U.S. Department of Justice
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Problem-Oriented Guides for Police
Problem-Solving Tools Series
No. 8

Using Crime Prevention Through Enviornmental Design in Problem-Solving

by
Diane Zahm

www.cops.usdoj.gov

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About the Problem-Solving Tools Series

The problem-solving tool guides are one of three series of the *Problem-Oriented Guides for Police*. The other two are the problem-specific guides and response guides.

The *Problem-Oriented Guides for Police* summarize knowledge about how police can reduce the harm caused by specific crime and disorder problems. They are guides to preventing problems and improving overall incident response, not to investigating offenses or handling specific incidents. The guides are written for police—of whatever rank or assignment—who must address the specific problems the guides cover. The guides will be most useful to officers who:

- understand basic problem-oriented policing principles and methods
- can look at problems in depth
- are willing to consider new ways of doing police business
- understand the value and the limits of research knowledge
- are willing to work with other community agencies to find effective solutions to problems.

The tool guides summarize knowledge about information gathering and analysis techniques that might assist police at any of the four main stages of a problem-oriented project: scanning, analysis, response, and assessment. Each guide:

- describes the kind of information produced by each technique
- discusses how the information could be useful in problem-solving
- gives examples of previous uses of the technique
- provides practical guidance about adapting the technique to specific problems

- provides templates of data collection instruments (where appropriate)
- suggests how to analyze data gathered by using the technique
- shows how to interpret the information correctly and present it effectively
- warns about any ethical problems in using the technique
- discusses the limitations of the technique when used by police in a problem-oriented project
- provides reference sources of more detailed information about the technique
- indicates when police should seek expert help in using the technique.

Extensive technical and scientific literature covers each technique addressed in the tool guides. The guides aim to provide only enough information about each technique to enable police and others to use it in the course of problem-solving. In most cases, the information gathered during a problem-solving project does not have to withstand rigorous scientific scrutiny. Where police need greater confidence in the data, they might need expert help in using the technique. This can often be found in local university departments of sociology, psychology, and criminal justice.

The information needs for any single project can be quite diverse, and it will often be necessary to use a variety of data collection techniques to meet those needs. Similarly, a variety of analytic techniques may be needed to analyze the data. Police and crime analysts may be unfamiliar with some of the techniques, but the effort invested in learning to use them can make all the difference to the success of a project.

Acknowledgments

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Members of the San Diego; National City, California; and Savannah, Georgia police departments provided feedback on the guides' format and style in the early stages of the project.

Cynthia E. Pappas oversaw the project for the COPS Office. Research for the guide was conducted at the Criminal Justice Library at Rutgers University under the direction of Phyllis Schultze. Katharine Willis edited this guide.

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Introduction

Crime prevention through environmental design (CPTED) is an approach to problem-solving that asks, what is it about this location that places people at risk, or that results in opportunities for crime? In other words, *why here*? Three case examples will illustrate this point:

Case #1

Custodial workers routinely find evidence of smoking, drinking, and vandalism in a high school lavatory.

Why here? The lavatory is in an isolated area of the building, adjacent to a ticket booth and concession stand that are active only during athletic events. The school's open lunch policy allows students to eat anywhere on campus, while monitors are assigned only to the cafeteria.

CPTED response: A lock is installed on the lavatory door, and it remains locked unless there is an athletic event. The open lunch policy has been revised: students are still allowed to leave the cafeteria but must eat in designated areas, and a faculty member is charged with patrolling these areas during lunch periods.

Case #2

The back wall of a building in an office center is repeatedly tagged with graffiti.

Why here? The taggers have selected an area that is out of the view of passers-by: a rear corner location where two buildings come together at the end of a poorly lit service lane. Visibility is further reduced by hedges at the site's perimeter. Businesses in the office center are open from 9 AM to 5 PM during the week; however the tagged building is next to a roller skating rink where activity peaks at night and on weekends.

CPTED response: Hedges are trimmed and wall-mounted light fixtures installed along the service lane, with motion detection lighting in the problem area. The skating rink agrees to change to a "no re-admission" policy to keep skaters inside the building and away from the office property.

Case #3

ATM patrons at a bank are being robbed after dark.

Why here? The bank is situated along a commercial strip in a neighborhood with vacant properties and abandoned businesses. The ATM is in the front corner of the bank building, and the drive-through teller windows are at the side of the building, around the corner from the ATM. Robbers hide in the darkened drive-through teller area and attack unsuspecting ATM users after they complete a transaction.

CPTED response: The bank installs a fence at the corner of the building, creating a barrier between the ATM and the drive-through teller area.

In each of these case examples, asking *why here*? reveals that opportunities for crime and other problems arise out of a variety of environmental conditions related to the building, the site, and the location and how the place is used. Solving a problem thus requires a detailed understanding of both crime and place, and the response should consider one of the three objectives of crime prevention through environmental design: control access, provide opportunities to see and be seen, or define ownership and encourage the maintenance of territory.

This guide is a resource for understanding and using crime prevention through environmental design as a problem-solving tool. The guide explains the basic principles of CPTED and outlines a process for identifying problems, evaluating the physical environment, and identifying strategies that will remove or reduce opportunities for crime.

What is Crime Prevention Through Environmental Design?

Crime prevention through environmental design is an approach to problem-solving that considers environmental conditions and the opportunities they offer for crime or other unintended and undesirable behaviors. CPTED attempts to reduce or eliminate those opportunities by using elements of the environment to (1) control access; (2) provide opportunities to see and be seen; and (3) define ownership and encourage the maintenance of territory.[§]

CPTED is unusual when compared with other crime prevention or security measures because it specifically focuses on aspects of the design, while the other measures tend to be directed at target hardening, i.e., denying access to a target using locks and bars, or using sensors and cameras to detect and identify an offender, supported by security guards. CPTED is unusual also when compared to some police activities. This is because CPTED encourages prevention and considers design and place, while policing has traditionally valued an efficient and effective response to incidents, and the identification and arrest of offenders.

CPTED may be distinctly different from traditional policing, yet it is very consistent with problem-oriented policing, in four ways:[§§]

1. It considers a broad array of problems, not just crime.
2. It requires a systematic analysis of crime events and the conditions and factors that contribute to opportunities for crime.
3. It results in a set of programs or strategies that are proactive and tailored to the problem and the location.

[§] For a more detailed introduction to CPTED, see Crowe (2000), Crowe and Zahm (1994), and National Crime Prevention Council (1997).

[§§] Herman Goldstein's book, *Problem-Oriented Policing* (1990) offers greater detail on these and other aspects of POP.

4. It engages an array of citizens, government agencies, and local institutions, each of which has a role to play in defining the problem and deciding upon an appropriate solution, as well as some accountability for long-term improvements.

Crime prevention through environmental design is a relatively new term, but the use of design for safety and security is not. Caves and cliff dwellings, and castles and moats are good historical examples. Requirements for street lighting grew out of a need to distinguish legitimate travelers from outlaws and thieves.

Contemporary approaches, including CPTED, emerged out of research on the relationship between crime and place, theories known variously as environmental criminology, situational prevention, rational choice theory, or routine activities theory, among others.[§] Each theoretical approach focuses on the crime event and how a criminal offender understands and uses the environment to commit a crime. Like CPTED, this research asks, *why here*? The research reveals:

- crime is specific and situational
- the distribution of crimes is related to land use and transportation networks
- offenders are opportunistic and commit crimes in places they know well
- opportunity arises out of daily routines and activities
- places with crime are often also places without observers or guardians.

Crime prevention through environmental design examines crime problems and the ways in which various features of the environment afford opportunities for undesirable and unwanted behaviors. CPTED attempts to remove or reduce these opportunities by changing various aspects of the building, the site, the location, and how that place is used.

§ See also Newman (1972), Jeffery (1971, 1977), Brantingham & Brantingham (1981, 1984), Clarke (1980, 1992), Cohen & Felson (1979), and Cornish & Clarke (1986).

Ronald Clarke

This is exactly how NOT to do CPTED! 1. It is dreadfully ugly; 2. the walls around the portable bathroom make it impossible to observe undesirable and unwanted behaviors.

These changes are directed toward three basic objectives, each of which is described briefly below, including examples of CPTED strategies:

1. **Control access by creating both real and perceptual barriers to entry and movement.** The environment must offer cues about who belongs in a place, when they are supposed to be there, where they are allowed to be while they are there, what they should be doing, and how long they should stay. Users/guardians can also serve as access control if they pay attention to people and activities and report unwanted behaviors to the appropriate authorities.

Examples:

- fences, tree lines, hedges, or berms define the boundaries of a site
- drives, sidewalks, paths, and gardens guide movement through a site
- gates and doors limit points of entry to a site or building

- signs direct movement, provide information, define appropriate activities and schedules, and identify intended users (e.g., "Employees Only")
- consistent use of colors or materials – in buildings, pavers, light fixtures, and landscaping – create an identity
- design features may be supported by locks, and enhanced with alarm systems or guards, depending on the situation.

2. **Take advantage of design to provide opportunities to see and be seen.** This includes opportunities to see from adjacent properties or the site perimeter onto the site, and possibly to see parking areas and buildings; opportunities to see from one part of the site to another; and opportunities to see parking, walkways, and other areas of the site from various locations inside the building. These design elements need to be supported by potential observers (they actually need to *look for* and then *report* unusual behavior), and by policies and procedures, for example, related to landscape maintenance.

Examples:

- lighting improves the ability to observe activity and identify individuals
- windows afford views from inside to outside and outside to inside
- building location and orientation can create or remove views
- proper selection of trees, shrubs, and other plant species, combined with regular maintenance, can minimize the conflict between lighting and landscaping and ensure that views on, off and around the site are preserved over the long-term

- furniture arrangements, window treatments and other interior design elements can support observation and encourage guardianship
- design features may be supported by physical security, CCTV, or guards when circumstances require them.

Randy Atlas

This ATM is placed well, using good CPTED features and has unobstructed view from the street and patrolling police.

3. **Use design to define ownership and encourage maintenance of territories.** As mentioned previously, the design should provide cues about who belongs in a place and what they are allowed to do. Administrative support in the form of rules and regulations about use and maintenance can be critical to the success of various design applications.

Examples:

- fences, hedges, tree lines, or planter boxes separate spaces
- changes in elevation or variations in paving or flooring materials define transitions from public to private spaces
- gardens, artwork, and furniture individualize spaces and show that someone cares and is paying attention

- signs establish ownership and any limits on use
- buildings, yards, gardens, sidewalks, and other features are well maintained, clean and in working order, which is a sign of guardianship
- design features may be supported by locks, alarm systems, CCTV, guards, or other security measures in some situations.

Note that while CPTED is a crime prevention program, it focuses on design, not safety, and on productive use, not security. Design features are "supported" by locks, guards and alarms. Target hardening and security measures are not the primary means for improvement. Note, too, that although CPTED is frequently considered the responsibility of police, many of the tools and techniques are things that fall outside the purview of policing. This is why CPTED is a team effort, one that officers participate in but do not necessarily control.

Responding to Crime and Other Problems Using CPTED: The Process for Problem-Solving

The problem-solving process used in crime prevention through environmental design is a series of steps designed to answer four questions:

1. What is the problem?
2. Why here?
3. What can be done to solve the problem?
4. How well are we doing?

Each question represents a phase in the SARA process: scanning, analysis, response, and assessment.[§] SARA serves as a framework for action; while SARA is a good place to start, the process may need to be modified and adapted to the specific location and circumstances. The actual process depends on a variety of factors. For example, in the case of a very specific crime problem in a single location, the process need not include time to define or refine the problem. Analysis focuses on a single type of crime and, because crime data are already available for the problem site, the analysis can begin immediately.

Additional time is required as issues become more complex, and impact larger geographic areas and greater numbers of stakeholders. In such instances it takes time to organize a problem-solving team and to collect data. It is also more difficult to find a solution that both addresses the problem and satisfies all stakeholders.

§ For more information on the SARA process, see www.popcenter.org/about-SARA.htm.

One of the key constraints may be the cost of implementation. Although many CPTED strategies are relatively cost-free and easy to accomplish in a short time frame (for example, changes to policies), other projects may require significant investments of capital and phased implementation over several years.

A general description of the four SARA phases and the steps that might be included as part of a CPTED problem-solving process are outlined in Table 1. Each phase addresses one or more aspects of the environment that are critical for employing CPTED strategies to solve the problem. Additional detail on the process is included in later sections of this guide.

The SARA Process	Table 1: Problem-Solving with Crime Prevention Through Environmental Design
SCANNING	1. Identify, define and investigate an existing or emerging problem. 2. Identify the stakeholders who should be engaged in problem-solving. 3. Decide on the combination of meetings and activities that will be necessary for problem-solving and create a schedule for working through the process.
ANALYSIS	4. Meet with stakeholders to clarify the problem and to define the goals and objectives for the process. 5. Collect and analyze data and information about the problem. 6. Evaluate any connections or relationships between the problem(s), and environmental conditions.
RESPONSE	7. Establish the goals to be achieved through the implementation of crime prevention through environmental design or other strategies. 8. Identify alternative strategies for achieving the implementation goals. 9. Evaluate the social, political, legal, financial, or technological feasibility of implementing each strategy. 10. Select the most promising strategies, and create and adopt a plan for improvement that identifies specific strategies, defines financial and other resource requirements, assigns responsibility for implementation and oversight, outlines a schedule for plan implementation, and establishes indicators of success.§ 11. Put the most promising and feasible measure(s) into place. A combination of immediate responses, short-term improvements, and long-term investment may be required.
ASSESSMENT	12. Monitor progress relative to the indicators of success specified in step #10. 13. Decide if the process needs to be repeated due to lack of progress or the emergence of new problems.

§ In *A Manual for Crime Prevention Through Planning and Design*, Kruger, Landman, and Liebermann (2001) suggest a plan based on (1) urgency or need; (2) the likelihood for success; (3) the potential for positive impacts in other areas; (4) cost; and (5) resource availability.

Defining and Understanding the Problem

One unique aspect of using CPTED for problem-solving is the array of data and information that must be gathered and analyzed. While crime, fear and victimization are critical considerations, an environmental evaluation needs to include information that is neither law enforcement-based nor related to crime, for example, land use and zoning, housing code or health code violations, or traffic volumes and pedestrian activity. Quality of life issues such as trash and litter, weeds, vacant lots, and declining property values are also considered, as these problems often have a more debilitating impact on a community on a day-to-day basis. They can also be symptoms of, or precursors to, crime.

The purpose of the environmental evaluation is two-fold:

1. It is required in order to precisely define the problem.
2. Data analysis results in a better understanding of the building, site, or neighborhood context — the environmental conditions in which the problem is situated.

The intricacy of the analysis ultimately depends on three conditions, which are described in greater detail below:

- **First, data and information requirements will be determined by the circumstances surrounding, and the setting of, an existing or emerging crime problem.**

Table 2 considers the various types of information that might become part of an environmental evaluation. Much of the data and information on the list is available from existing sources and agency records; however, significant and necessary pieces of information can sometimes only be obtained through interviews, surveys and observations. Safety audits and security surveys need to be specifically tailored to the facility, the site, or the neighborhood, and in most cases, must be handled by someone who is knowledgeable about locks, lighting, or other aspects of security.

The list of data elements in Table 2 is a general one, and not all of the items will be necessary for every problem-solving activity. The overall goal is to inventory existing conditions and document emerging trends related to a specific problem in a specific location — to answer the question, *why here*? Four types of scenarios are possible, and each suggests a different kind of data collection strategy:

1. A specific crime or other problem is occurring at a single location (e.g., the school vandalism, graffiti, and ATM robbery cases), or a crime problem at a specific type of facility (e.g., robbery at several convenience stores).

2. A specific crime or other problem is limited to a defined geographic area.

3. A general crime problem or an array of problems is experienced by residents and businesses in a particular geographic area.

4. The potential for future problems emerges as an outcome of proposed development or facility redesign.

- **Second, the amount of data that can be collected and analyzed is a function of the amount of time allotted for the analysis.**

Data collection and analysis can be a time consuming process, and adequate time is not always available. In some instances, public or other, pressures for an immediate response to the problem will strip away any opportunity for analysis. In such cases, evaluation becomes even more critical, to understand the impact of the intervention and to give greater definition to the original problem or any other issues that emerge as a result of the decision to intervene.

- **Third, support resources like staff and funding must be available for the analysis.**

Table 2 is also a reminder that crime prevention through environmental design is best undertaken by a *team* of departments and individuals in collaboration with community representatives. Experience has shown that CPTED strategies are most effective when those who are impacted by the problem are engaged in problem-solving and take ownership for the solution. The entire problem-solving process is enhanced when stakeholders are included early on, for example, by organizing a CPTED task force or by using community volunteers to help with data collection.

Table 2: Understanding the Problem
Data and Information Commonly Used in an Environmental Analysis

Examples of Information Collected:		Rationale	Source(s), Availability and Responsibility
Crime Data	**calls for service** **reported crime:** total crime crime rate crime type **crime trends** **spatial distribution:** crime location(s) "hot spots" **temporal distribution:** times of day days of the week seasonal changes **MO (*modus operandi*, or how the crimes are carried out):** target characteristics victim characteristics offender characteristics	Analysis of calls for service and crime incidents gives greater clarity to the problem and also some direction with regard to the other types of data and information that will need to be collected.	Crime data is collected and maintained by the police agency (records division or crime analysis unit) or by the locality's management information systems department. Crime mapping and geographic information systems (GIS) may be the responsibility of the police agency, or may be handled by another department, e.g., planning, engineering, or utilities.
Population Characteristics	age and gender race and ethnicity family or household size and composition family or household income	Community characteristics are helpful for thinking about routines and activities and the potential for victimization. They may also suggest a focus for crime prevention programs or other interventions.	Population demographics are available through the U.S. Census (see www.census.gov), which is regularly updated for larger localities through the American Community Survey. Smaller communities or neighborhoods must be updated using surveys unless another agency has already undertaken this work.

Institutional and Organizational Relationships	neighborhood association/ homeowners' association block watch/neighborhood watch group churches, clubs, public/private schools, hospitals, community centers or other neighborhood-based institutions local development corporations and other nonprofits engaged in work in the neighborhood	Community organizations and local institutions play several roles related to the problem-solving process and the implementation of crime prevention through environmental design strategies: • they represent stakeholders, and may be able to gather input from individuals who would otherwise be unavailable • they have access to data and information • their members and/or staff may be able to assist with surveys and interviews • the institutional facilities can serve as sites for meetings • they may have resources to commit to solving the problem.	Locating complete lists for community associations and nonprofit organizations is often difficult; however, several opportunities are available. The neighborhood planning unit should maintain a list of neighborhood associations, and the police agency should have information about Neighborhood Watch groups in the community. Information about community centers and other institutions may be found through an Information and Referral Service or an online locator (e.g., www.GuideStar.org). Other options include the local interfaith council or ministerial association, a volunteer center, or the social services department.

Examples of Information Collected:		Rationale	Source(s), Availability and Responsibility
Land Use and Development Patterns	**land use:** type and mix of land uses # residential buildings/dwelling units # office/commercial buildings/ spaces or total square feet of leasable space # businesses by business type major facilities, landmarks or attractions, e.g., parks, schools property ownership (public/ private) natural resources and attractive nuisances, e.g., lakes, rivers, streams, rocks development rules and regulations outlined in zoning, subdivision, landscaping or other ordinances **neighborhood stability:** housing or building condition tenure (owner-renter mix) occupancy/vacancy rates turnover (new sales, new leases, new vacancies) **property values:** average rent average sales price assessed value	The mix of uses determines the kinds of activities that take place in a building/site/area, when and where they happen, and who participates in them. Items such as housing condition or turnover do not cause problems, but are symptoms or outcomes of issues. They are indicators of reinvestment or disinvestment in the neighborhood, or a general lack of care, and disrespect for property and community	Information on existing land use and future development is the responsibility of the planning department (comprehensive planning unit, long-range planning, zoning administration, development review). Property data is housed with the assessor. Some statistics, such as turnover or average rent, may be gathered from real estate advertisements or local agents. The U.S. Census (www.census.gov) also collects data on housing costs. Business information may be handled by either the planning or economic development departments. Many localities now have online GIS systems that include information on land use, zoning, ownership, assessed value and other property characteristics. The system may be administered by a single person or organization (possibly even a consulting firm), or multiple departments may be responsible for maintaining data related to their areas of responsibility. Permits and violations are handled by zoning administration, codes enforcement, or the public health agency.

	development activity: construction permits demolition permits occupancy permits **violations and citations:** building code housing code health code		
Traffic, Transportation and Transit Systems	**transportation networks:** interstate and other highways major intersections local and regional connector routes pedestrian and bike ways (sidewalks, trails, greenways, etc.) site circulation, ingress and egress on- and off-street parking spaces/lots/garages **traffic:** common origin/destination sites and travel routes daily/weekly volumes peak (rush hour) loads accidents **transit system:** ridership and user characteristics routes and schedules transit stops/shelters/centers transfer locations **neighborhood complaints:** speeding cruising loitering	Patterns of crime and other problems are often related to patterns of movement that bring people to and through sites, neighborhoods, localities and regions.	Road and traffic information for most localities is a function of the state transportation department. Regional transportation planning agencies should also have this information. Neighborhood- or site-related traffic issues will require new studies, local data collection and observations of traffic flows, turning movements, or other traffic-related activity. The transit company should maintain information on its system and operations. Most complaints are wagered with the police agency.

Examples of Information Collected:		Rationale	Source(s), Availability and Responsibility
Resident/User Surveys or Stakeholder Interviews[§]	**define and explain the problem (real or perceived)** **victimization:** reported unreported reasons for not reporting **fear:** where people are afraid why people are afraid schedules and activities during an average day/week/month/season concerns, attitudes, opinions and suggestions about neighborhood quality of life	The purpose of interviews and surveys is to gain insight into circumstances and conditions that are otherwise undocumented, for example, unreported victimization and fear.	Interviews and surveys are generally undertaken by the individual tasked with the problem-solving process, possibly with the assistance of others engaged in the process, e.g., neighborhood residents. Additional support may also be available through local colleges and universities. The survey process can elicit information about when and where problems are occurring, and this may reduce the need for on-site observations. All require the development of, and training on, data collection protocols to ensure validity and reliability.

§ Also refer to the Bureau of Justice Assistance (1993) monograph, *A Police Guide to Surveying Citizens and Their Environment.* Available at www.popcenter.org/Library/RecommendedReadings/Surveying%20Citizens.pdf.

On-site Observations	**problem behaviors:** loitering vandalism and graffiti public drinking drug sales or drug use gang activity **legitimate play or other activities** **distribution of activities:** when activities are most likely to occur where activities take place **user characteristics:** age, gender, race/ethnicity resident, owner, staff/employee, patrons, invited visitors, others **consistency between reported behaviors and observed activities**	Observations should reinforce the results of surveys and interviews (when the observed activities are consistent with reported behaviors), and should offer support for crime statistics and other data and documentation.	

Examples of Information Collected:		Rationale	Source(s), Availability and Responsibility
Safety Audits and Security Surveys	**building and site characteristics:** floor plans site design and layout ingress/egress, circulation and parking plant materials and landscape elements lighting **crime prevention and security measures:** locking systems and key control lighting and illumination CCTV security maintenance and repair emergency operations plans security policies and procedures **operations:** staffing activities and schedules rules, regulations, policies, and procedures	Audits and security surveys provide details the other sources of information do not, specifically with regard to building or site conditions, target hardening and security measures, etc. They also begin to expose connections between the problem and staffing or policy. Security surveys may also reveal gaps or weaknesses in data collection or data availability, and therefore suggest that improved information should be one of the goals for the future.	Depending on the location and the type of problem, police personnel (crime prevention unit) may be able to train homeowners and business managers to perform their own evaluations. Generally though, when a security survey is warranted, this should be handled by a knowledgeable professional.

Creating a Plan to Improve Environmental Conditions

This is a critical point in problem-solving because it is time to make decisions about what to do. Stakeholders should be engaged in developing the plan and are likely to have very concrete ideas about what they want and why. Opportunities for input are important because broad community support for the plan enhances the potential for success during plan implementation.

Plan development is not an isolated activity, but one that comes near the end of a potentially very long process. It is focused on solving a well-defined problem. It uses the data that have been collected and the analyses that have already been completed. It relies on previous input from stakeholders and asks for more advice along the way. (In fact the plan should include regular opportunities for stakeholders to offer their opinions on how well things are going.)

The process can be organized into five steps.

1. Identify the full range of options available to solve the problem, which may include:
   - physical improvements
     - o alterations in the building design, floorplan, room layouts
     - o changes to site layout
     - o new or improved site amenities like lighting and landscaping
   - security enhancements
   - additional target hardening measures
   - modifications to uses or activity schedules
   - changes to laws, rules, regulations, or policies governing use and behavior

- community empowerment and institutional support
- changes to area land uses or to laws and regulations governing development.

Not all of these alternatives should be included for every problem. The actual list depends on the problem and the setting.

2. Narrow the list to include programs and strategies most likely to have an impact.[§]

3. Decide which of these should be included in the plan for improvement, and in what order of priority, giving due consideration to:

   - criticality of need
   - ease of implementation
   - cost
   - legality
   - technical feasibility
   - positive and negative externalities
   - client or community support.

One question that frequently arises during this step is whether programs with popular support should be included, even if they hold little potential for addressing the problem or improving environmental conditions. Decisions about trade-offs and the relative weight given to the community's priorities are also situational, and best handled on a case-by-case basis. But it is important to be prepared for such controversy.

4. Develop the plan document, with details on funding and staffing resource requirements, responsibilities, implementation (immediate, short-term, long-term schedules), and indicators of success, tied to the evaluation.

§ For examples, see the Problem-Specific Guides on *Graffiti*, *Robbery at Automated Teller Machines*, and *School Vandalism and Break-ins*, among others, available at www.popcenter.org.

5. Implement the strategies in the plan using the schedule and responsibilities outlined in the plan document. Though community support for the plan should be in place, some attention may need to be given to community education, participation and input, and other strategies to engage stakeholders and garner support for the plan.

Engaging Stakeholders in Problem-Solving

It has been noted in previous sections that stakeholder involvement is an important aspect of the environmental analysis. "Stakeholders" are individuals, departments, organizations and agencies impacted by the problem; with resources to commit to understanding and solving the problem; who make decisions about funding or other priorities; or that have some interest in the outcome (see box). The array of stakeholders actually included in any problem-solving process will depend on the problem, its location, and the circumstances in which the problem is situated.

Choices about which stakeholders will participate and how they will be engaged in problem-solving will depend upon the complexity of the problem, the size of the impacted area, availability of resources, and the existence of established community organizations.

CPTED Stakeholders

Neighborhood
- homeowners
- non-resident property owners
- tenants

Community association representatives
- from the study neighborhood
- from adjacent neighborhoods
- from adjacent or localities

Business community
- business owners and managers
- employees
- business association representatives

Institutions
- schools (public and private)
- places of worship
- clubs
- cultural facilities (theatre, art gallery, museum)

Nonprofit organizations
- community development corporations
- social services providers

Government
- elected officials
- administration and management
- police
- community/neighborhood planning
  - and, depending on the issue, traffic and transportation, transit, parks and recreation, housing and redevelopment, economic development, etc.

Remember that area residents and employees are familiar with the place and the problem. They frequently recognize crime-environment relationships, and can explain events and anticipate trends that will not be revealed through data analysis. They bring critical information to the process. They also represent critical data collection resources and can serve as the line of communication with the rest of the community.

If the neighborhood has no network of communication among tenants and property owners, homeowners, or local institutions and the clients they serve, the plan may need to include community organizing and programs like Neighborhood Watch.

Owners, residents, visitors and others must be engaged in problem-solving so they understand CPTED, and can make or recommend legitimate design, security and policy choices. Lack of agreement — even outright controversy — can stall progress.

Genesis Group

Stakeholder involvement is an important aspect of the environmental analysis. Groups such as area residents and employees can bring critical information to the process. They also represent critical data collection resources and can serve as the line of communication with the rest of the community.

Keeping Tabs on Progress

The last step in the problem-solving process is not a single step, but an *on-going* program of monitoring and evaluation. Evaluation is an on-going activity because change sometimes occurs in small increments so that measurable improvements take a long time to emerge; because immediate change may be an outcome of engagement in the process that disappears over time as interest and attention wane; because the improvement plan is likely to include short-term projects as well as long-term investments, and all of them must be evaluated; and because programs and strategies will need to evolve as environmental conditions change.

The purpose of the evaluation is to decide whether:

- the problem has been eliminated, either temporarily, or permanently
- the problem is occurring less frequently
- the impact of the problem has been reduced (i.e., fewer victims, less violence, smaller losses)
- fewer problems are noted in areas adjacent to the problem location
- the problem has moved to another location
- a new or different problem is emerging
- the problem remains, unchanged.[§]

If the assessment shows the problem has been eliminated or reduced in its frequency or severity, then no additional measures are necessary. The other results, though, suggest it is time for a new problem-solving process linked to new or different outcomes and approaches.

§ Goldstein (1990) and Eck and Spelman et al. (1987) include "the problem has been successfully removed from police consideration." Because CPTED engages a variety of organizations and agencies on a problem-solving team — including police officers — the problem may never actually be "removed" from police consideration, even if it becomes the responsibility of another team member.

An earlier section of this guide outlined eight categories of data that are used to establish goals and indicators of success linked to those goals. Many police programs rely on indicators such as crime, victimization and fear, or response times or clearance rates. These measures continue to be important, but other indicators may prove equally useful depending on the problem, the setting and the circumstances. A return to the eight categories of data offers some perspective on the options available. Each is discussed in greater detail below, including an estimated time before noticeable and measurable change might be evident.

Crime data. In most cases, reductions in calls for service and reported crime are the goal; however, this is not true in all instances. Some communities may instead be working toward an improved relationship with police, or for greater participation in programs like Neighborhood Watch. Increases in calls for service or reported crime are legitimate outcomes under those circumstances.

It is also possible that the number of incidents will not decrease, but the types of incidents that take place are less violent, involve fewer victims, and result in fewer losses, leading to the perception that conditions have improved.

Alternatively, the evaluation may show that the distribution of incidents has changed either temporally or spatially. These changes may mean the crimes are more easily observed, that the police agency can respond more quickly, or that there are fewer complaints about the problem.

It is also possible that when strategies are successfully implemented at the problem site or location, areas surrounding the site also experience reductions in crime. These types of circumstances suggest the need for broad geographic coverage during both data collection and during the evaluation.

Population characteristics. A neighborhood improvement program may be focused on increasing the diversity of residents with regard to age, gender, race, ethnicity or income; creating a more stable population base indicated by an increasing number of family households; improving resident quality of life by increasing household income; or establishing an enclave for a specific racial or ethnic community; etc. But in some cases the goal may be to support the existing population and see that its characteristics do not change.

Institutional and organizational relationships. Indicators of success in this category might include active community groups with widespread participation; an increase in the number of associations/organizations/institutions working with the community; an increase in property investment; or an increase in support services targeted to residents. Each of the support services may have its own set of indicators — and the organizations involved should participate in, or be linked to, the CPTED evaluation.

Land use and development patterns. Land use and neighborhood stability are very much related. Indicators of stability include:

- constant, or increasing, property values and rental rates
- a higher proportion of owner-occupied property (rather than rental property)
- fewer vacant lots, dwelling units or commercial spaces, and/or increases in construction or rehabilitation activity
- a more compatible mix of uses, or a more diverse mix of uses
- fewer building, fire, health, and zoning code violations
- reduced turnover time (time for property to sell or rent)
- increasing contributions of taxes or fees.

Traffic, transportation, and transit systems. Speeding and traffic enforcement are common issues in problem neighborhoods. Evidence of increased enforcement, through the number of citations issued, leading eventually to fewer complaints about speeding problems, is one possible indication of improvement.

§ For further information, see the Problem-Specific Guide on *Speeding in Residential Areas* and the Response Guide on *Closing Streets and Alleys to Reduce Crime*.

When a plan includes changes to traffic patterns through street closings or traffic calming measures, indicators of success are required for the target neighborhood, and also for surrounding communities that may be impacted by new travel patterns.§ This can include numbers of complaints or numbers of accidents, changes in traffic volumes or turning movements, etc. Alternatively, the evaluation may consider the number of pedestrians, bicyclists or others using sidewalks, trails and greenways.

Transit ridership is an important aspect of that system's successful operation. Real and perceived safety during travel to and from stops or while waiting for or riding the bus or train can be critical. Increased ridership, a more diverse user population, and ridership that is more distributed geographically may be indicators of a successful campaign to improve transit safety. Alternatively, the goal may simply be to increase ridership and the perception of safety for one transit stop or along one route.

Resident or user surveys, and stakeholder interviews. Reductions in fear and victimization are critical, but are not the only opportunities for improvement in this category. For example, one goal for the program might be a better relationship with police, so that increased reporting of victimization, or greater cooperation during investigations, are the ideal outcomes. Additionally, look for changes in activities and schedules showing that people are less afraid to use various places and spaces, or an improved opinion about the overall quality of life in the community.

On-site behavioral observations. The evaluation should show a reduction in problem behaviors and more widespread activity by a critical mass of "good" users. As with other categories, greater diversity with regard to age, race, income, etc., can be important.

Safety audits and security surveys. Follow-up safety audits and security surveys should reveal that critical recommendations have been implemented. This allows for testing or evaluation of the results of those implementation activities, which might include changes to policies and procedures such as key control; modifications to building layout or site landscaping; additional security measures like locks or CCTV; etc. For example, one indicator of success might be better record keeping, resulting in better information and a quicker and more targeted response to emerging problems.

What should become clear from this summary is that indicators of success absolutely must be tied to program goals, because different goals equate to different results for some measures. What is also clear is the need for quality data collection and analysis during the early phases of problem-solving, so that baseline measures are available and the data afford an opportunity to understand the true impacts of program implementation.

The problem is that evaluation is frequently ignored, overlooked or under-appreciated. Three possible reasons for this are:

1. For many participants, the goal of the problem-solving process is to "do something." Once a program, project or strategy is in place and underway, they are satisfied. They see the process as complete.

2. Evaluation can be time consuming and costly. Other tasks such as those related to implementation, are given higher priority.

3. Problem-solving using crime prevention through environmental design can result in multiple programs or projects. In a setting where many other circumstances and conditions are constantly changing, it is often difficult to determine which changes are the outcomes of specific CPTED initiatives or of CPTED generally, and which changes are produced by other factors in the environment.

Given its role in the problem-solving process, evaluation is an essential and valuable tool for decision making. It affords an opportunity to understand what is working, where it is working and why it is working (or is not working). Evaluation aids in recognizing change, and information from one evaluation can be used as part of the problem-solving process somewhere else. This means that data collection and analysis need adequate time and attention early in the process, and evaluation needs adequate time and attention later on.

Additional information on methods for data collection and evaluation are available at the POP Center web site, www.popcenter.org.§

§ For example, see *Crime Analysis for Problem Solvers in 60 Small Steps* and *Assessing Responses to Problems: An Introductory Guide for Police Problem-Solvers*, both available at www.popcenter.org.

CPTED and the Problem-Solving Process: Re-Examining the Three Introductory Cases

The introduction of this guide used three cases to illustrate the potential applications of crime prevention through environmental design as a problem-solving tool. The guide then offered an overview of CPTED principles and a guide for problem-solving, including data collection, stakeholder participation, and the evaluation of crime-environment relationships. This section returns to those three original cases as a way to examine the process in greater detail. As a reminder the three problems are:

Case #1: Smoking, drinking and vandalism in a high school lavatory.
Case #2: Graffiti on the back wall of an office center.
Case #3: Robbery of nighttime ATM patrons.

Table 3 examines each of these cases in greater detail. The table is divided into four rows, one for each step of the SARA process, and each row is divided into the steps of a CPTED analysis. For example, scanning includes understanding the problem, identifying stakeholders, and deciding on a process to engage stakeholders in problem-solving. While items like stakeholder interviews are consistent across the three cases, each case has its own unique set of stakeholders. The high school case could also make use of a CPTED task force for problem-solving.

The analysis row offers some detail on the kinds of data that could and should be collected. In the first two cases (both of which are about vandalism), maintenance reports rather than crime reports are critical. Population data are not necessary for the school case because this problem involves only the high school students, faculty, staff, and administrators. The two other cases consider user populations rather than the more general community. Community involvement would only be appropriate if these problems were spread over a larger geographic area.

Policies and procedures are an important consideration in all three cases. More types of policies appear relative to the high school lavatory case, as this problem involves lunchtime cafeteria and building use, faculty monitoring assignments, and school rules regarding student behaviors like smoking and drinking.

The response row is divided into three additional segments that distinguish between the three CPTED strategies of natural access control, natural surveillance, and territorial reinforcement. Note that some of the strategies listed on the table were not actually employed as responses to the problem (based on the descriptions in the introduction), possibly because they were too expensive, would take too long to implement, or were otherwise unacceptable.

The assessment row lists a variety of outcomes that might be experienced as a result of strategy implementation. The goal is to remove or reduce crime and other problem behaviors, but it is also possible for problems to move to a new location or change in character as a result of an intervention. In the worst case scenario, the problem continues, even after the strategies have been put into place.

The table is provided as a way to organize thinking about problems and problem-solving using CPTED. It demonstrates why each problem deserves its own detailed examination, one that focuses on the unique circumstances in which that problem is situated. When intervention strategies are specific to the problem they are more likely to be successful.

Table 3
CPTED and the Problem-solving Process
Three Case Examples

		Case #1	Case #2	Case #3
SCANNING	Problem	smoking, drinking and vandalism in a high school lavatory reported by custodial workers	tagging and graffiti at the back of an office center noted by property managers	nighttime ATM patron robberies reported to police
	Stakeholders	• students • faculty • staff (includes custodial workers) • administration • police/SRO • parents	• property owner • property management • tenant businesses • police • adjacent property owners and managers (depending on outcome of analysis) • tenants and patrons of adjacent businesses (depending on outcome of analysis) • traffic engineering or transit	• robbery victims • other bank and ATM patrons • bank management • bank employees • corporate security • police • property owner or management (if different from the bank) • adjacent property owners and management (depending on outcome of analysis)
	Process	• small group meetings (faculty group, student group, custodial group), OR • CPTED task force • stakeholder interviews	• small group meetings (property management, tenants, adjacent property owners, and managers) • stakeholder interviews	• stakeholder interviews
ANALYSIS	Crime Data	• number of incidents (from maintenance records related to vandalism) • temporal distribution of problem • typical scenario or MO • similar problems and their locations elsewhere in school	• number of incidents (from maintenance records) • temporal distribution of problem • offender characteristics based on analysis of graffiti and tagging	• number of incidents reported to police • other reports or indications of "unusual" behavior • temporal distribution of incidents • offender characteristics from victim reports and CCTV tapes of robberies

ANALYSIS	Population Characteristics	• N/A	• residents, employees, patrons, and visitors to the area	• area residents, employees, patrons and visitors
	Land Use and Development Patterns	• N/A	• adjacent land uses • activity patterns and use schedules	• adjacent land uses • activity patterns and use schedules
	Traffic, Transportaion and Transit Systems	• N/A	• traffic volumes and travel patterns • pedestrian routes (sidewalks, greenways, trails, and informal paths) • parking lots/garages and loading facilities • transit routes, stops, or transit centers	• traffic volumes and travel patterns • pedestrian routes (sidewalks, greenways, trails, and informal paths) • parking lots/garages and loading facilities • transit routes, stops, or transit centers
	Resident or User Surveys, Stakeholder Interviews	• custodial workers, students, faculty, and administrators • known and perceived problems • offender identification • strategy recommendations	• property management interviews • surveys of tenant businesses	• victim interviews • corporate security interviews
	On-Site Behavioral Observations	• lunchtime "movement" (use of cafeteria and other locations on campus); multiple days in the case of changing schedules • activity and use of lavatory during remainder of school day • activity and use of lavatory during sporting events	• after-hours use and nighttime movement, both weekday and weekend, and both on-site and to/from adjacent properties	• N/A

		Case #1	Case #2	Case #3
ANALYSIS	Safety Audits and Security Surveys	• building floor plan • room/space assignments • class, cafeteria, and sporting event schedules • locking systems and CCTV • maintenance and repair policies and procedures • cafeteria policies and procedures • hallway monitoring policies and procedures • student code of conduct (application, enforcement, consequences, etc.)	• building design • site layout and landscaping (e.g., fencing), and relationship to adjacent properties and nearby land uses • lighting and CCTV • maintenance policies and procedures • hours of operation for tenant businesses	• building design and any related corporate policies • ATM location and design • site layout, including relationship to adjacent properties and nearby land uses • CCTV and lighting • security policies and procedures • hours of operation and staffing
RESPONSE	Opportunities to Control Access	• close cafeteria and campus (no one leaves), which requires changes to lunch schedules • install lock on lavatory door • install barricade, removing access to gym/sport area(s)	• perimeter fencing, removing access to the site • graffiti-resistant paint/surface treatment on problem areas	• remove ATM completely, or move it to another location (including automobile access rather than walk-up) • change hours of operation and availability of ATM • install fence between ATM and drive-through bank lanes
	Options for Providing Opportunities to See and Be Seen	• change faculty monitoring assignments • install CCTV • change lavatory design to improve visibility	• increase light levels • install CCTV • trim or remove vegetation • increase police patrol (through site as well as around site) • hire private security to patrol	• increase police patrol or hire private security • increase lighting around the building, especially in the drive-through area

	Opportunities to Define Ownership and Use, and Encourage the Maintenance of Territory	• limit the area available for lunch outside the cafeteria • change lavatory available during lunch periods to one in an area that is more easily supervised • immediately repair and replacement of damaged fixtures, etc. • consistently enforce school policies and consequences for policy violations	• negotiate alternative use strategies with neighboring property owners (e.g., "no readmittance" policy to keep skaters inside the building) • immediately repaint when graffiti is installed	• N/A
ASSESSMENT	Possible Scenarios to Look For Over the Long-Term	• there is no evidence of smoking, drinking, or vandalism in the lavatory, OR • the problem occurs infrequently and only during sporting events when the lavatory is unlocked, OR • changes to lunchtime monitoring have resulted in fewer behavioral problems in other areas near the cafeteria, not just in the problem lavatory, OR • the problem appears in another lavatory or another location at the school, OR • the problem has changed, e.g., the problem is now bullying, not vandalism	• there is no evidence of tagging or graffiti on the site, OR • the amount and/or frequency of graffiti is reduced, OR • "hanging out" and other problems at the skating rink have been reduced or eliminated, OR • graffiti problems shift to another location on this site or elsewhere in the neighborhood, OR • graffiti continues to be a problem, OR • the problem has changed, e.g., the problem now includes vandalism to lighting	• the robbery problem is eliminated, OR • the adjacent commercial strip is seeing new investment and increases in patronage, OR • ATM patrons are now robbed at their cars, OR • ATM robberies move to another bank, OR • other types of robbery are emerging in the neighborhood

Appendix A

Using CPTED for Problem-Solving at a Building or Facility

This appendix outlines a process for completing an environmental evaluation when the problem is limited to a single building or facility. The process is divided into three phases related to a site visit and period of observation.

Activities before the site visit are focused on understanding the problem and the situation. This includes an examination of crime data, plans and policies, and organizational structures, all of which lead to the identification of key stakeholders who need to provide information and advice.

The site visit includes an orientation period, with a "tabletop" review, using a floor plan and site plan to review the structure of the facility and to identify the problem location(s) as well as safe and unsafe places. Facility tours are conducted with stakeholders and then the CPTED evaluator observes behavior and use independently for several days, at various times of the day and several days during a week to address changing activity schedules.

The process concludes with the development of recommendations and a report documenting the site visit and the findings.

Although the process as it is outlined here implies the work can be completed by a single person, most buildings and facilities are large enough to warrant a team approach.

Crime Prevention Through Environmental Design
Facility SARA Process

BEFORE THE SITE VISIT	REQUEST AND REVIEW INFORMATION • administrative organization (to identify appropriate contacts) • relevant statutes, ordinances, codes, policies, and procedures • site and facility background (maps, plans, manuals, design/ development review and approval processes, maintenance procedures, etc.) • police/security CFS and crime data DEVELOP AN EVALUATION STRATEGY AND SCHEDULE APPOINTMENTS
DURING THE SITE VISIT	OWNER/MANAGER ORIENTATION TO CPTED AND THE EVALUATION PROCESS EVALUATOR ORIENTATION • overview of the organization • "tabletop" review of location, site, and facility (assignment of spaces, activities, and schedules, etc.), noting problem areas CONSTITUENT/STAKEHOLDER MEETINGS AND FACILITY TOURS INDEPENDENT FACILITY EXAMINATION (without stakeholders) • morning, afternoon, evening, and night • multiple weekday and weekend visits [BREAK – to organize materials, analyze data, identify information needs, document the process, and reflect on observations, if needed] [RETURN VISIT – to fill gaps in data and information, to reconsider the findings from an earlier visit, to evaluate the facility during an alternate schedule, etc., if needed] CLIENT DEBRIEF

FOLLOWING THE SITE VISIT	REVIEW DATA AND OTHER MATERIALS (photographs, floor plans, notes) DEVELOP RECOMMENDATIONS • changes to physical design and layout • modifications to laws, rules, regulations, policies and procedures • target hardening/security enhancements • community and social programs and activities • crime prevention education and awareness DRAFT THE REPORT • introduction to the problem and report overview • description of methods (data collection and analysis, survey and interview protocols, site and facility evaluation activities, dates and times) • discussion of issues and findings • recommendations for future action (including additional or follow-up evaluation) • supporting documentation in appendixes • disclaimer** SUBMIT DRAFT REPORT FOR REVIEW AND COMMENT (specifically, for factual accuracy) REDRAFT, RE-REVIEW, AND REWRITE PRESENT AND DELIVER FINAL REPORT

** EXAMPLE DISCLAIMER: The recommendations outlined in this report are based on research and experience that suggest certain design and policy approaches can be adopted to reduce *opportunities for crime*. It is not possible to guarantee that *actual crime* will be reduced or eliminated if these recommendations are implemented.

Appendix B

Using CPTED for Problem-Solving in Multifamily Housing

Appendix B outlines a CPTED planning process for a multifamily housing community. One of the goals of this process is to maintain communication between the team of experts and the residents. Because rental properties often have low rates of participation, the process includes the distribution of flyers to every unit after every meeting. These flyers include a description of the overall project and an introduction to CPTED, plus information about the results of the last meeting and plans for the future.

Crime Prevention Through Environmental Design
Multifamily Housing/Public Housing SARA Process

Pre-project Resident Meetings
(conducted by Resident Council members)

PROJECT SCOPE AND OBJECTIVES
SAFE AND UNSAFE PLACES

Resident Council Meeting

INTRODUCTION TO THE PROJECT
ORIENTATION TO THE COMMUNITY
- tabletop review of safe/unsafe maps from pre-project meetings with residents
- facility walk-through
- identification of problems and issues

FUTURE PLANS
- activities, schedules, and deliverables
- roles and responsibilities

Invitation to Participate and Meeting Announcement *(to all residents)*

Resident Meeting #1

OVERVIEW OF THE PROJECT
INTRODUCTION TO CPTED
RESIDENT INPUT ACTIVITY [Exhibit 2]
- orientation to the housing community and the surrounding neighborhood
- review and discussion of safe and unsafe places
- identification of priority problems and issues

Project Flyer and Meeting Summary

PROJECT OVERVIEW
- what is this project about?
- what is next for the project?

CPTED OVERVIEW

MEETING RESULTS
- what did we do?
- what did we learn?
- what is next? (residents, resident council, and CPTED team tasks and responsibilities)

REQUEST FOR ADDITIONAL INPUT
- team contact information
- date/time of next meeting

Resident Meeting #2

REVIEW OF PRIORITY PROBLEMS AND ISSUES
ANALYSIS RESULTS
ALTERNATIVE STRATEGY IDENTIFICATION

Project Flyer and Meeting Summary

Resident Meeting #3

REVIEW AND COMMENT ON DRAFT PLAN
NEXT STEPS (comment period, plan adoption)

Project Flyer and Plan Summary

PROJECT OVERVIEW
CPTED OVERVIEW
REVIEW OF THE PLANNING PROCESS
PLAN AND PROPOSED STRATEGIES
REQUEST FOR REVIEW AND COMMENT
STEPS TO PLAN ADOPTION

Appendix C

Using CPTED for Neighborhood Problem-Solving

The process outlined here is intended for a mixed use neighborhood with a diverse population and multiple issues. The problem-solving process in this case is tied to a broader neighborhood planning process; the CPTED plan must ultimately be adopted by elected officials.

The process is carried out by an interdisciplinary CPTED team of city officials with a neighborhood CPTED task force. This group collects and analyzes data and makes recommendations, which are carried back to the broader community for input and advice before the recommendations are incorporated into a plan for improvement. Staff provide organizational support for the process, which includes information packages, data analysis, copying, and mailing, etc.

Crime Prevention Through Environmental Design
Neighborhood SARA Process

Planning Task Force Meeting #1: Project Scoping

ORIENTATION AND GROUND RULES
- roles and responsibilities of the task team, agency staff, consultant(s)
- rules of order and engagement
- meeting schedules and tentative agendas

INTRODUCTION TO CPTED AND NEIGHBORHOOD EVALUATION
- overview of CPTED concepts and strategies
- group work – neighborhood features, safe and unsafe places, etc. [see Exhibit 2]

Planning Task Force Meeting #2: Presentation of Data and Information

CRIME ANALYSIS
COMMUNITY/VICTIMIZATION SURVEY RESULTS
EXISTING CONDITIONS (population, land use, housing, transportation, etc.)
NEIGHBORHOOD IMPROVEMENT PROGRAMS AND FUNDING OPPORTUNITIES
IDENTIFICATION AND EVALUATION OF ALTERNATIVE STRATEGIES [see Exhibit 3]

Neighborhood Meetings
conducted independently by task force representatives to agree on strategies and priorities

Planning Task Force Meeting #3: Plan Development

ACTION PLAN WORKSHEETS
- project goal(s)
- data and information (existing, needed)
- tasks and activities
- roles and responsibilities
- resource requirements
- target date(s)

FEEDBACK FROM AGENCY REPRESENTATIVES ON FEASIBILITY OF THE ACTIONS IDENTIFIED

Neighborhood Meetings
conducted by task force representatives to review tasks, schedules, and responsibilities

Planning Task Force Meeting #4: Plan Revisions
(based on community feedback) **and Plan Approval**

Plan Adoption

NEIGHBORHOOD OWNER/RESIDENT APPROVAL
PLANNING COMMISSION RECOMMENDATION
ADOPTION BY ELECTED OFFICIALS/GOVERNING BODY

TRANSITION FROM PLANNING TO IMPLEMENTATION

Implementation Team Meeting #1:

REVIEW AND REFINE SCHEDULES, RESPONSIBILITIES, AND RESOURCE NEEDS
DEFINE PERFORMANCE MEASURES
BEGIN IMPLEMENTATION

Additional Implementation Team Meetings
scheduled as appropriateto discuss progress and results, issues and concerns, or the need for a new or modified plan

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Recommended Readings

- **A Police Guide to Surveying Citizens and Their Environments**, Bureau of Justice Assistance, 1993. This guide offers a practical introduction for police practitioners to two types of surveys that police find useful: surveying public opinion and surveying the physical environment. It provides guidance on whether and how to conduct cost-effective surveys.

- **Assessing Responses to Problems: An Introductory Guide for Police Problem-Solvers**, by John E. Eck (U.S. Department of Justice, Office of Community Oriented Policing Services, 2001). This guide is a companion to the *Problem-Oriented Guides for Police* series. It provides basic guidance to measuring and assessing problem-oriented policing efforts.

- **Conducting Community Surveys**, by Deborah Weisel (Bureau of Justice Statistics and Office of Community Oriented Policing Services, 1999). This guide, along with accompanying computer software, provides practical, basic pointers for police in conducting community surveys. The document is also available at www.ojp.usdoj.gov/bjs.

- **Crime Prevention Studies**, edited by Ronald V. Clarke (Criminal Justice Press, 1993, et seq.). This is a series of volumes of applied and theoretical research on reducing opportunities for crime. Many chapters are evaluations of initiatives to reduce specific crime and disorder problems.

- **Excellence in Problem-Oriented Policing: The 1999 Herman Goldstein Award Winners.** This document produced by the National Institute of Justice in collaboration with the Office of Community Oriented Policing Services and the Police Executive Research Forum provides detailed reports of the best submissions to the annual award program that recognizes exemplary problem-oriented responses to various community problems. A similar publication is available for the award winners from subsequent years. The documents are also available at www.ojp.usdoj.gov/nij.

- **Not Rocket Science? Problem-Solving and Crime Reduction**, by Tim Read and Nick Tilley (Home Office Crime Reduction Research Series, 2000). Identifies and describes the factors that make problem-solving effective or ineffective as it is being practiced in police forces in England and Wales.

- **Opportunity Makes the Thief: Practical Theory for Crime Prevention**, by Marcus Felson and Ronald V. Clarke (Home Office Police Research Series, Paper No. 98, 1998). Explains how crime theories such as routine activity theory, rational choice theory and crime pattern theory have practical implications for the police in their efforts to prevent crime.

- **Problem Analysis in Policing**, by Rachel Boba (Police Foundation, 2003). Introduces and defines problem analysis and provides guidance on how problem analysis can be integrated and institutionalized into modern policing practices.

- **Problem-Oriented Policing**, by Herman Goldstein (McGraw-Hill, 1990, and Temple University Press, 1990). Explains the principles and methods of problem-oriented policing, provides examples of it in practice, and discusses how a police agency can implement the concept.

- **Problem-Oriented Policing and Crime Prevention**, by Anthony A. Braga (Criminal Justice Press, 2003). Provides a thorough review of significant policing research about problem places, high-activity offenders, and repeat victims, with a focus on the applicability of those findings to problem-oriented policing. Explains how police departments can facilitate problem-oriented policing by improving crime analysis, measuring performance, and securing productive partnerships.

- **Problem-Oriented Policing: Reflections on the First 20 Years**, by Michael S. Scott (U.S. Department of Justice, Office of Community Oriented Policing Services, 2000). Describes how the most critical elements of Herman Goldstein's problem-oriented policing model have developed in practice over its 20-year history, and proposes future directions for problem-oriented policing. The report is also available at www.cops.usdoj.gov.

- **Problem-Solving: Problem-Oriented Policing in Newport News,** by John E. Eck and William Spelman (Police Executive Research Forum, 1987). Explains the rationale behind problem-oriented policing and the problem-solving process, and provides examples of effective problem-solving in one agency.

- **Problem-Solving Tips: A Guide to Reducing Crime and Disorder Through Problem-Solving Partnerships** by Karin Schmerler, Matt Perkins, Scott Phillips, Tammy Rinehart and Meg Townsend. (U.S. Department of Justice, Office of Community Oriented Policing Services, 1998) (also available at www.cops.usdoj.gov). Provides a brief introduction to problem-solving, basic information on the SARA model and detailed suggestions about the problem-solving process.

- **Situational Crime Prevention: Successful Case Studies**, Second Edition, edited by Ronald V. Clarke (Harrow and Heston, 1997). Explains the principles and methods of situational crime prevention, and presents over 20 case studies of effective crime prevention initiatives.

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