Cincinnati Police Department Problem Solving Guide:

A Practical Resource for Police Officers and Community Members

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TABLE OF CONTENTS

INTRODUCTION

We now know that problem solving is one of the most ***effective*** crime reduction strategies (Hinkle et al., 2020). Problem solving commonly uses the ***SARA Model*** to understand crime and disorder problems and develop holistic responses to address the problems. SARA is an acronym for Scanning, Analysis, Response, & Assessment.

- ***Scanning*** involves identifying and defining crime and disorder problems.
- ***Analysis*** involves using data to understand a problem's underlying causes.
- ***Response*** involves developing tailored responses to a problem's underlying causes.
- ***Assessment*** involves measuring if the responses impacted the problem.

Problem solving underpins many policing and crime reduction strategies. In the late 1970s, Herman Goldstein first introduced the idea of problem solving as a standalone policing strategy: Problem-Oriented Policing (POP) (Goldstein, 1979). At roughly the same time, problem solving was widely discussed as a core component of Community-Oriented Policing (COP) (Office of Community Oriented Policing Services, 2012). In both POP and COP, the gist of problem solving was the same but COP also emphasized the importance of community involvement in problem solving (among its other components). Later on, problem solving influenced other policing strategies, like focused deterrence/group violence intervention, CompStat, and hot spots policing. Nonetheless, problem solving is not exclusive to policing. Anybody with an interest in addressing a crime or disorder problem can apply problem solving concepts and the SARA model to address a problem in their community. In fact, there are many examples of residents and community groups driving problem solving strategies across the U.S.

Cincinnati's historic Collaborative Agreement (CA) established Community Problem-Oriented Policing (CPOP) as the Cincinnati Police Department's primary crime reduction strategy in 2002.[1] CPOP is a philosophy and methodology that blends the importance of collaborative police-community partnerships and the concept of problem solving for addressing crime and disorder problems. Under CPOP, a problem is just as important as a call for service, crime incident, or investigation, and CPD personnel are expected to work with community partners to scan for, analyze, and respond to crime and disorder problems.[2] With problem solving becoming one of the most effective crime reduction strategies to date, one might say the CA was "ahead of its time" when it established CPOP as CPD's primary crime reduction strategy.

This guide provides an overview for how CPD officers and community members can work together on teams to conduct CPOP. The guide follows the steps of the SARA Model and details the concepts needed to complete each step of SARA. CPD personnel and community members collaborating on CPOP projects can reference this guide as they work together to solve problems.

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[1] You can read more about the Collaborative Agreement here: https://www.cincinnati-oh.gov/police/department-references/collaborative-agreement/.

[2] CPD's problem solving policy is Procedure 12.370: Problem Solving Project Process.

SCANNING

Scanning Objectives

Scanning is the first step of the SARA process.

During Scanning, the objectives are to:

- Identify potential problems that may warrant further attention
- Partner with community to verify that perceived problems are real and warrant attention
- Establish and collaborate with a community stakeholder team (i.e., CPOP team) to define the specific problem in a way that facilitates comprehensive responses to addressing it

The sections below provide a guide for how to ***think*** about scanning for and defining problems as well as some specific tools that CPOP teams can use to define their own problems.

What is a Problem?

In some cases, the problem can be very clear. This is likely to be true when problems are identified by someone who has directly experienced the problem. In other cases, however, the problem is unclear. Sometimes the definition of a problem even changes over time. It is common for a CPOP team to change its problem's definition as more information is learned. ***Problem solving is a fluid process, so as your CPOP team learns more about the problem, it may be able to improve on its definition.*** The goal is not to define the problem quickly, but rather define it well so that the problem can be analyzed and addressed. Flexibility is key when defining a problem.

CPD Procedure 12.370 defines a Problem as:

> *"A recurring set of related harmful crime, disorder, or safety incidents in a community that members of the public expect the police to address."*

Problems result from recurring events. Many people use the terms event and incident interchangeably. That's fine. The idea of recurring events implies the problem has existed for a long time, usually months or even years, which in return implies ***the problem is unlikely to go away without a response***.

CPOP projects are intensive and can take months or even years to complete, so it is important that they are focused on ***recurring problems***. While something may appear to be a "problem" on the surface, it may not warrant a CPOP project if it can be resolved quickly or will simply go away on its own.

Working through the Center for Problem Oriented Policing's CHEERS test is a great way to ensure that the issues you've identified are actually problems that should be the focus of CPOP projects. A full-page, printable copy of the CHEERS checklist and logic behind it is available in Appendix A.

The CHEERS acronym means:

CHEERS Principle		What it means:
C	Community	Members of the community must experience the events
H	Harmful	People or institutions must suffer harm from the events
E	Expectation	Some community members must expect the police to address the problem
E	Events	You must be able to describe the type of event that makes up the problem
R	Recurring	The harmful events must recur (i.e., happen repeatedly)
S	Similarity	The harmful events must have something in common

Identifying Neighborhood Problems

Problems can be identified by the police or the community individually or in collaboration. At CPD, ***every officer at every rank*** is expected to engage either directly in or play a support role in CPOP. For this reason, some problems will be identified by officers. However, ***community members play a vital role in problem identification***. Crime and disorder problems directly impact the community who experience them. Community members may include, but are not limited to individual citizens, community and neighborhood organizations, businesses, government agencies, and any other group in Cincinnati. Once a community member identifies a problem, they may notify their neighborhood liaison officer, raise the problem at a community meeting, and so on. In reality, not all problems can be identified by CPD as the events that make up many problems police may never be reported. As such, community members are likely to be the most common source of problems. Regardless of who "discovers" a problem, police and community must come together to complete a CPOP project to address it. The community members raising the problem should be invited to join a project's CPOP team, and their expectations and insights should play a key role in the Scanning phase. ***The community members who join the CPOP team should be documented in PSTS.***

Defining and Quantifying Your Specific Problem

Addressing problems means more than quick fixes – it means dealing with the conditions that ***create*** problems. Identifying broad and vague issues leads to ineffective responses. In contrast, breaking down issues into identifiable, specific problems has a number of benefits, including:

1. Increasing the likelihood of success

2. Having fewer moving parts to keep track of
3. Ensuring enough resources will be available to address the problem

For these reasons, it is important that problems are described specifically, so that they can be broken down into their component parts and analyzed. For instance, instead of just "delivery driver vehicle theft" a problem might be "University area theft of delivery driver vehicles left running while the driver enters the restaurant to pick up an order – of which 75% occur during the dinner time rush (5:00pm to 9:00pm) and 90% are Uber or DoorDash drivers."

Bringing together the elements of CHEERS to specifically define a problem, CPOP Teams need to quantify ***both*** the events that make up the problem ***and*** the similarities between the events. A clear quantification of events has two parts – ***a count of events*** and a ***timeframe*** that this count occurred within (e.g. past 1 year, past 3 years). An example event quantification is "90 events in the past three years" or "20 events in the six months between 2021/01/01 and 2021/06/30".

Quantifications of similarities should also include two parts – a ***characteristic linking events*** and the ***amount or percentage of events that have the characteristic*** (e.g. 70%, half, 2/3rds). If an exact number of events sharing the similarity is unknown, an estimation is acceptable (e.g. approximately three-quarters or at least half). Note that problems can, and often do, have multiple similarities linking events and each of these should be quantified. Example similarity quantifications are "80% of victims were Uber or DoorDash drivers" and "approximately 3/4s of the events occurred on weekend nights between 01:00 and 03:00".

It is important to remember when quantifying your problem that problems are not merely one-off incidents, and even a string of incidents of a same type (for instance, a string of robberies occurring near one another) may not actually be part of the same problem. That is why it is important to go through the CHEERS checklist and other identification methods before deciding if events constitute a problem. After all, problem solving is labor and resource intensive and you want to be sure you are addressing a problem that deserves that time and effort.

If you are unsure of how to quantify your problem, please refer to the Collecting Data to Inform Analysis section in the Analysis chapter of this guide to get an overview of the different types and sources of data that can be used to quantify and analyze problems.

Now that we've gone over the CHEERS checklist and discussed some of the ways you might quantify your problems, it would be useful to look at some examples of poorly defined problems and some potential replacements. These are presented in the table below.

Reading over the examples above, you can see that ***well defined problems have specific definitions that are enhanced by their event and similarity quantifications***. They avoid using simple crime categories like "auto theft" or "robbery". These provide the foundation for problem analyses, and eventually for the research and development of potential responses.

Poorly defined problems	Better, more specific descriptions...	Event quantifications...	And similarity quantifications...
Auto theft	Stealing cars for export overseas	20 thefts in past six months	70% stolen from downtown condo parking garages
	Joyriding by juveniles	75 cars stolen and ditched between January 1, 2019 and present	2/3 stolen between 23:00 and 04:00
Robbery	Robbery of delivery drivers	70 robberies in past 3 years	50% initiated using new Uber or Door Dash accounts
	Robbery victims set up using Craigslist ads	55 robberies between 2020/01/01 and 2021/06/30	All luring ads were for cash purchases of high value items - 50% of were for electronics (e.g. cell phones, laptops), 20% for bicycles
Nuisance	Alcohol consumption in parks	300 citizen complaints in past 3 years	95% of events occurred on weekend or holiday nights in the summer
	Excessive noise around bars at closing time	Citizen complaints brought up at 12 community meetings reporting excessive noise at local bars after closing each weekend for the past year	100% of events occurred on Thursday, Friday, or Saturday nights along the 100 block of Main St.

Progress Check-In

At this point in the SARA process, the CPOP Team should now have a well-defined problem with data to demonstrate the extent and recurrence of the problem and be able to answer the following questions:

- What is my problem?
- Who are the stakeholders for this problem and who can be on my CPOP team?
- What similarities link the events that make up my problem?
- How frequently does my problem occur?
- How long has this problem been taking place?

ANALYSIS

Analysis Objectives

Analysis is the second step in the SARA process.

During Analysis, the objectives are to:

- Work with your CPOP team to develop hunches for why the problem might exist using the problem analysis frameworks reviewed below
- Work with your CPOP team to collect data and conduct an in-depth analysis to test if your hunches for why the problem exists are supported by data
- Work with your CPOP team to determine which hunches about why the problem might exist are supported by your data

General Analysis Guidance

Understanding the characteristics of your problem and what elements contribute to it requires that you get detailed information on a few items, including:

- Offenders
- Victims
- Others who may be involved or have a stake in the problem
- Time of occurrence
- Locations
- Characteristics of the physical environment where the problem is occurring
- History of the problem
- Motivations, gains, and losses of all involved parties
- Apparent (and less apparent) causes and competing interests
- Current responses to the problem (if any)
- Results of current responses

A guide for how to ***analyze*** your problems using a variety of useful tools is detailed below.

5W1H Questions

Thinking through the 5W1H questions is a good place to start your deep dive into your problem's components:

1. Who?
2. What?
3. Where?
4. When?
5. Why?
6. How?

Asking ***who*** is involved will help identify the key players involved in your problem. All problems will involve at least offenders and victims. Additionally, most problems will involve other parties, including people who facilitate the problem, people who are witnesses to the problem and could potentially intervene to stop it, or people who are able to do something about the problem.

Asking ***what*** occurs during your problem will help you recognize the nature and extent of the problem. Some problems are relatively simple in nature, whereas other problems are highly complex. By asking what happens (which is often best answered after knowing who, where, when, why, and how a problem occurs), you can get a sense of the overall nature and complexity of the problem. Much of this work starts in the Scanning phase, but as you learn more about the problem in the Analysis phase ***you can update and expand your problem definition***.

Asking ***where*** the problem occurs will help pinpoint the specific location or locations where problem incidents occur as well as allow for an examination of the general physical environment in the area where the problem takes place. Some problems will be concentrated at only one or two addresses, others will be located along a particular block, and others might occur across a wider area. When a high volume of calls-for-service or incidents occur at the same place, it is possible that multiple problems are occurring there, thus emphasizing the importance of knowing exactly where problem events are occurring. ***Place is a really important component of problems because the characteristics of places and the physical environment, such as lighting, often explain why a problem exists.*** One question to ask yourself is "why here and not there?" Surely there are other similar places in the city that do not have the same problem, so what is the difference between the place that does and does not have the problem?

Asking ***when*** a problem occurs can help with further understanding a problem. Usually, you want to know the time of day, day of week, or months of the year that your problem tends to occur. The reasons are that we all know people do different things at different times, so knowing when your problem occurs can help you think about what people are doing at the time that contributes to the problem. For example, if you know a robbery problem occurs in the late night to early morning hours on the weekend, you might question if it has something to do with the local bars. Or if you know assaults are concentrated on weekdays between 1400 and 1600 hours, you might consider if school release times are driving the problem. In some cases, how time contributes to the problem will be relatively obvious. In other cases, you will have to think about time more carefully. Either way, knowing ***when*** a problem occurs can provide a lot of insight.

> Note that exact time of occurrence is often unknown in official crime data. For example, a victim who comes home to find their house was broken in to will not know the exact time the burglary occurred, just that it happened while they were out. But a victim of a robbery likely will know the exact time of occurrence. So, it is important to be careful about analyzing time of occurrence in official crime data.

Asking ***why*** a problem occurs implies that a CPOP team understands the history of the problem, the motivations and interests of those causing the problem and those who want to do something about it, the gains and losses stemming from the problem, and the potential causes of the problem. ***Crime problems occur for specific reasons***. While we may never completely understand why offenders do what they do, assessing the risks and rewards from their perspective may help

determine the best course of action later in the SARA process when you develop a response to the problem.

Asking ***how*** a problem occurs is about understanding what happens during just one of the events that make up a problem. Problems are made up of crime events, which themselves are made up of a series of decisions made by those involved. We want to be able to understand this decision process of how a single event unfolds as a collection of recurring events forms an overarching problem. Answering these questions may also help better understand why the problem occurs, as the process itself may shed light on specific motivations and causes.

Frameworks for Analyzing Crime Problems

Routine Activities Theory, Rational Choice Theory, Crime Pattern Theory, and Crime Prevention Through Environmental Design are frameworks that can help you better analyze the opportunities that lead to crime and disorder problems. Each of these frameworks complement the others. In fact, they are so complementary that people sometimes have a hard time separating each of them. These frameworks are useful for explaining different aspects of crime and disorder problems, and your CPOP team should keep them in mind as they answer the 5W1H questions (discussed above) and as the CPOP teams works through the VOLTAGE checklist (discussed later).

Routine Activities Theory and the Crime Triangle

When trying to understand a problem in-depth, it helps to know about all of the problem's characteristics. One easy way to do this is to use Routine Activities Theory, which was developed by researchers to spell out the minimum requirements for a crime to occur and who might be able to intervene in a crime event. This theory puts forth that for a crime to occur, a ***motivated offender*** must encounter a ***suitable target*** in a situation that l***acks capable guardianship***, or somebody who can intervene in the event.

Visualizing the elements of Routine Activities Theory gives us the ***Crime Triangle*** in Figure 1 (also often called the Problem Analysis Triangle). This graphic can be useful for illustrating the relationship between the different elements that make up crime events. Additionally, the Crime Triangle provides a way to organize the 5W1H questions and find potential leverage points for responses.

Figure 1. The Crime Triangle

On the inside of the triangle are the three elements that are ***required*** for a crime to occur: (1) an offender, (2) a victim/target, and (3) a place. That is, crimes happen when opportunistic offenders and vulnerable victims/targets meet up at the same place and time. A crime cannot occur without one of the required elements. Any problem analysis should, at minimum, include an understanding of who the potential offenders are, who the potential victims/targets are, and where the problem occurs.

The outside of the crime triangle is useful for thinking about who can influence or impact the behaviors of the inner triangle elements:

- **Handlers** are people who can impact the behaviors of potential offenders. They include parents, siblings, friends, probation and parole officers, and anyone else who can exert control over or who has influence on an offender.
- **Guardians** are people who can help protect and look after potential victims or targets during a crime event. Examples of potential guardians include family, friends, police officers, security guards, or anyone else who is in the position of watching out for others, be it formally or informally.
- **Managers** are people who oversee the functioning of places. Place managers include business owners, landlords, school administrators, and others who have the responsibility to control behavior. Managers include those people who are designated by owners to regulate conduct in their absence, such as bartenders or bouncers.

When developing responses, a key idea is how can you make any of the outer triangle elements more impactful. These will be especially useful to guide your thinking about potential responses in the next phase (Response) of the SARA process.

Overall, the Crime Triangle helps with analysis by enabling you to understand the role that opportunity plays in problem creation. Additionally, we know that crime opportunities are not random. Instead, opportunities, and thus problems, tend to cluster in space and time. Some places, like problem bars or convenience stores, tend to experience more than their fair share of problems. We also know that certain kinds of problems, such as street robbery, tend to occur at night and on weekends. Opportunities create problems, so understanding what people do as part of their routine activities creates opportunities is how one can understand why a problem exists.

Rational Choice Theory

Rational Choice Theory simply suggests that offenders make decisions about committing crime - they weigh the costs and benefits of their behaviors before acting, and act only when the perceived benefits outweigh the perceived costs. Costs can include the potential for getting caught, while benefits can be monetary or nonmonetary (e.g., fun, increased status).

There are ***two main types of decisions*** related to crime commission. The first is related to ***involvement*** in criminal activity, including decisions about initiating, continuing, or desisting from criminal behavior. The second are ***event*** decisions, which includes what crime to commit, where and when to commit it, who to victimize, and how to commit the crime. These decisions are not necessarily completely rational nor are they always the "best" decision. Rather, offenders'

decisions are said to be "bounded" by incomplete information, immediate needs, poor cost/benefit calculations, and other factors such as drugs and alcohol. Importantly, however, even within this bounded rationality, decisions are still made and thinking about event decisions helps us think about problem solving. Crime opportunities can be made unattractive to offenders by ***thinking about the decisions they make just before, during, and just after crime events and then taking away the pieces of a crime opportunity that offenders prefer***. In other words, if you think about the decisions offenders are making during your problem's events, responses can be developed to prevent and reduce the problem by taking away the parts of the event they prefer.

Crime Pattern Theory

Crime Pattern Theory takes what is known about opportunity and decision-making and "spatializes" it. Crime Pattern Theory suggests that the physical environment structures our daily activities. That is, the places people go and the routes they take to get there are dictated by the physical space, or "backcloth" around them. Important parts of the backcloth are nodes, paths, and edges:

- Nodes are the places people spend time at and travel to and from, including their homes, work, school, and recreation places.
- Paths are physical pathways that people take to get from node to node, including streets, walkways, and public transit lines.
- Edges are the physical or perceptual boundaries between different recognized areas of a city, such as the street between two neighborhoods or residential and commercial areas.

Potential offenders and potential victims go about their lives in the same spaces, as they tend to use the same nodes and paths and are constrained by the same edges. Crime Patten Theory suggests that ***crime opportunities will cluster around busy nodes, along busy paths, and along edges***. When trying to understand a problem, ***it is important to think about how the problem might arise based on how victims and offenders are using space in around the problem location***.

Crime Prevention Through Environmental Design

Crime Prevention Through Environmental Design (CPTED) is another framework where the ***physical environment is thought to play a central role in the development of crime opportunities***. CPTED suggests that certain aspects of the built environment can influence both the type and amount of human activity at a place. Physical elements of a place can impact its appearance, and people's sense of ownership over the place and their ability to observe the activity of others, which in turn can increase or decrease criminal opportunities. Additional factors, such as street networks, neighborhood layout, and building design can also influence how people use space. In summary, CPTED suggests that ***the built environment can impact the decisions that people make, which in turn creates or reduces opportunities for crime***. CPTED principles can be used to guide your analysis of problem locations – an example checklist from the Herman Goldstein Award winning "Reducing Crime and Disorder at Motels and Hotels in Chula Vista, California" problem-oriented policing project is included at the end of this guide in Appendix D.

Tools for Analyzing Crime Problems

The criminological frameworks discussed above have led to the development of some other useful tools to better understand and analyze problems. Some focus on the decisions made by offenders, whereas others focus on the spatial and temporal crime opportunity structures. When analyzing problems, it is helpful to think of each of these as a way to further narrow in on and answer the 5W1H questions, the elements of the crime triangle, and the VOLTAGE checklist.

The VOLTAGE Checklist

In his book *Reducing Crime A Companion for Police Leaders*, Jerry Ratcliffe suggests that problems are best analyzed in a structured way. The frameworks above provide a conceptual way to start thinking about and analyzing the components of your CPOP team's problem. Ratcliffe provides a checklist to work through to further guide your structured thinking.

This checklist covers seven important aspects of problems that can be represented with the acronym VOLTAGE. At this stage, your CPOP team should be working through this checklist to document detailed information relevant to your problem.

VOLTAGE Principles		**Prompts to Explore with CPOP Team Members**
V	Victims	Is anything unique about victims that drives your problem.
O	Offenders	Is anything unique about the offenders involved in the problem.
L	Location	When a problem is tied to a specific location, there is often something about that location the drives the problem.
T	Times	Different activities happen at different times and those activity patterns explain why a problem exists.
A	Attractors	It may be something happening at a location that is actually attracting the problem.
G	Groups	Offenders sometimes work in groups to drive problems.
E	Enhancers	Some problems are made more likely by something enhancing offending, like drugs or alcohol or a particular tool.

***A full-page copy of this checklist is available at the end of this guide in Appendix B.*

Crime Scripts: Crime Events as Processes

CPOP teams can think about the decisions made by offenders as a sequential, step-by-step process, with certain decisions being made, which lead to future decisions, and so on. This process is known as a ***crime script***.

When breaking down each step in the crime event, an analogy from the film world, focusing on the ***scenes, cast, props, and locations***, can be used. The scenes in a crime script are completed decisions/actions. Just like in a movie, scenes come one after another. These scenes must be in order or else the event won't make sense. For instance, offenders often choose a general location to offend in before picking a specific victim. Next, the people involved in each scene are the cast. They include the offenders, victims, handlers, guardians, and place managers from the Crime Triangle. Next, depending on the crime, certain props might be required. For instance, if an offender needs a gun to commit an armed robbery, they must first acquire the gun before committing the robbery. Finally, the locations of a crime script include all the places and times involved in the criminal event.

Taken together, ***a crime script can give a decision-by-decision, or action-by-action, progression of how a crime event occurs***. Crime scripts are important to understand because at each decision point there is a possibility for intervention. That is, a response (discussed in the next chapter) can focus on a particular decision point in a crime script and make it less advantageous for the offender, which might prevent the crime from happening.

Be Crime Specific

As discussed above, criminal events are made up of sequential decisions made throughout the crime process. One important thing to understand about these decisions is that they are crime specific. That is, the decisions made during the course of one type of crime may be drastically different than decisions made when committing another type of crime. For example, the decisions made by offenders when committing a residential burglary are much different than the decisions made when stealing from a convenience store.

The importance of crime specificity is further illustrated when we think about the decisions and actions made during the commission of crimes of the same "type". Take robbery as an example. Broadly speaking, robbery involves the taking of property by force or threat of force. But, within this definition, several robbery "types" exist, each of which requires a different set of decisions to be made. Examples of robbery types include street robberies, commercial robberies, residential robberies, carjackings, and robberies where the victim is lured to a particular place. Each of these involves entirely different sets of decisions. ***It is important when conducting problem analysis that your CPOP teams is as specific as possible when describing the types of events that make up a problem.***

Offenders Have Preferences

Many of the decisions people make are based on preferences, and people who commit crimes are no different. While research shows offenders are generalists (that is, they commit multiple different types of crime), they also have certain preferences. Offender preferences can impact every aspect of the 5W1H questions posed above. That is, offenders have preferences regarding who to offend against, what crimes to commit, where and when to offend, why they want and need to commit a particular type of crime, and how they plan on committing the crime.

A lot has been learned about offender preferences by simply interviewing active offenders. For example, Richard Wright and Scott Decker interviewed active armed robbers in St. Louis, MO in

the early 1990s, and asked them questions about their offending. These interviews suggested that robbers have strong preferences in many areas, including robbery location and robbery victims. For instance, while some robbers preferred robbing busy places like grocery stores, check-cashing shops, and sporting events, other robbers preferred to rob drug dealers because they would not call the police. ***Creating crime scripts and understanding the crime specificity related to your problem can help better understand offender preferences, as it can show problem solvers the types of crimes, locations, times, places, and people for a problem.***

Hot Products

One type of preference offenders have is the target of a property crime. Commonly stolen property is called a *hot product*. The acronym CRAVED helps one think about potential hot products. Each letter in CRAVED stands for a characteristic that makes a product more desirable:

CRAVED Principle		**Description**
C	Concealable	Product can easily be hidden
R	Removable	Product is easily removed
A	Available	Product is widely available and easy to find
V	Valuable	Product has a high monetary value or high desirability
E	Enjoyable	Product is enjoyable to own or consume
D	Disposable	Product is easy to sell or use

It might help to understand CRAVED products by thinking about consumer electronics.

An example of a CRAVED item might be an iPad. An iPad can be concealed easily if taken, is easily removable from a location, is commonly available, is valuable both in terms of personal use and resale, is enjoyable for the offender or whomever they sell it to, and can be easily disposed of by selling it.

An example of a less CRAVED item might be a desktop computer. Desktop computers tend to be less Concealable, Removeable, and Disposable than iPads, so they may be less likely to be stolen relative to other devices.

Understanding what products might be CRAVED by offenders and why a product is CRAVED is an essential part of problem solving for property crime because that information then can be used to develop responses to make the products less CRAVED. You don't have to have a response for every product – just the hot products.

Crime Concentration

Crime also concentrates at places. Most crime events concentrate in a small number of places, whereas most places have little, if any, crime. This phenomenon is known by many names, including the 80/20 Rule, the Iron Law of Troublesome Places, and the Law of Crime

Concentration. Academic research has shown over and over that ***just over 3% of all possible places in the city experience about 50% of crime*** and that concentration is stable over time. That is, without intervention, places that are hot spots tend to stay hot, and places that are crime-free or low crime tend to stay that way as well. When identifying hot spots, it is especially important to be crime specific (discussed above), as different crime types can concentrate in different areas.

Risky Facilities

Crime concentration also can be observed when looking at specific types of places. The term *facility* can be used to describe a type of place that serves distinct purposes. Examples of facilities include bars, restaurants, gas stations, and parks, among others.

People tend to think that some types of facilities have more crime than others. Say, bars have more crime than parks. That is often true. But more importantly, only a few facilities will experience most crime within a facility group. So, a small number of bars will be responsible for most crime that occurs at bars within a city. And usually the 80/20 Rule holds, where 80% of a problem occurs at just 20% of places of a given type. Academic research suggests that this pattern holds true for all facility types. The subset of facilities that have a disproportionate amount of crime can be referred to as *risky facilities*.

Risky facilities can be identified by obtaining a list of all places within a facility type (e.g., all bars in a city). Next, decide what type of crime to focus on and count the number of crimes at each facility. Finally, rank-order the facilities based on the number of crimes that occurred at each and decide what percentage of places you want to focus on. For example, you might want to identify the worst 10% of bars in the city for theft and focus crime reduction efforts on those places.

Crime Generators & Attractors

Another way to understand crime concentration at places is to look at how the opportunities at places develop. While some crime opportunities occur naturally, others are created by offenders or place managers.

Crime generators are places that are not inherently criminogenic, but where opportunities concentrate due to how busy the place gets. These places tend to bring together suitable targets and low guardianship, which offenders can take advantage of. Examples of common crime generators include entertainment districts, malls, and restaurants.

Crime attractors are places that specifically attract offenders, thus increasing the concentration of offenders at a place. People looking to commit crime come to these types of places because they know that there are criminal opportunities there. Examples of crime attractors include drug markets and the area around bars at closing time when drunk patrons walk home.

Crime enablers are places where opportunities are created due to poor place management. Remember, a place manager's role in the crime triangle is to regulate behavior at a place. Any place with a disinterested or absentee manager who is not sufficiently regulating peoples' behavior could be a crime enabler. An example of a crime enabler is a landlord of an apartment building who chooses to ignore drugs being dealt out of units in the building.

Because the opportunity structure at each type of place differs, responses for addressing generators, attractors, and enablers will also differ. Reducing opportunities at a crime generator might involve providing more guardianship for victims or better handling of offenders. Reducing opportunities at a crime attractor may include a number of responses, such as offender handling, improved place management, or other strategies aimed at the specific location. Finally, to reduce opportunities at crime enablers, the focus needs to be on improving place management. Simply thinking about what type of place you might be dealing with can help a lot with thinking about how you might address your problem.

Hot Times

Crime also concentrates in time, including during different times of the day, days of the week, and months or seasons of the year. Times when crime tend to spike relative to normal are called *hot times*. Again, crime specificity is important here for determining hot times. For example, residential burglary often concentrates during the day when people are away from their homes, whereas commercial burglary may concentrate at night after businesses have closed. Identifying temporal patterns alongside spatial patterns can further narrow in on a problem. ***If a problem is occurring at a certain time, then what is going on at that time that might help explain it?***

Collecting Data to Inform Analysis

Collecting and using data to enhance your problem analysis is the overall point of the Analysis phase of the SARA process. Most of the time you spend on problem solving will be in the Analysis phase. While official police data is usually used in this phase, there are some problems that cannot be identified through police data alone, so other data sources are necessary. In the sections below, the different types of data that your CPOP team can incorporate into your analysis are shared.

Official Databases

Official law enforcement data is any data systemically collected by CPD or other local, state, or federal law enforcement organizations.

CPD databases are a good place to begin problem analysis as they include information on things brought to CPD's attention.

Calls-for-service (CFS) data will include all 911 calls. Of course, not all CFS will result in a confirmed crime and the nature of a CFS may change between the description provided by the caller and when an officer takes a report, but CFS still give an indication of what is going on.

There are advantages of using CFS data in problem analyses:

1. It allows officers to examine events that may not have resulted in an official incident, but harms citizens who expect the police to address the problem, such as disorderly behavior, noise complaints, or suspicious behavior.
2. CFS data can be used to examine concentrations in officer activity. For instance, if officers are routinely called to a particular location, it may make sense to analyze the types of problems occurring there.

Crime incident data include records of every founded crime incident recorded by police. These data often include even more detailed information in the narrative reports (see below).

Other police databases include information that can be linked to crime incidents:

- ***Arrest record data*** include records for every person arrested for a crime incident.
- ***Victim record data*** include records for people victimized in crime incidents.
- ***Property data*** include what property was damaged or taken during crime incidents.

There are numerous advantages of police data:

1. They are easily accessible.
2. They are often detailed and you can gain a large amount of knowledge by using them.
3. The databases are often relational, meaning that when looking at a particular incident, you can gain a wealth of knowledge by linking to other databases. This may be the most important advantage. For example, from a single crime incident, an officer can obtain information on what happened, when and where the incident occurred, who was involved, what, if anything, was taken, whether those involved have a criminal history, whether those involved are gang members, and whether those involved had any other types of police contact in the past.

Narrative Reports

Narrative reports include detailed information on each criminal incident ***as written by responding officers***. Structured details of each incident are recorded in incident databases (see above), including the type of crime, when and where the incident occurred, and other incident-specific characteristics. But the narrative summaries provide incident synopses and often include information that is not captured in the other structured data fields. This information can be used to find similarities between the events making up a problem that might not otherwise be obvious. For example, incident data for a robbery event will include basic information, but the narrative summary may indicate additional information that enhances the ability to analyze specific types of robbery. Thus, using narrative information from incident reports is useful in moving from broad analysis to specific analyses of narrower problems and narrative reports should be used for pretty much any problem that is based on crime incident data.

Other Data Sources for Problem Analysis

Not all problems can be identified and understood through official data. Many of the problems never come to police attention through official means. ***It is important to draw on other types of data that may be informative when analyzing problems.*** Collecting alternative data from other sectors is beneficial even when official data are available because they provide supplementary information that might not be apparent through an analysis of official data alone.

City Agencies

Other city departments may have official data available that are relevant to analyzing problems. For example, the Property Maintenance Division collects data on tenant complaints about poor housing conditions and neighbor complaints of blight on commercial and residential buildings.

Many city data sets are available on the City of Cincinnati open data website. Additional data can be obtained by reaching out to the relevant departments. The key here is thinking creatively about what type of data might help your CPOP team's analysis and the checking if another department collects it.

Surveys

Another way to gather information for problem analysis is to survey knowledgeable groups of people, including community members, community organizations, police officers, or other parties that may have knowledge of specific problems. The goal of surveys is to ***systematically ask people questions*** about certain topics. There are numerous decisions that go into survey design beyond what group to survey, including question type, question wording, number of questions, etc. While tricky to design, the advantage of surveys is that it allows CPOP teams to learn more about the types of problems communities face as well as more detailed information on the problems' causes. For example, a community survey might help identify the problems that community members want addressed, while a survey of bar owners might establish (un)common security practices that are present in problem bars. The key here is thinking critically about the questions asked so that insight to your problem can be gained.

Interviews

While surveys allow for information gathering on a larger scale, interviews with select groups or individuals are another way to gain in-depth knowledge about a particular issue or problem. Examples of groups that interviews might be beneficial to use interviews with include officers, offenders, victims, teachers, parents, and business owners. The advantage of interviews is that you can ***tailor questions to the subject/interviewee and probe for greater detail*** with those being interviewed. For example, interviewing arrestees can lead to information on their specific motivations, target preferences, M.O., and possible prevention methods that might be impacted them. The amount of information gathered in interviews can be extremely useful in understanding problems' existence as well as potential responses later in the SARA process.

Focus Groups

Like one-on-one interviews, focus groups are a way to gather information directly from interested parties. Focus groups are ***interviews with multiple people, all in the same room*** (or the same online meeting) at the same time. Focus groups involve a leader engaging in discussions with the group by asking questions and responding to their answers. This ***group dynamic*** allows for enhanced discussion among individuals because they are reacting to and explaining themselves to one another. Groups that it might be beneficial to use focus groups with include officers, community members, victims, and place managers. For example, a focus group of apartment owners about how they deal with problem tenants may illicit information helpful to understand problems arising in apartment buildings.

Observations

Another type of unofficial data source includes observations. The more formal version of observation data are ***structured observations***, which require a pre-designed data collection form that guides the recording of important details related to a problem. That is, the form itself guides

the observer and tells them what, specifically, to look for. This requires careful instrument design and an understanding of the problem characteristics to observe ahead of time. By using a structured observation form, it ensures that the same information is collected from each observation. Because of this, structured observations can be very beneficial in a number of instances as they enable direct quantifying and comparing of the characteristics of a problem. For example, a CPOP team could observe differences in security practices of bars or convenience stores, the level of disorder in different areas with public drinking complaints, or the actions of group and gang members in public spaces.

Whereas structured observations are more systematic in nature, they require a data collection form that may not be available. ***Unstructured observations*** have no such requirement. Rather, all that is required is a notebook and a camera. Unstructured observations are useful in that they can be done at any time and can include any amount of information deemed important by the observer. The most important part of unstructured observations is careful notetaking, which is why using a camera is often suggested. Unstructured observations can record a number of important aspects of problems, such as graffiti, signs of disorder, groups of individuals hanging out with each other, or differences in places during hot times and cold times. The benefit of using a camera is that the CPOP team can revisit the pictures/recordings and reevaluate them as additional information is acquired.

Creativity is key in observations as sometimes the CPOP team may know what to look for and structured observations make sense, but other times the CPOP team may not have specific ideas about what is driving the problem and want to apply a broad focus so unstructured observations make sense. It may be best to use a hybrid approach of combining structured observations with unstructured free-text notes.

Using Crime Analysts

CPD crime analysts are a great place to start when conducting the Analysis step in the SARA process. They will be able to assist your CPOP team in a number of aspects, including accessing official CPD data sources, producing summary charts, figures, or maps, helping in the design of data collection strategies, managing newly collected data, and helping organize the documentation of a problem. Additionally, a crime analyst may be aware of other problems or problem analyses being conducted in CPD and can link the CPOP team to the proper resources or other personnel that may be useful for addressing a problem.

Research What is Known About the Problem from Other Sources and at CPD

Finally, it is often helpful to know how other cities have handled similar problems. While your problem, or aspects of your problem, may be specific to Cincinnati, CPOP teams do not have to reinvent the wheel. ***There are numerous resources at your disposal that are useful in summarizing research on crime problems***. One particularly useful source is the Center for Problem-Oriented Policing located at Arizona State University at the time of writing: https://popcenter.asu.edu/. Their website includes a number of resources, including problem specific guides, problem response guides, problem tool guides, examples of successful projects,

and additional resources on problem-oriented policing in general. This should generally be the first step when researching what is known about a crime problem from other places.

Additional resources include other police departments, local and national experts, and academics (such as those in University of Cincinnati, Institute of Crime Science), libraries, and government resources. Looking into one, or all, of these to see what has worked (and not worked) elsewhere can help you begin to formulate some ideas of what might work to address your problem in Cincinnati.

Likewise, at this point, your CPOP team should look into what (if anything) is currently being done in the city to address this problem, and what has been done in the past. It is possible that a similar problem has arisen elsewhere in the city before and that a previous strategy has been implemented and assessed. Knowing what has worked (and not worked) previously in Cincinnati can also help guide the development of a problem response in the next phase.

Progress Check-In

Recall, in the Analysis step the goal is to work collaboratively with community stakeholders to analyze your problem. At this point, your CPOP team should now have taken your well-defined problem from the Scanning phase and analyzed it using the 5W1H questions, the VOLTAGE checklist, and some (or all) of the other tools and criminological frameworks discussed above. Your CPOP team may have had to collect and analyze its own data. Further, your CPOP team should have researched what is known about the problem at CPD, in Cincinnati broadly, and elsewhere. You should now have the answer to the following questions:

- What are the unique set of circumstances that make up the crime events that are a part of this problem?
- Is this problem currently being addressed? If so, how? And where does the current approach seem to be failing?
- What is known about this problem elsewhere?
- What responses have worked in other areas to address this problem?
- What resources might be drawn on to develop a response to the problem?

RESPONSE

Response Objectives

Response is the third step in the SARA process.

During Response, the objectives are to:

- Develop a multi-faceted response plan that addresses the hunches about why the problem exists that were supported by your analysis
- Work with your CPOP Team and other stakeholders to implement your response plan
- Document response implementation, including what was implemented, who was involved, and the start and stop dates of implementation

General Response Guidance

Responses should be problem-specific, evidence-based, and not limited to law enforcement personnel/actions. Including the community in the development of responses is key for CPOP projects. The community is who will be experiencing the problem responses directly, so there is rarely, if ever, a scenario where they should be excluded from the response development process.

When developing a response, the emphasis should be on identifying evidence-based solutions that have previously worked to address similar problems yet adapted to suit your CPOP team's needs. Evidence-based solutions are ones that have been previously researched and shown to work, preferably in multiple locations. It is advantageous to implement evidence-based responses as they usually provide a cost-effective means of addressing problems – no money or effort is wasted on attempting something that is untested, and there is less risk that the response will inadvertently increase or displace the problem.

In some cases, evidence-based practices may not exist for a particular crime problem. The preferred approach in cases like these is to develop an intervention that follows broader crime prevention principles that have been shown to work, like those discussed below.

Each of the sections below describes different responses that you might consider as well as some examples of specific and general approaches that research has shown to be effective for addressing crime problems.

Types of Responses

One way to think of responses to crime and disorder problems is to separate them into two groups: ***(1) law enforcement and (2) non-law enforcement responses***. For the second group, you might engage in the thought experiment, "how would my CPOP team reduce this problem if there were not any cops in the city?" Of course, your CPOP team may conclude that your problem requires both law enforcement and non-law enforcement responses.

Additionally, it is important to remember the importance of crime specificity for crafting responses. Because problems require specific (and persistent) opportunities for them to occur,

responses to problems also must be specific. What works for one type of problem, such as street robbery, likely won't work for another problem, such as residential burglary. Likewise, what works in one city, or at one time, for a specific problem may not work elsewhere or at a different time. So, responses need to be specifically tailored to each problem. Of course, certain types of responses may be applicable to multiple problems.

Law Enforcement Responses

The first set of potential responses to problems involve law enforcement. Police can do a number of things to combat problems, many of which could be considered "normal police operations". One thing the police can do to respond to problems is simply increase their presence. Many problems the police are expected to deal with are highly concentrated in space and time. If scanning and analysis suggests this is the case, the police can simply place more officers at the places and times that problems are occurring.

When focused on micro spatial and temporal crime concentrations, this tactic is known as hot spots policing. Hot spots policing research dates back to at least the mid-1990s, and has been repeatedly shown to be effective for reducing calls for service or crime incidents. The drawback is that police resources are often limited and CPD may not have officers to just place at a problem location. Academic researchers have also shown that impact police presence starts to wear off over time.

What police officers actually do in crime hot spots depends on the type of problem they are encountering. Sometimes, merely being present in a hot spot is enough, either by driving around in a patrol car or walking around on foot. In other instances, police may want to engage in specific practices that directly address the problems in that hot spot. It is important to first understand what those problems are before choosing an action, as some approaches will be more successful than others.

Not only do problems concentrate in space and time, but they also tend to stem from a small group of people. Research suggests that ***roughly 6% of people commit almost 50% of all crime***, with less than 1% of people in a neighborhood committing most violent crime. So, it also makes sense to concentrate police efforts on those individuals who are causing the most harm to communities. Focused deterrence initiatives (also sometimes called pulling levers policing initiatives, like the Cincinnati Initiative to Reduce Violence) are problem-oriented strategies that concentrate on prolific offenders. In Cincinnati, this approach previously has been successfully implemented to reduce group and gang related gun violence. In these strategies, intelligence is collected and analyzed to identify which groups and gangs are perpetrating the most violence. Law enforcement then informs those groups and gangs that they must stop the violence or be subject to a concentrated police effort. This is but one example of a way to concentrate resources on specific problems, in this case, problem offenders.

Considering Procedural Justice and Police Legitimacy

Most importantly, CPOP teams must ***keep in mind the importance of police legitimacy*** when selecting law enforcement responses to problems. Some law enforcement responses can negatively impact police-community relations. Though it may be tempting to implement certain approaches for short-term crime reductions, it is important to not choose responses that cause more harm than

good. ***Issues such as over-policing, excessive use of force, and general mistrust in the police are important aspects to consider when selecting responses to a particular problem.*** For instance, initiatives like hot spots policing and focused deterrence, while potentially impactful in terms of problem reduction, may be perceived by the community as biased or increase negative police-community encounters. One way to mitigate this perception and to ensure a more equitable problem response is to engage the community in the Scanning, Analysis, and Response development for crime problems. Studies show that most people who live in high-crime communities are not themselves engaged in crime, but some community members also may not be engaged or know how to become engaged crime reduction strategies in their neighborhood.

It is important to think about two elements here: (1) community policing and (2) procedural justice. ***Community policing*** is a philosophy that centers on bringing the community together with the police to create partnerships in order to address issues of public safety. This approach acknowledges the fact that the police need the help and support of the community to accomplish their goals. The primary objective of community policing is improvement in police-community relations, which in turn can help the two groups come together to solve crime problems. While there is no specific way to "do" community policing, it usually involves increasing community engagement (via community meetings, programs, forums, etc.) and problem solving (e.g., consulting with residents to identify possible crime problems).

Procedural justice is a philosophy that puts the community first. Procedural justice emphasizes the importance of fair treatment of citizens by members of the criminal justice system, including the police, during citizen interactions. More procedural justice builds more legitimacy. Research shows when people are treated fairly and with respect, and when they have a say in how they are policed, they are (1) more likely to view the law as legitimate; (2) less likely to break the law; (3) more willing to accept and defer to police authority; (4) more willing to voluntarily cooperate with the police; and (5) more likely, as a community, to support the police.

Taking all of the above points together, there are a number of law enforcement-specific responses that could be used to respond to problems. Again, it is important to remember that these responses should be evidence-based, problem specific, and involve the community members who are harmed by the problem itself. Initiatives like hot spot policing, focused deterrence, and other police-led programs can incorporate legitimacy and procedural justice to ensure that problems are dealt with effectively and equitably. That said, not all problems require a police-led response. ***Many problems can be dealt with by non-law enforcement groups, including community groups, business groups, and other government agencies.***

Partnering with Residents & Community Based Organizations

Beyond the community's role in scanning and analysis, the community always should be incorporated into response development. ***Responses will have a direct impact on the community, so community insight is invaluable.*** In some instances, community members and community groups can play a supporting role in responding to problems. In other cases, they may be the best persons to lead response. P***artnering with community groups and leaders in problem response also allows stakeholders to have a say in how their communities are policed, thus improving***

relations between them and the police. This is at least one of the reasons community members must be added to CPOP teams from the start of a project.

Partnering with Local Businesses

CPOP teams can also partner with local businesses to develop problem responses. This can be beneficial for a number of reasons.

1. Problems may stem from crime opportunities caused by certain businesses, be it inadvertently or intentionally.
2. Businesses may be the ones suffering from the problems being addressed. Because of this, businesses and business groups may be better suited to address and respond to the problems in the first place.

For example, Cincinnati Neighborhood Business Districts are groups of businesses that partner together to fund improvements to their areas. These improvements may include things like changing traffic patterns or adding additional lighting.

Drawing on Other Governmental Agencies

Other government agencies can also be of use when developing problem responses. Agencies including Buildings and Inspections, Public Health, Public Services, and Jobs and Family Services, are specifically suited to address many of the issues we know contribute to problem creation. Other government workers, like the city attorney's office or county prosecutor's office, are another resource to consider. Identifying which city agencies may be most helpful to your specific problem should happen during the Analysis phase. In the response phase, you want to determine what role each of the agencies you previously identified will play in your response.

Third-Party Policing

Finally, it may be beneficial work with non-law enforcement entities to best address certain problems. In many cases these partnerships come naturally due to preexisting relationships, whereas in others it may stem from community groups, businesses, or government agencies participating on your CPOP team. In some instances, the city or CPD may need to use some level of accountability to hold individuals, businesses, or other groups accountable for responding to problems they are responsible for. The level of coercion required by police depends on the level of cooperation from the entity responsible for the problem. Table 1 below shows Herman Goldstein's hierarchy of coercion, ranging from mere education to civil actions.

Table 1. Goldstein's Hierarchy of Coercion

Least cooperative	1. Bringing a civil action
	2. Mandated legislation
	3. Charging fee for police services
	4. Withdrawing police services
	5. Public shaming
	6. Creating new organization to assume ownership
	7. Engaging another existing organization
	8. Targeted confrontational requests
	9. Straightforward informal request
Most cooperative	10. Educational programs

Another name for this type of response is Third-Party Policing, where police leverage legal levers over groups like landlords, bar owners, or business owners so that they take responsibility for crime prevention at their establishments. In some cases, you need only ask these entities to address the issues that are creating problems. In other cases, you must increase the amount of coercion to force cooperation. This can often require police to work directly with other government agencies responsible for civil code enforcement, which can be leveraged against business owners to ensure compliance. CPD does this often through its Code Enforcement Response Team (CERT) program.

An informative example of the Third-Party Policing process can be demonstrated with problem bars. Rather than continually respond to calls for service at a single or group of problem bars, the police can instead ask the bar's place manager to respond to the problem. If this does not work, the police might then bring in civil code enforcement and threaten to declare the bar a nuisance, which threatens the ability of that bar to stay open. Through this and other legal levers, the police coerce the third party (the bar owner) to take responsibly for crime prevention at their bar. Again, Cincinnati has a long history of using this tactic to address nuisance bars where violence occurs.

A final note to keep in mind with respect to Third-Party Policing: as mentioned above, tactics like this need to be used ***only after*** considering the importance of legitimacy and procedural justice. When developing responses to problems, ***always err on the side of the least coercive method to ensure compliance***, and only move up the ladder of coercion if the third-party refuses to cooperate and other responses are ineffective.

Situational Crime Prevention

To reiterate - it is important that when tailoring responses to problems that you keep in mind that ***police are not the only ones responsible for dealing with problems***, nor are they always the best group to implement problem responses. In many cases, people and groups beyond the police may be better suited to address the people and places responsible for problem creation. In these cases, the police can still provide supportive assistance as it relates to their expertise in crime prevention and the frameworks discussed in the previous section that detail the importance of crime opportunities.

Every problem requires its own solution. However, that does not mean a CPOP team needs to start from scratch when thinking about how to block crime opportunities. In fact, based on the frameworks described in the Analysis section, researchers have created a list of techniques that law enforcement and non-law enforcement personnel alike can use to block crime opportunities.

Situational Crime Prevention (SCP) bridges the gap between theory and practice by providing useful techniques to reduce different elements of crime opportunities. SCP consists of five general types of prevention measures, each of which contains five specific techniques. These measures and techniques are displayed in Table 2 below and described in detail in Appendix C.

Table 2. Techniques of Situational Crime Prevention

Increase Effort	Increase Risk	Reduce Rewards	Reduce Provocations	Remove Excuses
Target Harden	Extend Guardianship	Conceal Targets	Reduce Frustrations and Stress	Set Rules
Control Access to Facilities	Assist Natural Surveillance	Remove Targets	Avoid Disputes	Post Instructions
Screen Exits	Reduce Anonymity	Identify Property	Reduction Emotional Arousal	Alert Conscience
Deflect Offenders	Utilize Place Managers	Disrupt Markets	Neutralize Peer Pressure	Assist Compliance
Control Tools/Weapons	Strengthen Formal Surveillance	Deny Benefits	Discourage Imitation	Control Drugs and Alcohol

First, a single prevention effort may address multiple techniques or types of prevention. For example, implementing a locking system for a public housing complex to limit the number of non-residents is a form of target hardening, controlling access to facilities, deflecting offenders, reducing anonymity, reducing arousal or temptations, and assisting compliance (among possible others). While prevention efforts need not address multiple techniques or goals, it may be helpful to think of ways to obtain multiple goals with implemented tactics to provide more efficient solutions to crime problems.

Second, it is important to note that while your CPOP team should think about how each of these techniques might help in your problem response, not all of these techniques are useful in every situation. That is, while some techniques might be highly useful for one type of problem, they may be relatively useless when addressing another type of problem. For example, if the problem you are addressing is speeding vehicles on residential streets, you would likely only need to use a few of these techniques rather than attempt to do all 25. The good news is you can often make a

meaningful crime reduction impact with only a few, or even one, of these techniques. Having a thorough knowledge of a problem and its characteristics well can help your CPOP team identify the best situational technique(s) for addressing a problem.

Identifying Evidence-Based Responses

It is important to remember at this point that any response your CPOP team comes up with should be ***specifically tailored to the problem***. Sometimes that means coming up with creative solutions yourself, as a problem might be new or unique enough that it requires a fresh response. In other cases, however, a problem may be quite similar to those experienced previously in Cincinnati or elsewhere. For these situations, and even for situations where your CPOP team needs to craft its own response, ***there are a number of resources available detailing evidence-based responses to crime and disorder problems***. Conducting a Google search or consulting with a local academic who can provide recommendations from research can be helpful. Appendix F has a list of outside sources that might be useful to you.

Documenting and Implementing Your Response

Once your CPOP team has decided what response will be implemented to address the problem, the next step is to document that response. ***It is important to thoroughly document all steps in the SARA process***, including the Response steps, so that in the Assessment phase the response can be accurately evaluated to determine if it was successful. If a response is successful, this documentation also serves as a guide for future implementations of the problem response and if unsuccessful, can be used to figure out what went wrong.

Occasionally, implementing evidence-based responses that have worked elsewhere will not work in Cincinnati. This can happen for a variety of reasons, but a well-documented response will allow for the detection of ineffective strategies and enable your CPOP team to pivot to a different response to the problem. Likewise, a well-documented response can provide the basis for identifying particularly successful strategies that can be implemented again in the future if the need ever arises.

When documenting the response implementation, it is important to systematically log details about the timeline of the response (including start and end dates of the entire response, and specific dates and times of each response element that is implemented), the strategies involved in the response, who was involved in implementing these strategies, what exactly they did, and the specific locations where the strategies were implemented.

This documenting and tracking can be completed in a number of ways, including through a Microsoft Word document or an Excel spreadsheet. There is an example tracking template in Appendix E.

Progress Check-In

In the Response step, the goal is to develop and implement a response to a problem and document your CPOP team's progress. At this point in the SARA process, you should now have taken thoroughly researched problem from the Analysis phase and looked into potential responses and

partners for implementing that response. Further, you should have decided on a response, began to implement it, and be thoroughly documenting each implementation step in your response strategy. You should now have the answer to the following questions:

- What is the response for the problem going to be?
- Who are my community partners for this problem and what is their role in implementing the response plan?
- Finally, as response are implemented, what response actions have been taken, by who, and when?

ASSESSMENT

Assessment Objectives

Assessment is the fourth step in the SARA process.

In the Assessment step, the goal is for the CPOP team to determines whether your responses have been effective at addressing the problem.

During Assessment, the objectives are to:

- Use validated analytical tools to determine if the CPOP Team's response plan has impacted the problem
- Use validated analytical tools to determine if the CPOP Team's response plan has resulted in any displacement
- Document the full CPOP Project in CPD's Problem Solving Tracking System if the problem has been reduced or eliminated
- Return to the Scanning, Analysis, or Response phases of the SARA process for adjustments if the problem has not been reduced or eliminated

General Assessment Guidance

There are many things to consider when assessing the problem-solving process to this point. Hopefully, the response led to a reduction or elimination of your CPOP team's problem. However, that is not all your CPOP team needs to assess. Also check if the response has moved, or displaced, the problem to another area or time, or if it created new problems to deal with. Research shows that the likelihood of this happening is fairly low and that, typically, whenever crime is displaced it occurs at a lower rate than the initial problem the response was meant to address. However, knowing how much (if any) crime was displaced and where/when it was displaced to is necessary to determine if any follow up responses are needed.

It is also important to keep in mind, and document where possible, how a response plan impacted police-community relation. Responses will not be perceived as being effective if they disproportionately impact some community members.

The sections below detail different aspects of assessment, including types of evaluations, important considerations when trying to assess effectiveness, and what happens if a problem is resolved (or not resolved).

Evaluating Success

Process Evaluations

As was mentioned in the Response chapter, before the Assessment stage ***it is important that your CPOP team keeps track of and thoroughly documents what it has done***. This is typically called a "process evaluation", whereby you ***systematically examine the steps taken throughout the entire problem-solving process***. This could tell not only if your work reached its intended target,

but also whether your CPOP team moved through the SARA process correctly. All the information from the Scanning and Analysis phases should be included in process evaluations in order to contextualize the problem. Additionally, ***the exact nature of the response should be documented: who did what, how the response was implemented, when and where these groups conducted the responses, and why you picked that particular response***.

Process evaluations are important for several reasons. For one, if your CPOP team's response worked to reduce the problem, you want to be sure to have documented exactly what you did. This allows others to copy what your CPOP team did if they are experiencing a similar problem, and it also helps if your problem eventually reoccurs. Process evaluations are equally important when responses do not work. In these instances, you want to be able to figure out if some portion of the process went wrong or was not implemented as intended. If so, then you only need to adjust that part of the process and then try again to see if the problem can be addressed effectively the next time.

Impact Evaluations

The second type of evaluation needed in the Assessment step involves ***estimating whether the response had the intended effect of reducing or eliminating the problem***. These types of assessments are called impact (or outcome) evaluations. That is, they measure the impact the response had on the problem and whether the outcome measures (e.g., crime, disorder, 911 calls, community satisfaction, etc.) went up, down, or stayed the same. Impact evaluations are complemented by process evaluations. When you know the process of how the problem response was developed and how it was implemented, you can be more certain that the impact observed is real and not the outcome of some other factor.

Establishing Goals and Outcome Measures

To assess the effectiveness of your CPOP team's response, you need to first determine what the goal is for your response and how you will measure your outcome. Different responses will have different definitions of success. For some, a reduction in crime incidents will be the goal. Others may place an emphasis on improvements in community perceptions of safety. You'll also need to decide if your CPOP team will be happy with any reduction in the problem, or if it's looking for a minimum reduction level, or a complete eradication of the problem before the response is considered a success.

It is important to keep in mind that there are multiple aspects of problem responses that your CPOP team can assess to determine if the response was a success. Community satisfaction is overlooked when it comes to assessments of response effectiveness, but it is integral to maintaining healthy police-community relations. Responses that prioritize crime reduction to the detriment of the community experiencing the problem can end up doing more harm than good. ***Whenever possible, it is important to expand assessments of problem responses beyond simple measures of crime reductions.***

The Technical Aspects of Conducting Assessments

The sections below provide additional technical details of conducting a thorough problem assessment. It is important that the person conducting the problem assessment is well-versed in these technical details, but it recognized that other members of the CPOP team may not need this level of detail. All readers are encouraged to read the following sections, but their direct applicability may vary across audiences. For example, for CPD CPOP projects, it is expected that a crime analyst typically would be responsible for completing the problem assessment.

Units of Analysis

"Units of analysis" is a research term used to describe the level of focus of an assessment. To complete an assessment, a unit of analysis must be chosen. Units of analysis are typically people or places. For example, if you are assessing community satisfaction to your response and you hand out surveys to community members, your unit of analysis will be individual people. However, if you are interested in determining if your response reduced crime in particular neighborhoods, then your units of analysis are neighborhoods. ***You will almost always want to define a clear geographic boundary for your problem to serve as the unit of analysis***.

Collecting Data for Assessment

The quantification that we discussed in the Scanning chapter in this guide is useful for the Assessment phase too. Typically, you will want a unit of analysis that quantifies your outcome in the same way you quantified your problem to determine if your response was effective. Likewise, repeating the community outreach you conducted as part of the Scanning and Analysis phases following your response can provide the data necessary to assess community satisfaction with your response. Please refer to the Defining and Quantifying Your Specific Problem section in the Scanning chapter for additional instructions on how to quantify your problem.

Before & After Assessments

One of the most straightforward ways to determine if your CPOP team's response was effective is to compare crime before and after response implementation. There are many ways to do this, some more complicated than others. Some of the most thorough assessments of responses (and therefore the ones whose findings you can put the most confidence in) are fairly complex to implement because they control for the presence of multiple external factors that may also be contributing to changes in the levels of your crime problem. For these, we recommend pairing with a researcher to conduct the analyses, unless you have a background in research methods and statistics. However, there are some more straightforward assessments that can completed even without a statistics background that can indicate whether a response was effective at addressing a problem.

Percentage Change

One of the simplest ways to see if a problem was reduced after response implementation is to examine the rate of change, or percentage change, of the problem. To do this, just two numbers are needed:

1. the count of an outcome variable before the intervention and
2. the count after intervention.

When calculating the rate of change, use the following formula:

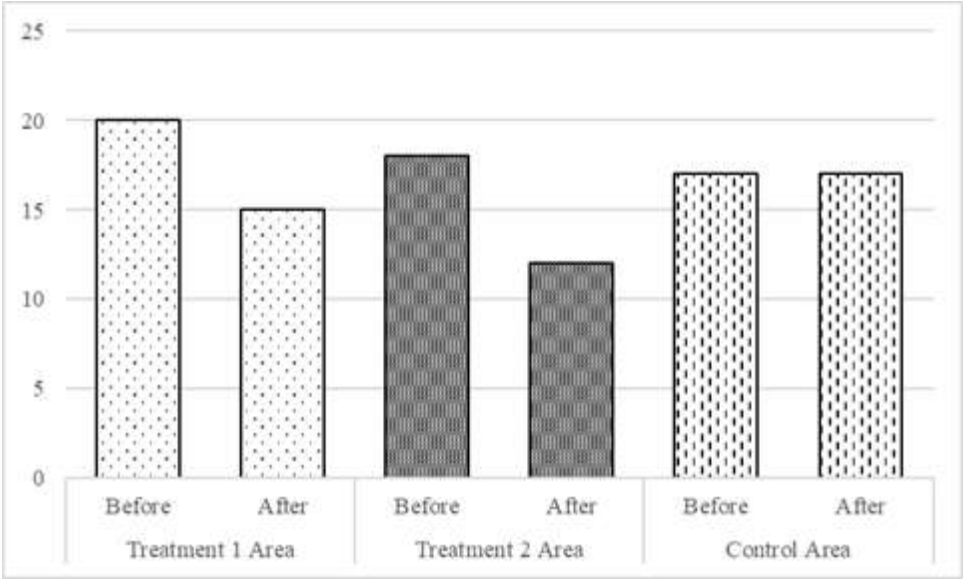
Percentage Change = (# of incidents before CPOP - # of incidents after) / # of incidents before CPOP x 100.

For example, if our count of robbery for the month prior to your intervention was 50, and the count of robbery for the month after your intervention was 30, the percentage change would be –40% ((50 – 30)/50*100).

Charts and Graphs

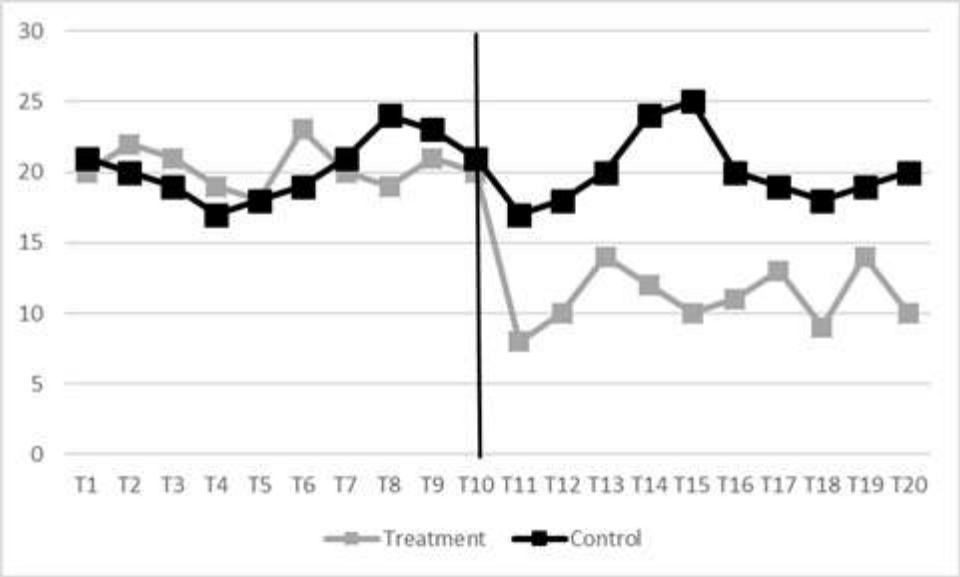
Another way to show changes in outcomes is by visually illustrating your data using charts and graphs. There are many different ways you can visually demonstrate the impact of a response on an outcome measure. One way to do so is to use bar charts, which you can make relatively easily in Microsoft Excel. For example, something like Figure 2 below could be used if you are trying to show before and after differences in two treatment areas relative to a control area (further guidance on selecting a control area is presented in the CPOP Places Relative to Other Places section, below). Just by viewing the bar chart, you can see that your crime problem went down in treatment areas but not in the control area.

Figure 2. Example Bar Chart



Another way to show before and after differences is to use line charts. These can help show changes in an outcome over time, including how an outcome changed after your CPOP team implemented your responses. Figure 3 below is an example of a before and after line chart depicting the number of crime incidents in a CPOP treatment area and control area over time, with the treatment start date indicated by a vertical bisection line. This example chart illustrates a case where the outcome decreased in the treatment area after the intervention, but not the control area, suggesting the response was effective.

Figure 3. Example Line Chart



Statistical Control Charts

Line charts are limited by the fact that they do not indicate how the observed crime changes result from a response compared to what would normally be expected. Since crime tends to fluctuate up and down naturally, you need a way to capture the range of incidents that are normally expected to happen, and to then compare the incidents you've observed after your response to that normal range. A more detailed type of line chart that addresses these limitations and can be used to assess response effectiveness is a statistical control chart. Like a line chart, statistical control charts plot problem data over time, but these charts add in a statistical check to see if crime fluctuations you observe following your CPOP team's response are likely a result of the response or if they are within the bounds of normally expected variation in crime levels.

Typically, for statistical control charts of crime incidents, the analyst will want to use week or month time intervals, but any time interval that usefully captures fluctuations in the problem can be used. Avoid the use of any interval that is so small that it includes a lot of 0's, as this will throw the analysis off and make it more difficult to pick up on any effects from your CPOP team's response.

To make a statistical control chart, begin with a standard line chart, like the one shown in the previous section, and then you'll need to add in five additional horizontal lines. The first added line is an average (or mean) line, which represents the average number of problem events that occur in each time period. The second through fifth lines represent upper and lower control limits – in other words, they represent the bounds within which you would normally expect the number of crime incidents to fluctuate, based on historical data.

These control limits are calculated by assessing the deviations of individual data points from the average line. You can think of these as capturing the average amount of fluctuation in incidents

from the mean over time. In statistics, these are referred to as standard deviations. Typically, about 2/3rds of data fall within a single standard deviation above and below the average line, and around 96% of data fall within two standard deviations above and below the average line.

You can think of any data points falling within these lines as being "within control", or not deviating from what has normally occurred in the past. Data that extends above the upper control limit is higher than normal, while data falling below the lower control limit is lower than normal.

There are a number of ways to assess this chart depending on the number of pre and post-response data points you have. Following your problem response, if eight points in a row are below the average line, it would suggest your problem response was effective. If four out of five points are below the 1-standard deviation line following your problem response, this would also indicate the response was effective. Finally, if two out of every three points are below the 2-standard deviation line following your problem response, your response was likely effective as well.

Figure 4. Example Statistical Control Chart - Treated Area Only

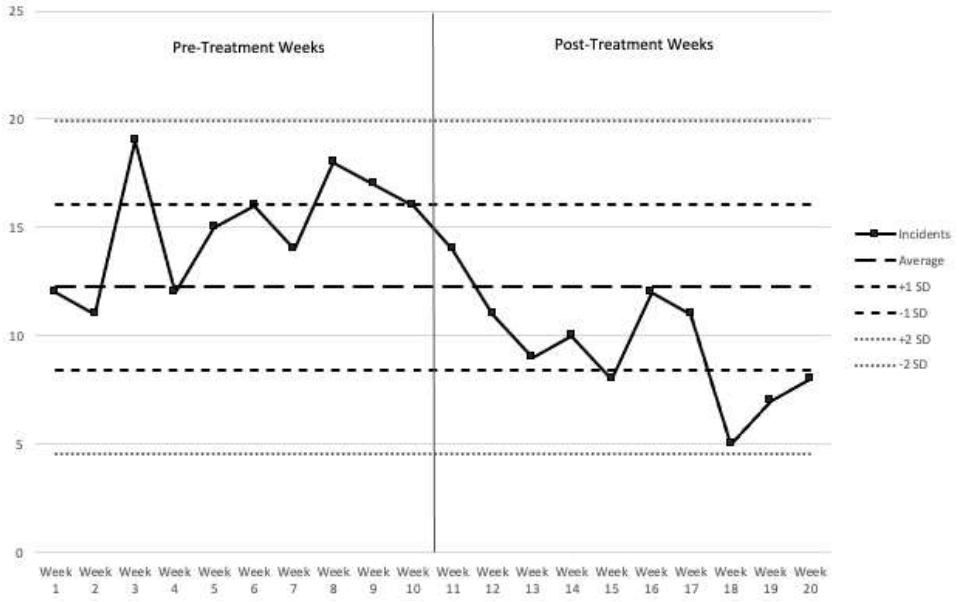
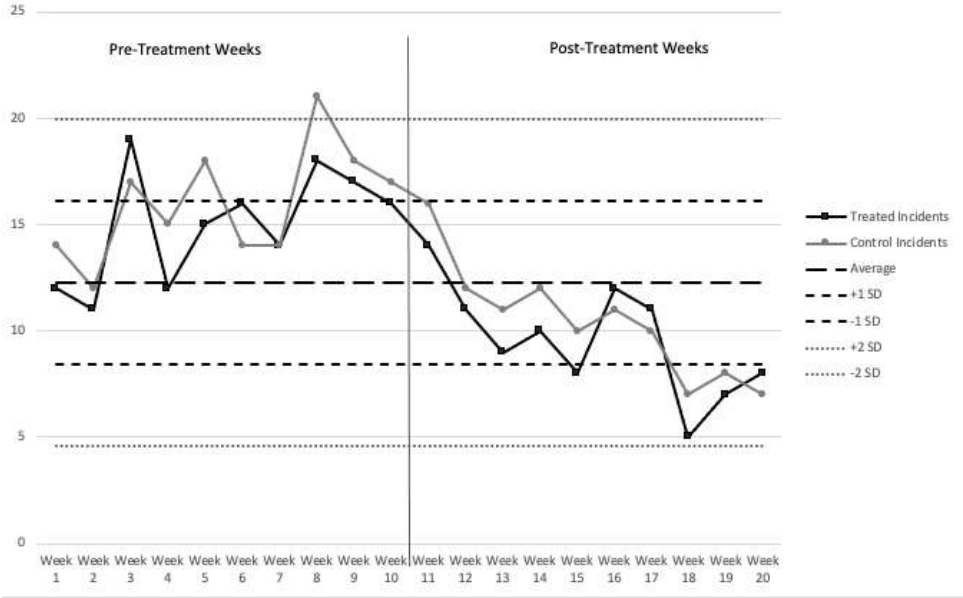


Figure 5. Example Statistical Control Chart - Treated and Control Areas



Statistical control charts can be made with data from just a CPOP response area or from both the response area and the control area. An example of the former is above this paragraph, marked Figure 4. Below that, in Figure 5, you'll see an example of a statistical control chart with data for both the treatment and control areas. The addition of control area data allows for a comparison of the fluctuations in crime in the control area and the treated area. If the treated area has data that is trending downward and consistently below the average line while the control area does not, it suggests that your response was effective. However, if both the control area and the treated area have downward trending crime with treated times falling below the average line, then it suggests that some external factor other than your response was impacting crime in both areas. This can happen, for example, when crime is trending downward citywide. This scenario is depicted in Figure 5.

Seasonality and Other Temporal Issues to Consider

Seasonality is important to keep in mind when looking at crime statistics over time. Research, crime data, and experience have shown that many types of crime ebb and flow depending on the time of year. For instance, many outdoor crimes are more common in warmer months than they are in colder months. While the impact of seasonality varies by crime type, it is important to always be aware of how it might skew the results of your response. For example, if you start your response in the early Spring, a natural uptick in crime due to the weather may overshadow the impact your program had on your problem. Similarly, other temporal issues, such as time of day, day of week, week of the month, etc., may influence your results. These temporal issues highlight the importance of including a control area in your assessment. With a control area, it is possible to show that a response is effective even if crime is trending upward as a result of seasonality (i.e., by demonstrating that crime rose less in a CPOP area than it did in the control area). However, without a control area, this would not be possible.

CPOP Places Relative to Other Places

Though they provide a good initial inquiry into the effectiveness of CPOP responses, comparisons of a problem before and after response implementation can be limited by the fact that they do not account for other potential factors that may contribute to differences in the crime problem. One way to improve your analysis is to include a comparison area that did not receive the response but is similar to your CPOP area, also sometimes called as a control area. Then, the analysis can compare the change in crime in a CPOP area to the change in crime in the control area to determine if there is a difference. Presumably, both the CPOP and control areas are acted on by all the same outside factors, so the only key difference between them is the CPOP intervention.

Selecting a Control Area

The ideal control is one that has similar characteristics to the people or areas that receive a response. The most effective way to ensure the control area is comparable is to, wherever possible, randomly assign your response to half of your problem areas and leave the remaining half untreated. Statisticians have shown that this approach usually leads to groups that are, on average, the same. By ensuring your control and treated groups are similar in this manner, you can be confident any changes that you see in the group treated with the response are a result of the response and not some other outside factor.

However, random assignment of treatment is rarely possible for CPOP. When randomization of treatment is not possible, a control area can be selected from untreated areas of the city. Two things are important to keep in mind when selecting a control area this way.

1. You want the control area to be as alike to the treated area as possible - ideally with a similar level of the problem and a similar composition. For example, you would not want to select a residential area with no robbery as a control area for a response to street robbery targeting drunken bargoers in a commercial district. Rather, you would want to select a similar commercial area with bars and inebriated robbery targets.
2. Any control area selected needs to be physically distant from the treated area. Treatment and control areas should never be adjacent to one another, as the treatment may spillover to the control, thus contaminating the results.

Percent Change Ratio

Another way to assess the effectiveness of a response with both a treatment and a control area is to compare the percentage change in crime before and after response implementation in the treated and control areas. This will give an idea of how much greater the change was in your CPOP team's treated versus control area.

To calculate the percentage change for a treatment area, use the following formula:

Percentage Change = (# of incidents before CPOP - # of incidents after) / # of incidents before CPOP x 100.

A positive number indicates crime went up after a CPOP response, a negative number indicates that it went down.

Next, to calculate the percentage change for a control area, use the same formula with the before and after crime counts in the control area.

Finally, to calculate the ratio of the two percentage change values you need percentage change values that are in the same direction (i.e., both are decreases or both are increases). If one area had a positive percentage change while the other had a negative percentage change, you cannot calculate the ratio. But that is also good enough evidence for whether or not your CPOP project was successful.

The formula to calculate the percentage change ratio is as follows:

Treatment Area Percentage Change/Control Area Percentage Change

Numbers that are greater than 1 indicate that there was a greater percentage change in the treated area than in the control area. Numbers between 0 and 1 indicate that there was a greater percentage change in the control area compared to the treated area.

An example calculation is below:

	Treated Area	Control Area
Pre-Treatment Incidents	120	110
Post-Treatment Incidents	60	100

Treatment Area Percent Change: ((120 – 60)/120)*100 = -50%

Control Area Percent Change: ((110-100)/110)*100 = -9.1%

Percent Change Ratio: -50/-9.1 = 5.5

This indicates there was a 5.5 times greater percentage decrease in crime in the treated area than the control area.

When Crime Increases, But Not as Much as the Control

In some cases, even after implementing a problem response, crime will go up. This can be because your response was ineffective, but that is not always the case. In fact, crime can go up in a treated area and still be reflective of an effective response. This is possible because if crime is trending upwards, a response can stop it from increasing as much as it otherwise would have, thus effectively preventing crime.

One way to determine if this is the case is to compare crime changes in areas treated with CPOP to those were not (either a control area or the rest of the city). If crime increases more in the areas that did not receive the response than it increased in the area that did receive the response, then the response may have been effective, despite the raw crime counts indicating an increase. Statistical

Control Charts, discussed on page 37 above, can be useful for determining if this scenario has occurred.

Displacement and the Diffusion of Crime Control Benefits

One concern when implementing responses and assessing your success is displacement, which occurs when crime problems shift to other places, times, or forms due to interventions. There are six types of displacement:

1. Spatial displacement: when offenders move to a different area;
2. Temporal displacement: when offenders move to a different time;
3. Tactical displacement: when offenders changes how they commit the crime;
4. Target displacement: when offenders chooses different targets;
5. Offense displacement: when offenders pick a new type of crime; and
6. Perpetrator displacement: when new offenders replace old offenders.

It is important to consider what type of displacement, if any, your response might create and to effectively measure it during assessment.

Alternatively, you may also see something called a ***diffusion of benefits***. This occurs ***when a response, targeted at a particular problem area or problem offenders, also results in the reduction of problems in nearby areas, among other offenders, or of similar problems***. This is also known as the free-rider effect, the halo effect, or the bonus effect. Diffusion of benefits can take the same forms as displacement: 1) spatial diffusion, when nearby areas experience crime reductions; 2) temporal diffusion, when other times experience crime reductions; 3) tactical diffusion, when other methods of offending are blocked; 4) target diffusion, when other victims and targets are protected; 5) offense diffusion, when other crime problems are reduced; and 6) perpetrator diffusion, when new offenders are not allowed to replace old offenders. Again, it is important to assess diffusion of benefits along with displacement to see the true impact of a response.

Determining a Catchment Area

While all types of displacement should be considered when thinking about responses and assessment, assessments should at minimum focus on spatial displacement and diffusion of benefits. The first step in assessing spatial displacement and diffusion is to choose a catchment area, or a buffer, within which to test for changes in crime.

The catchment area should be roughly the same size as the CPOP treatment area. It is often useful to pick areas adjacent to the treatment area (much like the inner circles of a bullseye). This will allow your CPOP team to assess any spillover effects to the outskirts of the treated area. However, areas immediately adjacent to treatment response areas are not always appropriate for measuring displacement. Before deciding on a catchment area, think through where the displacement of your CPOP team's problem would likely occur. Does the crime require certain features to complete? If so, displacement is more likely to occur in areas with the same features, rather than in immediately spatially adjacent areas. Convenience store robbery, for instance, would be more likely to move to other areas with convenience stores than to directly adjacent residential neighborhoods. Your

CPOP team can include multiple catchment areas in an assessment of displacement and diffusion if it thinks there is more than one area where crime may have migrated as a result of the response.

It is important to note that if the assessment is using a control area to assess the effectiveness of a response in addition to a catchment area to assess for displacement and diffusion, then the control and catchment areas *cannot* overlap.

Weighted Displacement Quotients

To assess if a response led to spatial displacement or spatial diffusion, your CPOP team can calculate what is called a ***Weighted Displacement Quotient, or WDQ***. To calculate the WDQ you need to have a treatment area, a control area, and a displacement area.

It only makes sense to calculate the WDQ if an initial assessment of the effectiveness of your CPOP team's response indicates that the response was effective and reduced crime in the treatment area. If a response was not effective, and crime went up in the CPOP treatment area, the WDQ calculation will end up giving you results with flipped signs stemming from a positive value in the denominator of the equation.

To calculate the WDQ, you need six numbers:

1) the crime count in the treatment area after the intervention, called Ra;

2) the crime count in the treatment area before the intervention, called Rb;

3) the crime count in the control area after the intervention, called Ca;

4) the crime count in the control area before the intervention, called Cb;

5) the crime count in the displacement zone after the intervention, called Da; and

6) the crime count in the displacement zone before the intervention, called Db.

The equation for calculating the WDQ is as follows:

$$WDQ = \frac{(\mathrm{Da}/\mathrm{Ca} - \mathrm{Db}/\mathrm{Cb})}{(\mathrm{Ra}/\mathrm{Ca} - \mathrm{Rb}/\mathrm{Cb})}$$

A positive WDQ indicates that a spatial diffusion of benefits has occurred, and if that number is greater than one, it indicates that the diffusion effect was greater than the treatment effect.

A negative WDQ indicates that spatial displacement occurred. A WDQ between zero and –1 means that displacement occurred, but it did not outweigh the treatment effect. However, a WDQ less than –1 indicates that any positive treatment effect was cancelled out by the amount of spatial displacement.

Other Ways to Document Response Effects

In the Analysis section, documenting a problem with non-police data was discussed. These data sources are also useful for assessing a response, especially when your CPOP team incorporated them into your Scanning or Assessment phase work.

Pictures

If your CPOP team used structured or unstructured observations that included pictures in your initial scan, your CPOP team can repeat them after the response has been implemented to visually document the effect the response had on the problem. Where possible, take post-response photos in the same location of the first photos. If, alongside photos, your CPOP team used a structured observation form to analyze a problem, your CPOP team can repeat it following the response to quantify additional effects that may not be captured in official police data (e.g., fewer signs of disorder).

Community Surveys, Interviews, and Focus Groups

Likewise, conducting surveys, interviews, or focus groups following a problem response provides information about community reactions to the response. Recall that the goal of surveys is to systematically ask people questions about certain topics, while focus groups and interviews provide a way to gain in-depth knowledge via specific, detailed questions. Each provides a useful means of capturing community sentiment towards responses and a way of determining if the community finds the response successful.

How is a Problem Resolved and Closed?

A problem is resolved and can be closed when the Assessment phase demonstrates that a problem has been reduced or eliminated by the CPOP ream's Response plan. It is important to remember in the SARA model that it is assumed the CPOP team will need to move back to one of the earlier phases (Scanning, Analysis, or Response) if the problem has not improved.

Ideally, at the end of this process, your CPOP team will leave a thorough documentation of your Scanning, Analysis, Response, and Assessment work, so that if the same or a similar problem arises in Cincinnati again at a later date, another CPOP Team can build off of your CPOP Team's work. Documentation of community reactions to responses is particularly important to include in your write-up for this reason, as responses with poor community receptivity are not good candidates for future reimplementation.

APPENDIX A: CHEERS CHECKLIST

CHEERS Checklist

This checklist is based on the POP Center's 60 Steps for Problem Solver's Guide that introduces the CHEERS test for defining problems. Please refer to the 60 Steps for Problem Solver's Guide as a reference. The checklist is designed to help problem solvers define problems and determine if issues arise to the level of a problem that should become a Community Problem-Oriented Policing project.

CHEERS	Sample Questions	Done
C (Community)	• Who in the community is affected by the problem? ○ Can those affected be partners?	☐
H (Harmful)	• What harms are created by the problem? • How can those harms be measured using data? ○ Might those harms be performance measures?	☐
E (Expectation)	• Who in the community expects you to address the problem? ○ Who in the community is available to assist in the CPOP/problem solving effort?	☐
E (Events)	• What specific types of events/incidents make up the problem? • Are the event types more specific than legal classifications? • What data exists to measure the events? • Can you describe the events in a single sentence?	☐
R (Recurring)	• How long has the problem taken place? ○ Did anything recently change? • How frequently does the problem occur? • Will the problem go away if you do not do anything?	☐
S (Similarity)	• How are the events similar? ○ Same offender? Same type of victim/target? Same location? Same types of locations? Same M.O? Same behavior? Same type of weapon? Or some other common factor?	☐

CHEERS Checklist Tips

Community	Community is the leading principle of CPOP. For a problem to be a problem, some, but not all or most, community members must experience the harmful events. Community members may include, but are not limited to individual citizens, community and neighborhood organizations, businesses, government agencies, and any other group in Cincinnati.
Harm	The community must suffer harm from the events that make up a problem. Harm does not necessarily have to be an illegal act, but it often is. Physical injury or death, property loss or damage, psychological impact, lower quality of life, and improper use of public or private resources are some examples of harm. A key point, however, is that someone in the community can experience harm even if the events that makeup a problem are not illegal. When defining your problem in the Scanning phase, being able to quantify harm can help (1) define the scope and importance of your chosen problem, (2) help prioritize which problems should receive attention first when resources are limited, or (3) help persuade others to assist with a CPOP project (see below).
Expectations	A CPOP project should focus on problems that the community expects the police to address. Focusing on problems the community expects to be addressed has several benefits. It ensures community members' concerns are being addressed. It helps identify community members who can become active CPOP Team members because CPOP projects are more likely to be successful when a variety of stakeholders come to together to work on it. It can help prioritize problems. There are likely more CPOP projects to be completed than current resource levels can support, so prioritizing the projects based on public expectations can help determine which projects receive focus first. Community members' expectations are often communicated in a variety of ways, such as repeatedly calling the police about a problem or raising the problem at an appropriate forum, like community meetings, to political representatives, etc.
Events	When defining a problem, it is important to quantify the events. How many events have there been and during what period of time? Usually a crime analyst will lead quantifying the problem. But quantifying the problem will force your CPOP Team to organize its thoughts and be precise about the problem they want to address. It also helps guide what outcome measures will demonstrate success. If the problem is made up of a certain event type, then it should be possible to see the event type decrease when you do the Assessment phase.
Recurring	When defining a problem, an effort should be made to describe the history of the problem. If calls for service or crime incident data are available, then at least three years of data is often a good way to show the problem is recurring. If a problem has recently arose, say over the last 6 months, then it would be

	important to show the events are recurring at a more reasonable time scale, like every month, weekend, or day. This is also an area where community members are key. As part of the CPOP Team, community members can give a firsthand account of when the problem started and how long it has impacted them.
Similarity	It is often the case that defining a problem will require going deeper than just the basic crime label often assigned to police calls for service or incident data. It can be helpful to read the narrative reports of crime incidents to figure out the similarities among events that make up a problem. Also, it is a good idea to directly draw on the knowledge of community members who experience the problem to identify similarities across events.

APPENDIX B: VOLTAGE CHECKLIST

The VOLTAGE checklist is from Jerry Ratcliffe's books *Intelligence-Led Policing, Second Edition* and *Reducing Crime.* It provides a structured way for analyzing complex problems during problem solving.

VOLTAGE	Sample Questions	Done
V (Victims)	• Is there anything unique about victims or targets? • Is the same type of person or target victimized (e.g. hot products)? • Does the problem only impact certain victims or targets? • Is repeat victimization present?	☐
O (Offenders)	• Is there anything unique about the offenders? • Are the same offenders responsible? • Are multiple unknown offenders responsible? • Are the offenders new (e.g. just released)?	☐
L (Location)	• What is the location type (e.g. address, street block, or area)? • Is there something unique about how the location is used? • Does the design of the location contribute to the problem?	☐
T (Times)	• Does this problem occur during specific times, days, or seasons? • Does the problem's timing help explain its causes? • Is the problem new/emerging?	☐
A (Attractors)	• Does the location attract offenders for known crime opportunities? • Does the location unsuspectedly generate crime opportunities? • CPTED Assessment completed? • Is the location's owner contributing to the problem?	☐
G (Groups)	• Is a group or gang driving the problem? • Is organized crime driving the problem? • Are subgroups driving the problem (e.g. homeless or sports fans)? • Are there groups available to assist with the problem?	☐
E (Enhancers)	• Are drugs & alcohol or mental health driving the problem? • Is access to a particular thing, product, or tool driving the problem? • Is there something that could be taken away to address to problem?	☐

APPENDIX C: SITUATIONAL CRIME PREVENTION DETAILED DESCRIPTION

Situational crime prevention (SCP) includes 5 main techniques: (1) Increase the effort; (2) Increase the risks; (3) Reduce the rewards; (4) Reduce provocations; and (5) Remove excuses. The 5 main techniques are expanded to include sub-techniques. Each of these are detailed below. To learn more, you can visit the POP Center's SCP page.

Increase the Effort*:* Perhaps the easiest way to reduce crime opportunities is to make it harder for motivated offenders to commit the crime or get away with it. The first set of situational crime prevention techniques focus on ways to increase the effort put forth by offenders, thereby deterring them from committing the crime.

- *Target hardening* involves creating physical barriers to offending. Examples include adding door and window locks in houses and screens between clerks and customers in convenience stores.
- *Controlling access to facilities* involves restricting access to places to only those who are allowed to be there. Examples include the use of ID badges, access codes, and locks for building access.
- *Screening exits* involves securing the exits to places so that people cannot leave or take things out of them without permission. Examples include receipt checks at store exits and anti-theft merchandise tags.
- *Deflecting offenders* involves directing the flow of individuals either towards preferred locations or away from crime opportunities. Examples include street closures and dispersal of people away from large gatherings, such as sporting events.
- *Controlling tools and weapons* involves the management of items that offenders might use in a crime situation. Examples include restrictions on the sales of drug precursors, like pipes, and firearm restrictions at places.

Increase the Risks*:* The next group of situational techniques uses what is known about offender decisions making to impact how offenders perceive the potential the consequences of their criminal actions. That is, these techniques attempt to make crime opportunities too risky for offenders, thus preventing them from committing the crime in the first place.

- *Extending guardianship* involves increasing protection for potential crime victims or targets. Examples include recent crime alerts and suggesting people walk in groups at night.
- *Assisting natural surveillance* involves improving the ability of citizens to act as guardians for one another by not restricting their natural ability to do so. Examples include improving street lighting, removing obstructions from store windows, and informant hotlines.
- *Reducing anonymity* involves increasing the ability to notice and observe would-be offenders. Examples include greeting customers at place entrances and use of ID badges or other identifiers.
- *Using place managers* involves emphasizing the role that place managers play in surveillance and blocking crime opportunities. Examples include place managers acting as guardians themselves, increasing the number of employees working at a given time at their facility, or investing in other types of surveillance, such as CCTVs.

- *Strengthening formal surveillance* involves increasing the use and prevalence of people or technologies whose specific purpose is crime prevention and control. Examples include adding security personnel, increasing police presence in an area, and adding security technology, such as burglar alarms and security cameras.

Reduce the Rewards*:* Similar to the last group of techniques, these techniques take advantage of what is known about how offenders weigh the benefits of their actions to reduce the likelihood a crime will occur. If the advantages of crime outweigh the disadvantages, offenders are more likely to commit crime. Therefore, these techniques focus on reducing the rewards associated with committing crime to make the crime less attractive.

- *Concealing targets* involves reducing the visibility and availability of items that attract offenders. Examples include hiding valuables out of plain sight, parking vehicles in garages, and using unmarked cars to move cash and other valued items.
- *Removing targets* involves removing valuable targets from the situation completely. Examples include limiting the amount of cash on hand in stores and removing commonly taken items from locations.
- *Identifying property* involves the marking or tracking of targets to make them less valuable for later use or resale by offenders. Examples include labeling personal items, adding GPS tags to devices or pets, and registering products.
- *Disrupting markets* involves making it difficult for offenders to move or resell stolen items. Examples include breaking up fencing operations and monitoring resell sites like Craigslist or pawn shops.
- *Denying benefits* involves limiting the incentives of criminal offending by making the outcomes of crime less appealing or joyful. Examples include adding ink tags to clothing to prevent shoplifting, rapid graffiti cleanup, and remotely disabling stolen vehicles or electronics.

Reduce Provocations: Not only can situational contexts affect crime opportunities, but they can also influence the precipitating factors that lead an offender to commit a crime. Certain situational elements can prime or provoke would-be offenders to act when they otherwise might not have. The following set of situational techniques emphasize manipulating the environment to reduce provocations that may lead to crime.

- *Reducing frustrations and stress* involves techniques that help alleviate anger and disputes stemming from crowds, gatherings, service delivery, and other stress-producing events. Examples include adding barricades and stanchions to guide lines and reduce jostling in crowds, using temperature control in bars and at concerts to reduce overheating, and addressing complaints by users and customers.
- *Avoiding disputes* involves manipulation of environments so that arguments and disagreements among parties can be limited. Examples include fixed pricing for goods and services and providing mediation between disputing parties.
- *Reducing arousal and temptation* involves removing or decreasing stimuli that create emotional responses that may lead to offending. Examples include training staff in de-escalation and effective communication and removing easily taken items from displays.

- *Neutralizing peer pressure* involves techniques that alter situations so that group offending dynamics are reduced or eliminated. Examples include shopping mall curfews for juveniles, policies that hold friends and coworkers accountable for the actions of groups, and separating troublesome peer groups.
- *Discouraging imitation* involves attempts to keep offenders from copying the criminal activity of others. Examples include not publishing particular details about crimes, limiting juvenile exposure to extreme violence, and quickly removing signs of disorder and decay.

Remove Excuses: Finally, research suggests that particular aspects of situational environments make it easier to justify certain conduct, thus making it more likely that would-be offenders will choose to commit a crime. The last group of situational techniques attempt to remove these excuses by creating ways to make it harder to neutralize feelings of guilt or shame associated with offending.

- *Setting rules* involves giving information about acceptable and unacceptable behaviors in a setting. Examples include posting rules of behavior in bars (e.g., dress codes or consequences of overdrinking) and including rules of behavior in leases and other written contracts.
- *Posting instructions* involves displaying specific requirements about how to meet the rules of behavior in a setting. Examples include parking and driving signage, private property signs, and publicized guidelines on social media posts,
- *Alerting conscience* involves providing reminders about acceptable and unacceptable behaviors in a setting. Examples include roadside speed displays and signs reminding bar patrons to not drive drunk.
- *Assisting compliance* involves techniques to make it easier to behave in an acceptable manner in a setting. Examples include providing trash cans in public places, installing visible markings and barriers to assist crowd control, and placing speed bumps on the road.
- *Controlling drugs and alcohol* involves regulating or limiting the volume of substances used in a setting. Examples include policies restricting bringing one's own alcohol to a business, drink limits for bar patrons, and drug tests for employees.

APPENDIX D: EXAMPLE CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN ASSESSMENT

Below is an example Crime Prevention Through Environmental Design assessment / observation form. It was copied from the Chula Vista Police Department's Goldstein Award Application for the project "Reducing Crime and Disorder at Motels and Hotels in Chula Vista, California". Please refer to the POP Center's website for the original version.

Chula Vista Motel Project
Environmental Assessment
Revised 10-30-02

Property Code: _____ Researcher: _____

Date: _____ Time of Day: _____

Pedestrian Accessibility

Factor	Code	Photo #	GPS
Footpaths bisecting property Y=1 N=0			
Alley accessible at rear of property Y=1 N =0			
Are there potential entrapment zones Y=1 N=0			
Property is bounded by: 1. razor wire fence = 0 2. wall or solid fence = .25 3. climbable fence =.5 4. thorny foliage/plants = .75 5. nothing = 1 6. other _____			

Vehicle Accessibility

Parking is restricted to guests/employees Y=1 N=0			
Single vehicle access onto property Y=1 N=0			
Vehicle access in view of front office/lobby Y=1 N=0			
Is there parking in front of rooms Y=1 N=0			

Social Climate

Social climate is measured on and within 20 feet of the motel property

Evidence of litter on or within 20 feet radius of property None=0, Some=1, Heavy =2			
Evidence of drug use including: needles, needle caps, alcohol swab bottles, dime baggies, squares of foil None=0, Some =1, Heavy =2			
Evidence of prostitution including: condoms, condom wrappers, lubricant packages None=0, Some=1, Heavy=2			
Evidence of graffiti on adjacent properties None=0, Some=1, Heavy=2			
General upkeep of property exterior None=0, Some=1, Good=2			
People hanging around within 20ft of building None=0, Some=1, Heavy=2			

Factor	Code	Photo #	GPS
People hanging around within 20ft of property perimeter None=0, Some=1, Heavy=2			
Is there a pool Y= 1 N= 0			
Is the parking lot well lit Y=1 N=2			
Is the parking lot well maintained Y=1 N=2			
If yes, is pool in usable condition Y= 1 N=0			
Pool rules posted in pool area Y=1 N=0 N/A=2			
Guest behavior rules posted in lobby Y=1 N=0 N/A=2			
Parking rules listed in lot Y=1 N=0 N/A=2			

Awareness Space

Is the motel in sight of an intersection Y=1 N=0			
Is there a bus stop within view of the property Y=1 N=0			
Surrounding area: Commercial=1 Resident=2 Industrial=3 Mixed=4			
Type of property/business on each side: Commercial=1 & Specify type Resident=2 & Specify type Industrial=3 & Specify type	L R F B		
Within View of Property: bar=1, liquor store=2, convenience store=3, none=4			

Lighting

Rate all items on lighting continuum, 1=well lit at pedestrian level, 2= good lighting but some dark areas 3=lit at street level, hard to ascertain details, 4=selective lighting with lots of shadows, 5=lighting only by entrances, 6= no lighting. 7=N/A

1_____2_____3_____4_____5_____6

well lit no lighting

Left Side			
Right Side			
Front Side			
Back Side			
Entrance			
Lobby			
Lighting outside of rooms			
Outdoor pool			
Parking lot			

Visibility

Factor	Code	Photo #	GPS
Parking lot from lobby 1=100%, 2=50-75%, 3=25-50%, 4=0%			
Rooms from lobby 1=100%, 2=50-75%, 3=25-50%, 4=0%			
Pool from lobby 1=100%, 2=50-75%, 3=25-50%, 4=0%			
Rear of property from lobby 1=100%, 2=50-75%, 3=25-50%, 4=0%			
Street from lobby Y=1 N=0			
Rooms overlook parking lot 1=100%, 2=50-75%, 3=25-50%, 4=0%			
Rooms overlook alley 1=100%, 2=50-75%, 3=25-50%, 4=0%			
Are there concealed areas around property? Y=1 N=0			

Target Hardening

CCTV? If so, where?			
Bullet proof glass in lobby Y=1, N=0			
Vertical landscaping on sides of buildings. none=0, one wall=1, more than one wall=3			
Signs in windows stating limited amount of cash or other reward reductions Y=1 N=0			
Type of lock on guest doors. 1=key 2=swipe card			
Does the motel have a walk up window during daytime or after hours Y=1 N=0			
Are there deadbolt locks on the doors in the rooms Y=1 N=0			
Is there a peephole in the room doors? Y=1 N=0			
Is there a chain or other device on the room doors? Y=1 N=0			
Does the room have a phone? Y=1 N=0			
Are doors made of solid material? Y=1 N=0			

Additional Comments:

APPENDIX E: RESPONSE TRACKING DATA EXAMPLE

A basic response table might include (1) a description of the response implemented, (2) the community partners involved in implementation, (3) the date the response implementation started, and (4) the date the response implementation ended or was fully completed.

Response Description	Community Partners	Date Started	Date Ended / Completed
CCTV was added to all levels of parking garage.	Acme Parking Garage Owners	5/1/2022	5/31/2022
Signage telling people to lock doors and remove valuables was added to stairwells.	Acme Parking Garage Owners	6/15/2022	6/15/2022
One bait car operation conducted per week.	N/A	5/1/2022	9/30/2022
Lighting was installed along the perimeter of building to increase visibility around facility.	City Streets Department	7/12/2022	7/15/2022

The above is just a rough example, and different CPOP teams may have difference preferences for response tracking. The key is that response implementation details are recorded for the assessment phase and can be later added to the CPD Problem Solving Tracking System.

APPENDIX F: OUTSIDE RESOURCES FOR DEVELOPING RESPONSES

Below are some outside resources where you can find effective problem responses.

Center for Problem-Oriented Policing

When crafting a problem response, one of the first places you should look is at the website for Center for Problem-Oriented Policing (https://popcenter.asu.edu/). Known as the POP Center, this resource has an extensive library of potentially useful guides, reports, and other documents that detail problem-oriented policing, the SARA process, the types of problems experienced in other jurisdictions, and responses to those problems. Two important resources available on this site are Problem Specific Guides and Response Guides. Problem Specific Guides go into detail about specific problems such as disorder at budget motels, robbery of taxi drivers, and traffic congestion around schools. Response Guides, on the other hand, detail potential responses to a number of problem types, including asset forfeiture, closing streets and alleys, improving street lighting, and using civil actions against property owners.

Center for Evidence-Based Crime Policy

Another useful resource for evidence-based policing practices is the website for the Center for Evidence-Based Crime Policy at George Mason University. Researchers here have developed what is known as the Evidence-Based Policing Matrix. This tool was designed to organize research on effective police practices based on three dimensions: the nature of the target, whether the strategy was proactive or reactive, and whether the strategy specifically targeted a problem or whether it was a general enforcement plan. Not only can this resource be used as a hub for research on certain problems, but it also shows what types of strategies tend to work best in reducing crime and disorder.

Crimesolutions.gov

A final resource for evidence-based responses mentioned here is www.crimesolutions.gov. This website, created by the National Institute of Justice, is a resource hub dedicated to gathering information on justice-related programs and practices, specifically on whether or not they work to reduce crime. After reviewing the evidence, this website classifies programs and practices based on whether they have been found to work, whether they are promising, or whether they have not been shown to work. The scope of research examined spans the entire criminal justice system, but it can be a good place to see what initiatives are out there and what the current evidence base is for those programs.