you proceed with the evaluation, it's useful to take a moment and think through your answers to the following questions. This will help you to make sure you haven't overlooked anything as part of the planning stage and are well on track to designing a good evaluation.

- What is the actual project you are you evaluating?
- Who is responsible for doing the evaluation?
- Who is the intended audience for the evaluation?
- Why are you doing the evaluation, and what is the purpose of the evaluation?
- What type of evaluation are you doing (ie process or outcome)?
- What type of evaluation design and data sources are you expecting to use?
- What is the timeframe for the evaluation?
- What do you expect to produce at the end of the evaluation?

If you're unsure about the answers to these questions, then you may want to consult with your project partners.

Managing your evaluation

Good project management involves developing an evaluation plan. You will undoubtedly have one for the project itself. You'll also need one for the evaluation. It doesn't have to be too detailed, but should contain enough information so that you can effectively manage the process. This might include:

- a description of the project being evaluated;
- purpose of the evaluation and key research questions;
- governance structures, including any reporting arrangements;
- logic model and evaluation framework for your project;
- description of the evaluation design and data sources;
- evaluation timeframes and expected deliverables;
- resources (staff and financial) for the evaluation;
- risk management plan; and

- communication strategy, including how you will engage with stakeholders and disseminate results.

In addition to the evaluation plan, you may also want to think about governance structures. Specifically, who will oversee the evaluation, and are there any lines of reporting (and, if so, how often will you need to report)?

You might think about establishing an evaluation working group, whose role it is to oversee progress and make key decisions about the evaluation. This could involve your project partners, but it might also include any data providers. Irrespective of who's involved, your will probably want to develop some terms of reference, just so there is no confusion about the role of the group or the people involved.

See RESOURCE 2 – EVALUATION PLAN for a template that you can complete with information about your evaluation and that will help you manage the evaluation process.

Measuring changes in recorded crime

What you need to know

- You can request recorded crime data from the Crime Statistics Agency to use as part of your evaluation. When requesting these data, it is important that you have clearly defined parameters for your data request, including the time periods, offence types and locations you are most interested in.
- At a minimum, you will need recorded crime data for the target area for an equivalent period before and after your project. You should also try to identify a suitable comparison area.
- If you are able to identify a comparison area, and request data for this area, you can use this information to work out what would have happened to crime in the target area if you had not implemented your project. This can then be used to determine the total increase or decrease in crime attributable to your project.
- Data may also be requested for the areas immediately surrounding the target area, known as the buffer zone. This information can be used to measure whether there was any displacement or diffusion of benefit.

Most crime prevention projects will aim to reduce crime in the area targeted by the intervention. The most common method for measuring changes in crime is to analyse police recorded crime data. While it has its limits—not all crime is reported to police and certain types of recorded offences more closely reflect policing activity—measuring changes in recorded crime can provide a relatively straight forward and objective measure of the impact of your project. It can be inexpensive, and can be used as the basis for a simple cost-benefit analysis.

Before you begin, however, you need to think about what you already know about the problem that is being targeted by your project. How much of a crime problem is there? Are there enough recorded offences in the area targeted by your project to be able to detect meaningful change? Ideally, this information will have been in your original proposal.

This section discusses how to measure changes in recorded crime. However, you can use the same approach with other similar measures of crime and disorder in the area targeted by your project. For example, you may be able to access data from police on calls for attendance for incidents that aren't serious enough to result in an offence being recorded, such as minor disturbances, but which influence people's perceptions of an area. Council might also keep records on resident complaints about crime and safety issues, which are another potential measure. Likewise, council may have data on maintenance requests or incidents attended by security personnel. And, if you are trying to address a graffiti problem, you may have data on the number and size of graffiti pieces removed by council. Be creative—try and think about the different options that might be available for your evaluation. But remember, you also need to think about the limitations with each type of data.

Working out whether crime has changed in the target area

Recorded crime data is available from the CSA. However, you will need to make a number of important decisions before you can submit a data request.

Which crime types?

Which crime types do you expect to reduce by implementing your project? Are you interested in violent crime, or property crime, or both? This might depend on the problem you have identified and are attempting to address.

Hopefully you have developed an intervention that you expect will address the crime problems present in the target area. Not all interventions will work for all crime types. CCTV is a good example—the evidence is quite strong that it reduces property crime, specifically theft from motor vehicles in car parks, but is less effective at reducing assault offences in CBDs. It's helpful to think about the underlying theory for your project when deciding on an appropriate outcome measure.

To evaluate public safety infrastructure projects, you need to focus on offences that occur in the public spaces targeted by the intervention. It's important, for example, to ask CSA to exclude family violence related matters in residences in the area from any assault data, or to exclude deception and justice procedures offences from the data.

Similarly, for lighting projects, you should request data on offences committed at night and during the day. Obviously, you would expect that improved lighting would reduce crime at night. However, there may be temporal displacement, meaning that there may be a corresponding increase in offences during the day.

Remember, certain types of crime are more common than others. For example, there might be a much higher number of theft or property damage offences in the target area. Other offences, such as assaults, may be quite rare. You may want to consider developing aggregate measures of property and violent crime by combining similar offence types. This may help provide the statistical power you need to detect meaningful change, particularly in low crime areas.

Finally, you need to consider whether you will use raw offence counts or calculate offence rates. The latter is useful when you expect there to be significant changes in the number of people in the target area, which can significantly influence crime levels. This will depend, however, on whether you are able to calculate an accurate base population for the target area, given the focus is on public areas, not private households.

In what areas?

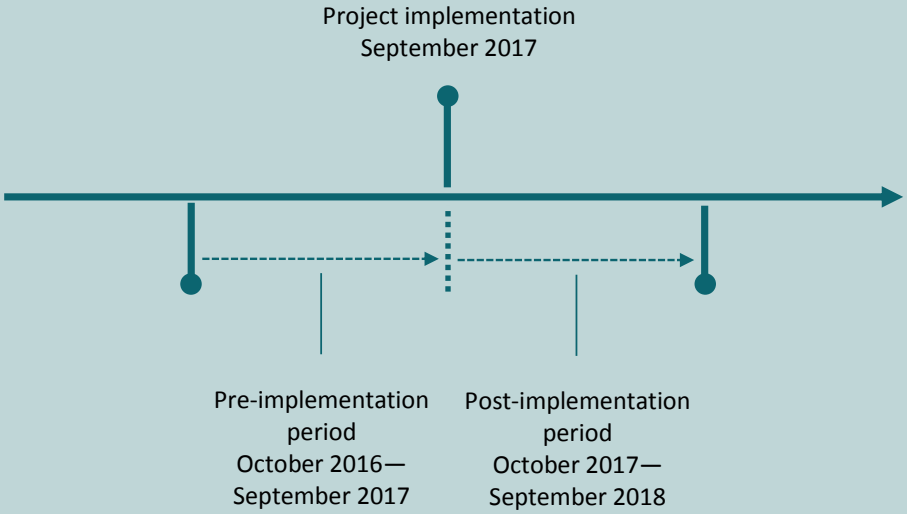
You will need to decide the boundaries for the target area. Data may be readily available at the local government area or postcode level; however, a public safety infrastructure project will usually have a much smaller and well-defined target area. It's important you measure crime in your target area and not elsewhere, because otherwise you are likely to be including areas where crime might not change as a result of the project. This will potentially detract from any reductions in crime you might otherwise observe.

How you define your target area will depend very much on the project you are evaluating and the mechanisms that underpin the intervention. If your project involves the installation of CCTV, you target area will include those places in which the CCTV has been installed. This might be a particular place, or it might be a number of streets and footpaths. It will vary depending on whether the CCTV cameras are fixed or pan, tilt, zoom. You need to make a decision about whether you limit the target area to those places with coverage from the camera system, or whether you include areas in which the cameras are visible. This will depend on whether you think CCTV works by deterring offenders from committing crime in areas where they fear they might be detected on camera, or whether you think it also works by encouraging people in the area to take more precautions with their own personal security.

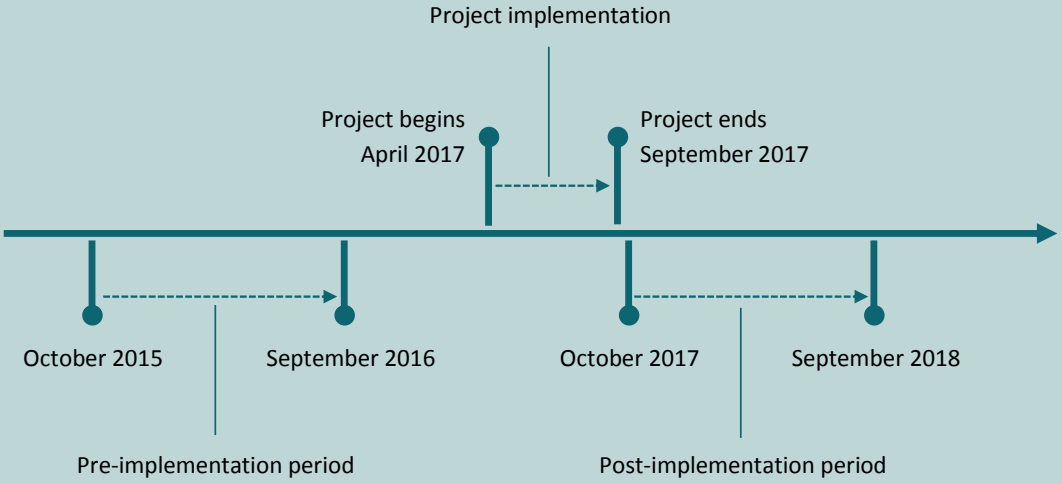
To access recorded crime data you will need to be able request information specific to particular locations (by common place names or the type of location) or particular streets. This is because of how police record the location of offences. This might mean there is some variation between the boundaries of the intervention and the boundaries of your target area. The best you can do is to try and minimise any differences. Remember that some streets, particularly major roads, may extend well beyond the area targeted by your project.

Measurement periods for different infrastructure projects

Below are two examples of the measurement periods for an evaluation of public safety infrastructure projects. The first assumes that during the implementation period—specifically, the construction of the infrastructure—there is no impact on the target area. The pre-implementation period is therefore the 12 months immediately prior to the completion of the works, while the post-implementation period is the equivalent 12 months that immediately follows.



In the second example, the construction of the infrastructure is assumed to take around six months, during which time there is significant disruption to activity in the target area. To properly test the impact of the intervention, this period needs to be taken into account. Therefore, while the post-implementation period is taken to be the 12 months immediately following completion of the works, the pre-implementation period is an equivalent 12 months ending six months prior to the commencement of the work. Alternatively, the average number of offences per quarter in the period leading up to the commencement of the project could be compared with the average for the post-implementation period.



Over what time period?

The period in which you measure recorded crime is very important in getting an accurate estimate of the impact of your project.

There are several issues to consider. The first is the seasonality of crime. There are consistent fluctuations year to year in crime levels based on the time of year. You therefore need to ensure that whatever period you are observing post-implementation, you observe the same period pre-implementation. For example, if the project is fully implemented in January 2017, and you plan to use a 12 month follow up period, then you would compare January 2017—December 2017 with January 2016—December 2016. If you were to use a shorter follow up period, say three months, then you need to compare January 2017–March 2017 with January 2016–March 2016.

Ideally, you should try to allow a minimum 12 month follow up period. The reason for this is that it is possible that the crime problem that resulted in the response represents an abnormally bad peak in crime, which may have declined to a more normal level on its own. If you use a longer follow up period, and therefore a longer baseline period, then this is less likely to distort the results.

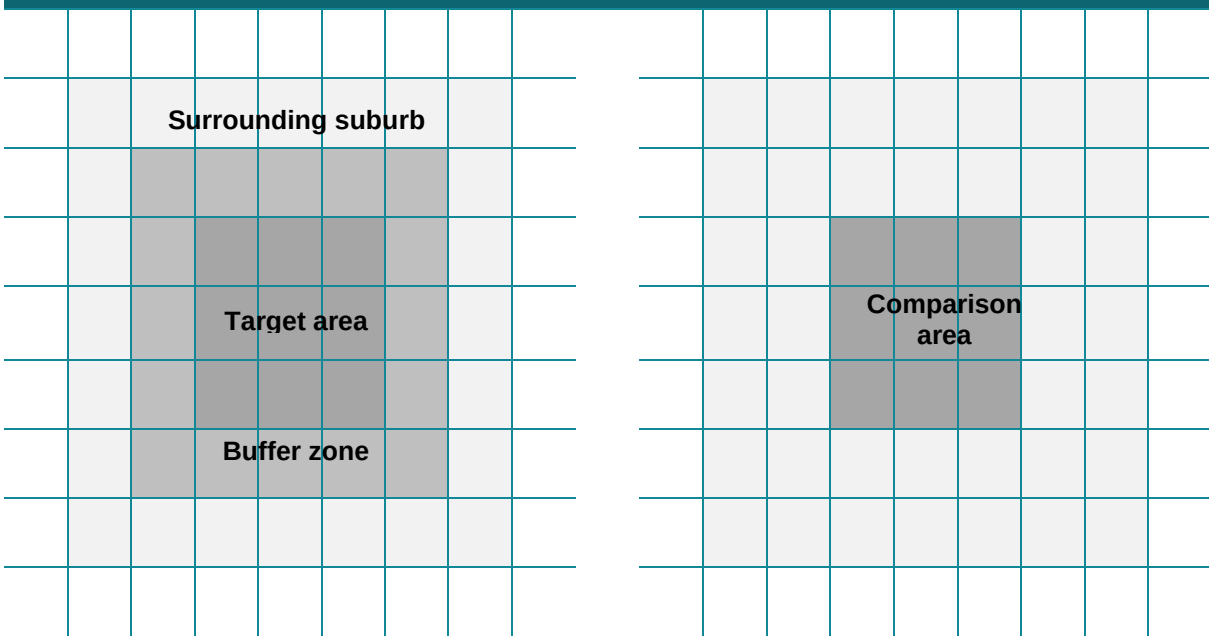
Finally, you may need to account for the time it takes to install the infrastructure. Specifically, construction may have an effect on the level of activity in the target area. Again, this will depend on your individual project. Infrastructure can be installed with very little interruption to other activity in the area, whereas in some projects the area may be unusable during the period of works. Two examples are presented above. There is also the potential anticipatory benefit in the period before the work is completed that can also distort the results.

Comparison areas and buffer zones

In the planning section of this guide there was a brief discussion of the importance of attribution. That is, not just measuring changes in whatever outcome is being measured, but attributing these changes to the project. This highlighted the importance of measuring the counterfactual—in other words, what would have happened anyway had there been no project.

This is done by comparing any change observed in the target area with a comparison area. The comparison area—an area similar to the target area, but without a project like yours having been implemented—is used to estimate how much the measured problems may have changed in the target area had there been no project.

Figure 5 Target areas, comparison areas and buffer zones



Several factors needed to be considered in selecting the comparison area. It needs to be a similar area to the target area and share similar characteristics. So if you are implementing a project in a residential park or open space, then you need to find another residential park or open space (or, even better, parks) that shares similar features. It's important that there is no chance it will have been influenced by your project—meaning it has to be well away from the target area. It's also important to find out whether there are any other interventions that might be delivered in the comparison area that might impact crime during the follow-up period. Importantly, it's okay if other things are already being done in the comparison area, such as regular police patrols, so long as the same activity is also being implemented and remains unchanged in the target area. Similarly, if you are evaluating a project that involves upgrading CCTV or lighting, then it is okay for your comparison area to have a similar level of CCTV or lighting to your target area *before* you implemented your project. This is because you are interested in the added benefit of additional CCTV or lighting.

Finally, it should be roughly the same size and have a similar level of crime problems to the target area (Guerette 2009). However, if you are only able to obtain crime data for the wider suburb, postcode or local government area (excluding crime in the target area and buffer zone), then this can still provide you with a picture of overall crime trends.

Geographic displacement can occur when offenders continue to offend but target areas that are not subject to an intervention. Given the evidence around the distance travelled by offenders, and the proximity of other suitable targets, much of this displacement is, theoretically at least, expected to affect areas adjacent to the target area. Conversely, there is also the potential of diffusion of benefit, whereby the immediate surrounding area also benefits from the intervention and experiences a decline in crime.

As well as the comparison area, you may also want to try and take account of the potential for displacement or diffusion of benefit. This will require measuring changes in crime levels in the areas immediately adjacent to the target area, otherwise known as the buffer zone.

Much like with the comparison area, three criteria need to be considered when selecting a buffer zone to measure displacement or diffusion of benefit—it should be adjacent (or very near) to the target area and logical to expect the area to experience some impact, it should be proportionate in size and it should be free of contamination from other interventions (Guerette 2009).

Requesting recorded crime data from the Crime Statistics Agency

Before you send a data request to the CSA, you will need to decide on the following:

- What are the boundaries for your target area, comparison area and buffer zone—which streets are included, and are there any streets that cut across the boundaries?
- Are there particular location types that you are interested in within these areas (eg commercial premises, residential premises, streets or footpaths), or are you interested in offences at a particular time of day?
- Which offence categories are you interested in measuring, and do you plan on aggregating similar offence types to provide an overall measure of crime (eg combining burglary, theft and motor vehicle theft into a single measure of property crime)?
- What time period or periods do you want the data for? Do you want data for 12 months before and after a particular date, or do you require monthly or quarterly data?

See *RESOURCE 3 – DATA REQUEST FORM FOR CRIME STATISTICS AGENCY* for more information and an easy template for you to use to prepare a data request to the CSA.

Analysing recorded crime data

Once you have received the data from CSA, then you will need to analyse it. To assist you with this process, an Excel spreadsheet has been developed with embedded formulas that perform the necessary calculations for you. All you need to do is input the data from CSA, and make sure these data meet the requirements set out in the spreadsheet.

See RESOURCE 4 – CALCULATING CHANGES IN RECORDED CRIME for more information and an easy template for you to use to analyse the data provided by CSA.

Several calculations are included in the spreadsheet. These are based on the work by Bowers and Johnson (2003), who developed a number of formulas to measure the impact of situational crime prevention and problem-oriented policing in the UK. A detailed explanation of these formulas is provided in Appendix A, so that you understand how they are calculated and what they actually mean.

The first and simplest calculation is the gross effect. This is a very simple calculation that involves subtracting the number of crimes in the target area after the intervention from the number of crimes in the target area before the intervention. It tells you whether there has been a change in crime pre and post-implementation.

This doesn't tell you much about the scale of the change. To do this, you need to calculate the percentage difference in the target area. Any percentage changes should be reported alongside the actual number of offences, particularly when the numbers are small. This can help with interpretation.

If you have been able to identify a comparison area, and get data from CSA on the number of crimes that occurred in that area before and after your project, you can compare the percentage difference in the target area with the percentage difference in the comparison area. A successful project will produce reductions in observed problems that are greater in the target area than in the comparison area. Even if crime has gone up, a successful project can lead to increases that are lower than in the comparison area. In other words, a relative decline compared with what crime would have been, had there been no project.

You can then use this information to estimate how much crime you may have avoided. The response effect refers to the total increase or decrease in the number of offences that may be attributed to your project. A positive response effect means there has been a reduction in crime. A negative result means crime has gone up. The larger the number, the higher the increase or decrease.

If you have been able to identify and measure changes in the recorded crime in the target area, comparison area *and* the buffer zone, you can calculate the total net effect. This refers to the total increase or decrease in the number of offences or incidents that may be attributable to the impact of your project, taking into account displacement or diffusion of benefit. The total net effect is interpreted the same way as the response effect.

Measuring changes in perceptions of safety

What you need to know

- A survey of the community can be used to measure the impact of your project on perceptions of crime, feelings of safety and worry about crime. It can also be used to measure changes in self-reported victimisation.
- If you are planning to conduct a survey to measure changes in perceptions of safety, then you need to make sure that you are surveying people who spend enough time in the target area that they may actually be impacted by your project.
- At a minimum, your survey will need to be completed before and after your project has been implemented. How long you wait to follow-up with people after your project has been implemented can vary. So long as both surveys include the same questions and ask about equivalent time periods it doesn't really matter—what matters is that you allow enough time for the project to have an impact.
- Questions about perceptions of crime, feelings of safety and worry about crime must relate specifically to their feelings and experiences in the target area.
- There are different methods for administering a survey. You should choose whichever mode you think will produce the best response rate—remember, while they are both important, the total number of surveys completed does not matter as much as the proportion of people who completed the survey.
- You can use pedestrian activity data to measure changes in the legitimate use of public space, but you must be systematic in how you collect this information and also remember the limitations with using this type of data.

Improving perceptions of safety is an important goal for many crime prevention projects. Community concern about crime can detract from the quality of life of people living and working in an area and has a detrimental impact on social and economic wellbeing.

Surveying local business operators, visitors and residents

In order to measure whether public safety infrastructure projects have had an impact on community perceptions of safety, it may be useful to conduct a survey of the local community before and after the project has been implemented.

There are a number of questions that you will need to answer before you can launch a survey to measure the impact of your project.

Who should complete the survey?

You need to think carefully about who you will survey. Whose perceptions of safety in the area are likely to be influenced by the project you have implemented?

You need to survey a group of people who are familiar with the target area, and who spend a decent amount of time there. Otherwise, they won't be able to comment on crime problems or how safe they feel in the target area—before or after the project—and you won't be able to measure the impact of your project.

For projects delivered in CBD areas, nearby business owners and employees are likely to be the people most familiar with the area. For projects delivered in parks, playgrounds or other suburban areas, nearby residents are more likely to have noticed any changes.

It is important to survey people who are representative of the larger population. Sampling bias occurs when certain sections of the population are over-represented within the sample of survey respondents. While it may not be a significant problem in terms of measuring changes in perceptions—so long as you survey the same people—it will raise questions about the representativeness of the results. It does become an issue in terms of measuring change if you are not able to survey the same group a second time, particularly if respondents who are over-represented have extreme views.

When should the survey be conducted?

The survey should be conducted before the implementation of the project to provide a baseline measure of community perceptions, and repeated again post-implementation to determine whether perceptions have changed as a result of the intervention. Where possible, the survey should be completed by the same (or similar) group of people before and after project implementation to allow for a reliable measurement of change (known as a panel survey). It should also capture information about an equivalent time period (eg last 3 months, last 12 months etc), and these time periods must not overlap.

What questions should you ask?

The questions included in a community safety survey will depend on the type of evaluation being conducted (process or outcome), the purpose of the survey, evaluation questions and performance indicators and the characteristics of the project being evaluated:

- general perceptions of the area, including issues like natural surveillance, accessibility, lighting and facilities, as well as awareness of recent changes to the physical environment (as part of the follow-up survey);
- the perceived severity of crime problems in the target area;
- feelings of safety in the target area during the day or at night;
- worry about being a victim of crime in the target area;
- actions taken by the person to avoid crime in the target area; and
- recent victimisation in the target area.

In addition, it will be necessary to obtain demographic information from survey respondents, including their age, sex, language spoken, living arrangements, education and employment status. These are important because they have been shown to influence people's perceptions of crime and safety.

Survey templates have been developed for you to use in surveying the community pre- and post-implementation. The surveys for the two time periods are similar in content, to allow you to measure change by repeating the same questions at two time points. Questions have been organised into modules, so that you can select which questions are most relevant to your project.

See RESOURCE 5 – COMMUNITY SAFETY SURVEY TEMPLATE for more information and an easy template for you to use to survey the community before and after you implement your project.

How should you administer the survey?

There are various options for administration of the survey including via telephone, in paper format, online or face-to-face by pedestrian intercept. The pros and cons of each approach, along with some useful things to consider in choosing how you might conduct a survey, are presented in Table 6.

Table 6 Different options for conducting community safety surveys			
Mode	**Pros**	**Cons**	**Things to consider**
Telephone survey	Council workers are not required to go into the field to collect the data The same group of participants can be targeted for participation pre and post-implementation	There may be challenges in gaining access to phone numbers of potential participants	How will the telephone contact details of potential participants be accessed? Does Council have the time and resources required to conduct surveys via telephone?
Paper-based survey	Nearby streets can be easily identified and selected for inclusion in the sample by referring to a map of the local area The same group of participants can be targeted for participation pre and post-implementation After the initial letterbox drop, the time and resources required to administer the survey is limited	The onus is on the individual to respond to the survey and post the completed form back to Council, which may limit response rate	What are the staffing and resourcing implications associated with the letterbox drop? What are the costs associated with printing surveys and providing reply paid envelopes to respondents?
Online survey	Council workers are not required to go into the field to collect the data The same group of participants can be targeted for participation pre and post-implementation After the initial setup, the time and resources required to administer the survey is limited	It might be difficult to gain access to email addresses of potential participants Specialised technical knowledge is required for survey setup The onus is on the individual to login to and complete the survey, which may limit response rate Sampling bias may be present due to some respondents not having internet access (e.g. the elderly)	Are the respondents likely to have access to the internet and have the skills necessary to complete a survey online? Does Council employ staff with adequate technical knowledge to setup and administer the online survey and export the data in an appropriate format for analysis?
Pedestrian intercept survey	Ability to capture people using the space at various times of the day and night	Impossible to sample the same group of people pre and post-implementation Likely to capture visitors to the area, rather than people familiar with the area such	Does Council have the time and resources required to send staff into the field to collect data face-to-face?

	as business owners/workers or residents

How many people do you need to survey?

The most important thing you'll need to know is the total population from which you are drawing your sample of survey participants. The target population of your survey (ie business owners, employees and/or residents familiar with the target area) is likely to be relatively small. You should aim to survey as many of these people as possible.

As a general rule, the larger the sample size the easier it is to determine whether there has been any meaningful change. This is because as sample size increases, sampling error decreases. In other words, the number of people survey doesn't matter as much as the proportion of the total population you are able to survey.

The required sample sizes for surveying a given population are presented in a table in Appendix B. This table provides an easy reference to work out how many people you need to survey in order to be reasonably confident in your results.

Pedestrian activity data

For projects that aim to increase the legitimate use of the public space, it may be useful to collect data on pedestrian activity in the target area and a comparison area pre- and post-implementation.

This involves counting the number of pedestrians passing through the area or using the space. These data may be collected at different times, both day and night (ie morning, afternoon, evening, late at night) to capture information on how the space is used over time. Some time periods may be more relevant for some interventions and not others (eg lighting interventions may be focused mainly on activity after dark).

Be careful not to try and estimate how many people are in an area at a given time. There are more accurate methods than this. Set a precise area that you can monitor. This might be a particular area on the ground, where you count the number of people who walk through. You might count the number of people who pass through an entry point. Be wary of double counting people who stay in an area. Consistent count points or locations should be used pre- and post- implementation.

Data should be collected on the same day of the week, at the same time of day and approximately the same time of the year. Try and avoid days when the weather is poor, and make sure you record what the weather was like each time so that you don't inadvertently alternate between very hot and very cold days or nights.

Data should be collected and recorded at regular time intervals (eg every five minutes for a period of two hours) to enhance reliability. Use a counter, rather than trying to keep count. If more than one person is doing the counting, make sure you all follow the same counting rules.

If you have access to CCTV footage in the area—fixed or mobile—and it is good enough quality (including coverage, image resolution etc.), it may be possible to observe extracts of the footage in lieu of attending the area to conduct observations. This is only possible if footage is available pre and post-implementation. You might have other methods for counting people that is used by council to help in planning. Ask around, and see what else is done.

Don't be afraid to be creative. Another possible method could be the volume of rubbish that is collected from public rubbish bins in the area targeted by a project, particularly if this is information council already collects. There may be other options.

Limitations of pedestrian count data

Like any type of data collection, pedestrian count data has its limitations. The most obvious limitation is the potential for weather or other events to influence how often people visit an area. Make sure you record this information. Other things to consider include:

- Pedestrian activity can be affected by special events and changes to transport timetabling.
- Collecting accurate pedestrian count and activity data in very busy locations such as CBD areas can be difficult.
- Collecting pedestrian activity data can be time and resource intensive for council.

Analysing pedestrian count data

The good news is that you can actually use the same approach described in the section on measuring changes in recorded crime. In fact, you can use the Excel spreadsheet. However, your data must meet the same criteria as for recorded crime, including using consistent measures and an equivalent period before and after the project.

Conducting interviews to better understand your project and its impact

What you need to know

- Qualitative interviews are a useful method for getting feedback on your project and developing a more detailed understanding of what has changed and how your project has impacted people living or working in the target area.
- Interviews are particularly useful in circumstances where there is a small number of recorded crimes, a small number of people to be surveyed, or where other forms of quantitative data are unavailable to measure the impact of your project. Interviews can also complement these other data sources and provide additional context or explanation.
- At a minimum, you should seek feedback from key stakeholders about how well the project has been implemented. This information can inform your process evaluation and identify what went well and any changes that could be made to the project.
- You might also want to interview representatives of local businesses or the local community about the impact of the project. If you have implemented a CCTV project, then you might also want to seek feedback from police about how they are using the footage.

Analysing recorded crime data and conducting a survey of the community is a really important and useful way of measuring change. However, it doesn't necessarily help you to understand why a project did or didn’t have a positive impact, or appreciate how the project may have impacted those people affected by crime and safety problems in the target area. Similarly, if there is only a small number of recorded crimes to begin with, or a small cohort of people who are able to be surveyed, then these methods are unlikely to provide meaningful data about the impact of your project.

Interviews typically involve two or more people meeting face to face where the evaluator can ask questions to obtain information from interview participants. There are two main types of interviews:

- an individual interview, where there is one interviewer and one participant; and
- a group interview, known as a focus group, where there is one interviewer and several participants.

You may wish to conduct interviews with a selection of business owners or operators near to the target area or council staff and contractors that were involved in designing and implementing the intervention. The former will help with understanding the impact of the project, while the latter may be able to assist with the process evaluation. It may also be useful to identify a representative of a local community group or residents group who can speak to you on behalf of other community members.

In this type of evaluation, a semi-structured interview will probably be most useful. This allows for some flexibility in the questions asked, so that the views of research participants can be explored without being too rigid or assigning their responses into predetermined categories. Semi-structured interviews have a basic interview schedule, comprising a list of open-ended questions, but the wording and order of these questions can be altered as the interview progresses. Probes are used—such as repeating the question or the reply, asking for details (when, what, where, which and how), providing non-verbal cues such as nodding, or simply asking ‘anything else’—to help encourage the person to speak.

Possible interview questions for public safety infrastructure projects

The actual questions that you ask in an interview will depend on the purpose of the interview, who you are interviewing and how it fits as part of your overall evaluation.

As an example, you might ask business owners, workers and/or residents working or living near the area targeted by the project questions such as:

- Please tell me about how long you've lived/worked in or near <target area>?
- How much time do you spend in <target area>?
- How safe do you feel when you're in <target area>? Why is that?
- What sorts of criminal and antisocial behaviour occurs in <target area>? Have you or someone you know witnessed this behaviour?
- Have you noticed any changes in criminal and antisocial behaviour in <target area>?
- What precautions have you taken to protect your home/business from criminal activity?
- Can you tell me about any physical changes that have been made to <target area> to improve safety in the last 12 months?
- What do you think about these changes?
- How have these changes impacted on safety in <target area>?
- Are there any other changes you think need to be made to <target area> to improve safety?

You can adapt these questions to your own project. Use the performance indicators in your evaluation framework as a guide as to the things you need to cover.

Even in semi-structured interviews, it is important that an interview guide is prepared to help direct the interview. If you are conducting interviews, then there are certain things you might like to consider:

- Create a certain amount of order to your interview schedule, so that your questions flow reasonably well; however, be prepared to alter the order of the questions during the actual interview.
- Develop interview questions that will help you to answer your key evaluation questions set out in your evaluation framework.
- Avoid asking leading questions:
  - AVOID: 'Would you agree that the new CCTV system that was installed in <target area> last year has improved safety in the area?'
  - USE: 'Can you tell me about any changes that have been made to <target area> in the last 12 months that may have improved safety?'
- Avoid asking multi-point or double-barrelled questions:
  - AVOID: 'Have you taken any precautions to prevent crime and if so, what precautions have you taken and have they improved your feeling of safety?'
  - USE: 'In the last 12 months, what precautions have you taken to protect your business from criminal activity, if any?'

- Avoid asking closed-response questions that are likely to elicit a yes or no response rather than detailed information from the respondent:
  - AVOID: 'Do you feel safe living/working in <target area>?'
  - USE: 'What factors influence your feelings of safety in <target area>?'

It might be helpful to pilot your interview guide with a small group of people to identify potential problems before you start interviewing. If there is more than one person conducting the interviews then practice with one another to ensure consistency. Practice will also help you build up familiarity with the interview questions and make for a more natural discussion with the people you are interviewing.

Tips for conducting an interview

Here are some really practical tips for planning and conducting an interview:

- Choose the right setting. Find a place that will be comfortable for the person you are interviewing, quiet and also private.
- Be punctual and organised. Remember, the person you are interviewing has given his or her time to be interviewed.
- When you set up the interview you should be very clear with the person you want to interview the types of questions you want to ask and the reason for the interview. At the beginning of the interview explain again who you are and why you want to do the interview, and how the information will be used.
- If you intend to use a tape recorder, ask first. Remember that some people do not feel comfortable speaking with a tape recorder running.
- If people are used to speaking in a language other than English try to get an interpreter.
- Do not express an opinion and try your very best to remain impartial. Do not argue or disagree with the person you are interviewing. You don't have to share their view.
- When you get to the end of the interview, ask the person if there is anything else he or she would like to say or if they have any questions. Thank the person for his or her time and interest in the evaluation.

Analysing and interpreting information collected in interviews

Once you have conducted the interviews, you have to do something with the information. Interviews tend to result in a large amount of information in the form of notes and/or interview transcripts. This can create some challenges in making sense of the data and interpreting findings in light of the key evaluation questions.

Coding is an important part of analysing qualitative data. Coding involves organising the data into categories—reducing chunks of data into something which is more manageable and meaningful for the evaluator. Coding is not only a way of reducing the amount of information, it also involves analysing that information. So while you are coding, you are also analysing the data.

Coding involves locating themes within your data and assigning labels. You may start this process with some themes and labels already in mind, probably organised according to the interview schedule. Themes might come from your evaluation questions, or your own experiences or expectations of the data from the interviews. Once the initial themes have been identified, you should go back through the data and identify additional themes and order them. You should look for themes and ideas that cluster together, which will allow you to draw meaning from the information.

Sample interview transcript and coding

Below is an example of an actual transcript from an interview with a local resident where they were asked about the types of crime and safety problems that occur in the area targeted by an intervention. They were also asked about recent changes.

As you can see from the underlined sections, a common theme during this interview was an ongoing problem with drug dealing and drug-related crime. There is some overlap with other themes, such as negative perceptions of safety.

You can also see from the interviewer questions that the questions have been adapted during the discussion in response to the information provided by the interview participant.

Interviewer: What sorts of crime and antisocial behaviour occur in <target area>?

Participant: You have to walk past a lot of those places to get to the city centre. I know in the early days living there I had to catch the bus and just walking around I just didn't feel safe. There's a lot of drug dealing, a lot of bad stuff goes on in that whole area. So just some of the people at the moment - it's not a really safe area.

Interviewer: So you said that there was a lot of drug dealing. What other kind of crimes do you think are going on there?

Participant: In my area, there's not a whole lot of crime because they generally don't - people committing the crime to get the drugs don't do it in that area. Do you know what I mean? I mean my house has been broken into twice. So people more come to this area to get drugs because they're sold there. They don't necessarily commit crimes…

Interviewer: While they're there…

Participant: Yeah, because they don't want to commit crimes where they live. I don't think it would be a very good look.

Interviewer: So it's all kind of visible and….

Participant: It's pretty out in the open. I get offered drugs at least once a week in the carpark or on the way to my car.

Interviewer: You said you'd been living here for five years. Do you think things have changed a bit over the last year or so?

Participant: I can definitely see an increase in people affected by ice in the area and some of the violence that comes with that. I know my girlfriend five years ago when I first moved in there didn't have a problem getting out of the car and walking up to my apartment. Now I go down to her car because she gets hassled for money and stuff on the way between parking the car and walking up.

Interviewer: So drugs are more visible now, the effects are more visible?

Participant: There's more syringes around. There's more just junk and just mess in the carpark. It has gone downhill.

Here are some tips to help you with the coding process:

- Code as soon as possible—you don't have to wait until the end of all of the interviews. You can use any initial findings to help shape later interviews.

- Read through your transcripts or field notes without taking any notes—wait until the end and then write down anything you found interesting.
- Now read through your data again and make some notes about significant remarks or observations.
- Review and refine your codes to ensure that two or more phrases are not being used to describe the same phenomenon and to identify connections between the codes.
- Remember that any one item (ie one statement) can and often should be coded in more than one way.
- Do not worry about identifying too many themes in the initial stages of coding. You can combine them later.

Presenting findings from the interviews

Once you have completed your coding of the interview data and identified key themes, you can start to think about how you will present this in the report. The most common method is to summarise the themes you have identified, and then use quotes from your interviews as evidence to support your findings.

Clearly, this requires that you have a transcript of the interviews, or have been able to record comments made by interview participants verbatim. This might not have been possible, in which case you might need to use the examples provided by interview participants to illustrate and support your findings.

At other times, this might not be necessary. For example, if you are using the interviews as part of your process evaluation, you might simply be able to list some of the issues raised by interview participants in relation to project implementation as dot points. While it is qualitative data, you can also comment on whether certain views were common, or only shared by one or two people.

A final word of warning—do not overload a report with quotes, especially if they are only loosely connected to what you are writing about.

Measuring project costs and benefits

What you need to know

- Cost-benefit analysis involves comparing the total cost of your project with the total benefits, measured in monetary terms.
- This is possible when you have been able to measure the impact of your project in terms of recorded crime (or some other quantifiable outcome), relative to the comparison area. This means you will need to have estimated the response effect or total net effect.
- At a minimum, you should develop a detailed estimate of what it really cost to develop and implement your project, taking into account the full range of cash and in kind contributions, including funding from the Community Crime Prevention Unit. Working out what it really cost will assist with planning similar projects in the future.
- Cost-benefit analysis can be complex, so this may be an area where you seek additional help or support from someone with experience in this type of work.

Depending on how you evaluated your project, the information you were able to collect about project outcomes and the way they were measured, you may be able to compare the costs and benefits of your project. This is known as cost-benefit analysis. This type of economic analysis can be extremely valuable. However, it can also be complex. What follows is a simple introduction to cost-benefit analysis.

There are several important steps in conducting a cost-benefit analysis.

- measure the impact of the project;
- calculate the cost of the project;
- monetise the benefits;
- compare the costs and benefits;
- test the assumptions; and
- report the results.

These steps are described below. If you feel confident that you have the ability to do this type of analysis, you can work through these steps. Information is also available online, including the Cost-Benefit Knowledge Bank: http://cbkb.org/. This is specific to criminal justice and includes a toolkit, published guides and hints and tips for doing cost-benefit analysis.

There is also a template included as part of the Evaluation Toolkit for you to use. This Excel spreadsheet will perform some basic calculations for you.

See *RESOURCE 6 – COST-BENEFIT ANALYSIS* for a template for you to use to perform a basic cost-benefit analysis.

Importantly, if you don’t feel confident doing this type of analysis, then this is one area where you might seek help. There may be people within other areas of council who have more experience with working with financial data, even if it's not in the area of crime prevention, and who may be able to assist you with this stage.

Measure the impact of the project

If you have reached this stage, you will hopefully already have an idea of the impact of your project. Conducting a cost-benefit analysis is recommended if you have been able to measure the impact of your project in terms of a reduction in crime (or possibly other indicators such as the incidence of graffiti removal), relative to a comparison area.

In order to be able to conduct a cost-benefit analysis, you will need to have produced one of two estimates—a response effect, or the total net effect—using the formulas provided in this guide and the accompanying template. This is the number of offences (or other unit of measurement) prevented by your project. Without these figures, it isn't possible to apply estimates of the associated financial benefits.

Be clear at this stage which outcomes from the evaluation have been quantified and are more easily monetised and are therefore included in the analysis, and be clear about what outcomes are not included.

Calculate the cost of the project

To be able to do this properly, you will need accurate information on project costs. This is not just the funding you have received for your project. It includes all of the costs associated with designing, implementing and managing your public safety infrastructure project—both cash and in-kind contributions. In other words, if you were to do this project all over again, what would the actual cost to you and your partner agencies likely to be.

Starting with the project budget in your proposal, make a list of all of the costs items required for your project. This will include:

- council staff costs, including for project management, design, capital works, installation, maintenance and ongoing operations;
- staff costs for partner agencies;
- contractor costs; and
- infrastructure and equipment costs.

It is particularly important to account for staff time involved at all stages of the project. There are some useful guides available for estimating the cost of public safety infrastructure projects. For example, Clancey (2010) provides detailed guidance on how to estimate the cost of a public space CCTV network.

Monetise the benefits

If you have been able to quantify the impact of the project, then you need to find a way to value these benefits in monetary terms. This can be difficult, and usually requires finding estimates of the marginal costs associated with the harm you are trying to prevent.

One possible method for measuring the financial benefits of your project is to estimate the savings from a reduction in crime. The Australian Institute of Criminology has produced estimates of the cost per incident for a number of crime types using a well-established methodology (Table 7). These costs include:

- medical costs, which include the costs of treatment for injured victims, which may or may not require hospitalisation;

- lost output due to victims not being able to perform work through paid employment and daily unpaid activities;
- intangible costs such as fear, pain, suffering and lost quality of life; and
- the average value of property lost (Smith et al. 2014).

These costs exclude costs to the criminal justice system, including costs to police, which are not available on a per incident basis.

Table 7 Estimated costs of crime, by crime type ($2015-16)

	Per incident cost ($)
Assault	
Injured, requiring medical treatment	$12,141
Injured, no medical treatment	$1,384
Not injured	$469
All assaults	$2,789
Sexual assault	$4,166
Robbery	$5,450
Burglary	
Residential, completed	$3,061
Residential, attempted	$1,028
Non-residential, completed	$5,463
Non-residential, attempted	$1,499
Theft of vehicles	$6,830
Theft from vehicles	$1,901
Shop theft	$102
Other theft	$799
Criminal damage	$1,973
Fraud (recorded)	$27,395

Cost per incident includes medical costs, lost output, property loss and intangible costs

All costs have been inflated from 2011 to 2015-16 dollars using the General Government Final Consumption Expenditure (GGFCE) chain price deflator

Excludes homicide offences

Source: Smith et al. 2014; SCRGSP 2017

Once you have measured the impact of your project, you will be better placed to identify other potential savings that might have resulted from your project. For example, your council may have estimates for the cost of graffiti removal, which could be another way of measuring the benefits of a project that aims to reduce graffiti.

The benefits are calculated by multiplying the effect size of your project (eg the number of crimes prevented) by the marginal cost (eg per incident cost of crime). The total can then be summed across different offence types, acknowledging that if some crimes have increased then this will offset the savings from those crimes that have decreased.

Compare the costs and benefits

The next step is the actual cost-benefit analysis. There are three possible metrics for comparing the costs and benefits of your project:

- The net present value represents the net benefit of the project in dollar terms and is calculated by subtracting the total costs from the total benefits.
- The benefit-cost ratio directly compares benefits and costs and divides the total discounted benefits by total discounted costs. A benefit-cost ratio of less than 1 means that the costs of the project outweigh the benefits.
- The return on investment compares the net benefit (total benefits minus total costs) to costs. This is calculated by dividing the net present value by the cost of the project.

Before you perform these calculations you may need to consider whether discounting is required. Discount rates are applied to future costs and benefits associated with a project if the benefits are measured beyond one year. There are online guides to assist you with this process, but you may require additional assistance.

Test the assumptions

There are likely to be various assumptions that you make as part of this analysis, both in terms of how you have calculated the costs and benefits. For example, if you are measuring the benefits associated with a reduction in assault, then you may need to make assumptions about the prevalence of assaults of different severity (ie no injury through to hospitalisation).

To test these assumptions, you need to perform a sensitivity analysis. This essentially involves running a series of scenarios that use different inputs to see what impact these have on the overall results.

Report the results

The final step is to report your results. The key to reporting the results for a cost-benefit analysis is being open and transparent about the methods you have used. Specifically, you should:

- identify all of the cost items you have included in your total project cost, and make clear which costs were known, which were estimated, and which were excluded from the analysis;
- be clear about which outcomes you have been able to quantify and monetise, and which outcomes are excluded from the analysis (and the likely impact of that);
- outline the basis for calculating benefits in financial terms, similar to the costs per incident for recorded crime; and
- make explicit any assumptions that underpin the analysis.

Reporting the results from your evaluation

What you need to know

- You need to set aside enough time to report the results from your evaluation.
- At a minimum, you will need to provide a report to the Community Crime Prevention Unit. This report will focus on the impact of your project and whether you have achieved your stated aims. You may also want to prepare a more detailed report for other stakeholders.
- Any report you produce on the evaluation should provide enough evidence to support any conclusions you have drawn.
- You need to think about the audience who will be reading the report. Specifically, what is it they want to know, and what do they already know about the project or evaluation?
- As well as the report, you should also think about how you will disseminate the findings to make sure that you can reach your audience and increase the likelihood they will read your evaluation.

It is important that you allocate enough time and resources to the work involved in writing up the results of an evaluation. Having a well-written evaluation report will help to demonstrate the impact of the project, share lessons with other organisations and, in many cases, help with attempts to gain further funding.

What structure should you use for the report?

The format and content of an evaluation report will depend on whether it is a progress report or a final evaluation report. The findings in the report can be structured around the evaluation questions or the performance indicators in the evaluation framework. At a minimum, you should include the following, and in roughly this order. How much detail you provide is up to you.

- A description of the project you evaluated, including the problem you sought to address, the aims and objectives you were working towards, the intervention/s that you delivered as part of the project, and an explanation on how you thought these might work (the underlying theory).
- An overview of the key questions addressed by the evaluation, including whether you conducted a process or outcome evaluation, or both. This might be a summary of the questions that were in the evaluation framework, rather than attempting to list them all.
- An explanation of the evaluation design and data sources, including how you collected and analysed the data, and any limitations that need to be acknowledged. Provide enough information so that the reader can understand how you have come to the findings you present in your report.
- Findings from the process evaluation, with an overview of what you ended up doing, an assessment of the quality of the work, any changes to the original proposal, and the reasons for these changes.
- Findings from the outcome evaluation, best structured around the outcomes in the logic model and evaluation framework, with evidence from the different data sources and explanation as to why certain outcomes were or were not observed.

- A discussion and summary of the findings, with a clear statement as to whether the project has achieved its aims and objectives and the answers to the overarching evaluation questions (ie was it implemented as planned and did it work?).
- Any recommendations based on your findings, either for modifying the current project or to help inform future public safety infrastructure projects.

A template has been prepared to assist you with producing an evaluation report. It is divided into two parts—the report to the Community Crime Prevention Unit, which has a fixed structure, and the more detailed report, which can be adapted to how you want to write up the findings from your own evaluation.

Tips for reporting the findings from your evaluation

- Try to remain as objective as possible and be fair and balanced in summarising the findings—include both the good and the bad.
- Offer explanation for the results, particularly in terms of the outcome evaluation, but be sure to base this on findings from the evaluation and not your personal opinion.
- In writing up the results, keep it as simple as possible, in plain language, and well signposted with headings so that it is accessible to a wide audience.
- Use dot points where appropriate. Be succinct.
- Use charts and graphs to present the results from the analysis of quantitative data, but only if they help simplify the presentation of results. Ask your colleagues if you're not sure whether people can easily interpret them.
- If you are reporting percentages, try to include the number as well, so that people can tell if it is based on a large or small number of cases.

See *RESOURCE 7 – EVALUATION REPORT* for a template for you to use to report the results of your evaluation.

Disseminating the results

As well as thinking about how you will write up and present the results in a report of some sort, it is also worth thinking about how you might disseminate the findings from your evaluation. Think about the different formats you might use to share the evaluation findings with the different stakeholders you identified during the planning stages. This might include:

- preparing and distributing summary reports in different formats, such a fact sheet for members of the community, including local businesses, and a more detailed summary for internal reporting;
- articles in local media, including print and online;
- presenting at public forums, whether that is for a select audience or open to the wider community;
- targeted presentations to your partners and executive; and
- council websites and social media pages.

This part of the process is as important, if not more important, than producing a good report. Evaluation findings do get used, but not always in the way we might like. Evaluation findings will sometimes get overlooked in favour of other considerations, particularly if they are not well known

or understood. And not all findings will be given equal weighting. If you have invested the time and energy in conducting the evaluation, then it's really important you follow through and help disseminate the results.

List of resources

Resource 1 - Sample Logic Models and Evaluation Frameworks

Information and sample evaluation frameworks that you can use for different types of public safety infrastructure projects

Resource 2 - Evaluation Plan

Template that you can complete with information about your evaluation and that will help you manage the evaluation process

Resource 3 - Data Request Form for Crime Statistics Agency

Information and an easy template for you to use to prepare a data request to the CSA

Resource 4 - Calculating Changes in Recorded Crime

Information and an easy template for you to use to analyse the data provided by CSA

Resource 5 - Community Safety Survey Template

Information and an easy template for you to use to survey the community before and after you implement your project

Resource 6 - Cost-Benefit Analysis

Template for you to use to perform a basic cost-benefit analysis

Resource 7 - Evaluation Report

Template for you to use to report the results of your evaluation

Glossary of key terms

Activities

All of the things (work) that people involved in the design and/or delivery of a project actually do.

Aims

Describe what impact you expect the project will have or what you expect will change, such as a reduction in crime or improved perceptions of safety.

Baseline measure

An assessment of the current situation using data collected before the project has been implemented.

Benefit-cost ratio

Directly compares benefits and costs and divides the total discounted benefits by total discounted costs. A benefit-cost ratio of less than 1 means that the costs of the project outweigh the benefits.

Buffer zone

Geographic areas immediately adjacent to the target area where you might expect there to be either some level of crime displacement or diffusion of benefit.

Coding

Refers to the process of organising interview data into categories reducing it into something which is more manageable and meaningful for the purpose of analysis.

Community safety survey

Questionnaire completed by members of a community to obtain views on things like general perceptions of an area, perceived severity of crime problems, feelings of safety, worry about being a victim, action taken to avoid crime and recent victimisation.

Comparison area

A geographic area similar in size and nature to the target area, but without the project having been implemented, against which you can compare changes.

Cost-benefit analysis

Involves comparing the total cost of your project with the total benefits, measured in monetary terms

Diffusion of benefit

Occurs when the area immediately surrounding the target area (ie buffer zone) also benefits from the intervention and experiences a decline in crime.

Displacement (geographic)

Occurs when offenders continue to offend but in areas that are not subject to an intervention, typically the areas adjacent to the target area.

Gross effect

The overall change in the number of crimes between the pre and post-implementation periods.

External influences

Things outside of your control and external to the project that may influence whether the expected outcomes are delivered.

Evaluation

The process of collecting and analysing data to determine whether a project has been implemented as planned, how well it has been delivered, what impact it has had on crime and safety and the reasons it did or did not work.

Evaluation framework

Outlines the key evaluation questions, performance indicators and sources of data and links them together in a structured way.

Implementation period

The time between the point at which project activities commence and the point at which all work is completed on the project.

Inputs

The resources used to carry out the work as part of a project.

Internal validity

The degree to which you can be confident the observed changes are the result of your project and not some other factor or alternative explanation.

Interview

Typically involve two or more people meeting face to face where the interviewer can ask questions to obtain information from interview participants.

Logic model

A way of describing—usually in a table or as a diagram—the inputs, activities, outputs and outcomes involved in a project and the links between them.

Net effect

If the net effect (NE) is close to zero, the response probably was ineffective, and if net effect is negative the project may have made things worse. If the NE is negative, there is no need to proceed with the steps that follow. But if net effect is positive, there is reason to believe the project may have caused the improvement.

Net present value

The net benefit of the project in dollar terms, calculated by subtracting the total costs from the total benefits.

Objectives

Describe what you plan to deliver as part of the project, such as installing new or upgraded lighting or CCTV.

Outcomes

Changes that result from having produced the outputs, such as changes in people's knowledge, attitudes, behaviour and circumstances.

Outcome evaluation

Evaluation focused on the overall effectiveness of the project, including the impact of the project on participants, stakeholders and the broader community.

Outputs

The products and services made available to the target of a project.

Process evaluation

Evaluation focused on improving your understanding of the activities that are delivered as part of a project and assess whether they have been implemented as planned.

Performance indicators

Describe what is measured to assess a project's performance. They can be measured using quantitative or qualitative data.

Qualitative data

Non-numeric information that describes something, such as the information collected through interviews or observation.

Quantitative data

Information about quantities, expressed as counts or values in numeric form.

Quasi-experimental design

Research design in which you have measures of the outcome pre and post intervention and a comparison area against which to compare results.

Recorded crime data

Information collected by police on the offences and incidents reported to and recorded by police.

Response effect

Refers to the total increase or decrease in the number of offences that may be attributed to your project.

Return on investment

Compares the net benefit (total benefits minus total costs) to costs. This is calculated by dividing the net present value by the cost of the project.

Sample size

The number of observations obtained when collecting data (eg the number of people surveyed as part of a community survey).

Sampling bias

Occurs when a sample taken from a population is not representative of the whole population, usually because some people are less likely to be included than others.

Sampling error

Error that arises from collecting data from a sample, rather than an entire population.

Seasonality of crime

Consistent fluctuations year to year in crime levels based on the time of year.

Semi-structured interview

Interview where this is a basic interview schedule, comprising a list of open-ended questions, but the wording and order of these questions can be altered as the interview progresses.

Target area

The location or area targeted by an intervention delivered as part of a project.

Total net effect

The total increase or decrease in the number of offences or incidents that may be attributable to the impact of your project, taking into account displacement or diffusion of benefit.

Weighted displacement quotient

Calculated to determine whether there was any displacement or diffusion of benefits. A positive WDQ means there is a diffusion effect and, if it is greater than one, then the diffusion effect was greater than the response effect.

Where can you find more about evaluation?

Australasian Evaluation Society

The Australasian Evaluation Society (AES) is a member based organisation which exists to improve the theory, practice and use of evaluation in Australasia for people involved in evaluation including evaluation practitioners, managers, teachers and students of evaluation, and other interested individuals.

www.aes.asn.au

Australian Institute of Criminology

The Australian Institute of Criminology is Australia's national research and knowledge centre on crime and justice. We seek to promote justice and reduce crime by undertaking and communicating evidence-based research to inform policy and practice.

www.aic.gov.au

Better evaluation

An international collaboration to improve evaluation practice and theory by sharing and generating information about options (methods or processes) and approaches.

www.betterevaluation.org

Cost-Benefit Knowledge Bank

The Cost-Benefit Knowledge Bank aims to broaden and deepen the understanding and use of cost-benefit analysis in criminal justice and to help practitioners and jurisdictions build their capacity to conduct cost-benefit studies and apply cost-benefit analysis to policymaking.

www.cbkb.org

Pell Institute Evaluation Toolkit

The Evaluation Toolkit is designed for professionals who work with college outreach programs that are interested in conducting small scale, high quality evaluations of their programs.

www.toolkit.pellinstitute.org

Social research methods knowledge base

The Research Methods Knowledge Base is a comprehensive web-based textbook that addresses all of the topics in a typical introductory undergraduate or graduate course in social research methods.

www.socialresearchmethods.net/kb/contents.php

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Appendix A: Formulas for measuring changes in recorded crime

Each of the formulas below is included in Resource 4. They are described here so that you understand how they are calculated and what they actually mean. These are based on the work by Bowers and Johnson (2003), who developed these formulas to measure the impact of situational crime prevention and problem-oriented policing in the UK.

Simple methods of analysis

The first and most simple calculation is the gross effect (GE). This is a very simple calculation that involves subtracting the number of crimes in the target area after the intervention from the number of crimes in the target area before the intervention. It tells you whether there has been a change in crime pre and post-implementation.

$$GE = [T_b - T_a]$$

Where T_b is the crime count in the target area before the intervention, and

T_a is the crime count in the target area after the intervention

This doesn't tell you much about the scale of the change in recorded crime. To do this, you need to calculate the percentage difference (PD) in the target area:

$$PD_t = \left[\frac{(T_b - T_a)}{T_a}\right] \times 100$$

You can compare the PD in the target area with the PD in the comparison area. A successful project will produce reductions in observed problems that are greater in the target area than in the comparison area. Conversely, even if crime has gone up, a successful project can lead to increases that are lower than in the comparison area.

If you have been able to identify a comparison area, and get data from CSA on the number of crimes that occurred in that area before and after your project, then you can use this information to estimate how much crime you may have avoided. The response effect (RE) refers to the total increase or decrease in the number of offences that may be attributed to your project:

$$RE = \left[T_b\left(\frac{C_a}{C_b}\right) - T_a\right]$$

Where T_b is the crime count in the target area before the intervention,

C_b is the crime count in the comparison area before the intervention,

T_a is the crime count in the target area after the intervention, and

C_a is the crime count in the comparison area after the intervention.

A positive RE indicates a positive result—a reduction in crime. A negative RE means crime has gone up. The larger the number, the higher the increase or decrease.

More sophisticated methods of analysis

If you have been able to identify and measure changes in the recorded crime in the target area, comparison area *and* the buffer zone, then you may want to use more sophisticated methods of analysis. These are also included in the Excel spreadsheet.

Three additional measures of impact can be calculated—the net effect, the weighted displacement quotient and the total net effect.

The net effect (NE) is used to determine whether a project is responsible for any observed differences in recorded offences. It is based on the differences in the ratios of the target area to comparison area pre and post-implementation and uses the following formula:

$$NE = (\frac{T_b}{C_b}) - (\frac{T_a}{C_a})$$

If the net effect is close to zero, the response probably was ineffective, and if net effect is negative the project may have made things worse. If the NE is negative, there is no need to proceed with the steps that follow. But if net effect is positive, there is reason to believe the project may have caused the improvement.

A weighted displacement quotient (WDQ) is calculated if the NE was positive to determine whether there was any displacement or diffusion of benefits. The WDQ provides 'a single metric that quantifies the size of changes observed in a nearby catchment area relative to those observed in the associated treatment area (and a suitable control area)' (Johnson, Guerette & Bowers 2014: 555).

The WDQ uses the following formula:

$$WDQ = \frac{\frac{D_a}{C_a} - \frac{D_b}{C_b}}{\frac{T_a}{C_a} - \frac{T_b}{C_b}}$$

Where D_a is the crime count in the displacement area after the intervention,

C_a is the crime count in the comparison area after the intervention,

D_b is the crime count in the displacement area before the intervention, and

C_b is the crime count in the comparison area before the intervention.

A positive WDQ means there is a diffusion effect and, if it is greater than one, then the diffusion effect was greater than the response effect. A negative WDQ means there was geographic crime displacement (ie crime moved to a nearby location). When the WDQ is between zero and negative one, displacement erodes some, but not all, of the response effects. The WDQ does not account for other forms of displacement, such as temporal displacement or displacement to other crime types.

The total net effect (TNE) refers to the total increase or decrease in the number of offences or incidents that may be attributable to the impact of your project, taking into account displacement or diffusion of benefit. It is calculated with the following formula:

$$TNE = \left[T_b\left(\frac{C_a}{C_b}\right) - T_a\right] + \left[D_b\left(\frac{C_a}{C_b}\right) - D_a\right]$$

As with the RE, a positive TNE indicates a positive result—a reduction in crime. The larger the number, the higher the increase or decrease.

Appendix B: Required sample sizes for a community safety survey

The following table provides an easy reference to work out the sample size required for a community safety survey. It tells you how many people you need to survey in order to be reasonably confident in your results.

The margin of error, or confidence interval, refers to the range within which the true percentage is likely to fall. This is often reported as the plus-or-minus figure reported in polls. The figures in this table are based on a confidence level of 95%—in other words, you can be 95% confident the true percentage falls within this range.

Table B1 Required sample size, by population size and margin of error

Population Size	Margin of error		
	5%	2.5%	1%
10	10	10	10
20	19	20	20
30	28	29	30
50	44	48	50
75	63	72	74
100	80	94	99
150	108	137	148
200	132	177	196
250	152	215	244
300	169	251	291
400	196	318	384
500	217	377	475
600	234	432	565
700	248	481	653
800	260	526	739
900	269	568	823
1,000	278	606	906

1,200	291	674	1,067
1,500	306	759	1,297
2,000	322	869	1,655
2,500	333	952	1,984
3,500	346	1,068	2,565
5,000	357	1,176	3,288
7,500	365	1,275	4,211
10,000	370	1,332	4,899
25,000	378	1,448	6,939
50,000	381	1,491	8,056
75,000	382	1,506	8,514
100,000	383	1,513	8,762
250,000	384	1,527	9,248

Notes: Based on a confidence level—how certain you can be—of 95%

Source: Adapted from the Research Advisors 2006. Sample size table. http://research-advisors.com/tools/SampleSize.htm