Protocol: Displacement of Crime and Diffusion of Crime Control Benefits in Large-Scale Geographic Areas

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2. BACKGROUND FOR THE REVIEW

Although there is growing evidence that formal social control, primarily in the form of police activity, can have an impact on crime at the specific areas where efforts are focused (Sherman & Eck, 2002; Weisburd & Eck, 2004), such approaches risk shifting crime or disorder to other places where programs are not in place or to other times, targets, offenses, tactics, or offenders. This phenomenon is usually termed displacement, and it has been a major reason for traditional skepticism about the overall crime prevention benefits of place-based prevention efforts (Reppetto, 1976). The majority of research has focused on spatial or place-based displacement rather than times, targets, and so on. The idea of spatial displacement can be traced to early work by sociologists who noted the role of opportunities for crime at places, but at the same time assumed that the concentration of crime prevention efforts at places would simply shift crime events from place to place without any clear long-term crime prevention benefit. Crime opportunities provided by places were assumed to be so numerous as to make crime prevention strategies targeting specific places of little utility for theory or policy. In turn, criminologists traditionally assumed that situational factors played a relatively minor role in explaining crime as compared with the “driving force of criminal dispositions” (Clarke and Felson, 1993: 4; Trasler, 1993). Though the possibility that crime prevention might move crime rather than curtail it is not new, it was not until 1976 that Reppetto provided the first explicit rationale for displacement:

The police, however, cannot be everywhere; all houses and commercial establishments cannot be secured with attack-proof doors and windows, and all neighborhood environments cannot be altered. A different level of protection between various potential targets, both human and nonhuman, will always exist. Given the differential and no reduction in the offender population, will not the foreclosure of one type of criminal opportunity simply shift the incidence of crime to different forms, times and locales? (167)

The assumption that displacement is an inevitable outcome of focused crime prevention efforts has been replaced by a new assumption that displacement is seldom total and often inconsequential (e.g. see Clarke, 1992; Gabor, 1990). Since 1990 there have been five main reviews of empirical studies that report on displacement: Barr and Pease (1990); Eck (1993); Hesseling (1994); Guerette and Bowers (2009); and Bowers et al. (2011). All five reviews arrive at the same basic conclusions: there is little evidence that crime prevention strategies lead to displacement, and if displacement does occur it is usually offset by the amount of crime prevented.

Clarke and Weisburd (1994), moreover, suggest that scholars need to be cognizant of the reverse of displacement. They point to evidence indicating that situational and place-oriented crime prevention strategies often lead to a “diffusion of crime control benefits” to areas or contexts that were not the primary focus of crime prevention initiatives. Such spatial diffusion of crime control benefits has now been noted in a number of studies (e.g. Braga & Bond, 2008; Braga et al., 1999; Weisburd & Green, 1995; Weisburd et al. 2006). The Weisburd et al. (2006) study, in particular, was designed explicitly to examine displacement and diffusion effects and a wealth of data was collected in the intervention target areas and surrounding catchment areas, approximately two blocks surrounding each target area. The study employed analyses of more than 6,000 20-minute social observations and citizen emergency calls for police service, supplemented by interviews with arrestees from the target areas and ethnographic field observations. Quantitative findings indicated that for the drugs and prostitution markets targeted, crime did not simply move around the corner. Indeed, the study supported the
position that the most likely outcome of such focused crime prevention efforts is a diffusion of crime control benefits to nearby areas.

Clarke and Weisburd (1994) identify two main processes underlying diffusion: deterrence and discouragement. In the case of deterrence, offenders generally overestimate the crime prevention efforts of the police or other social control agents and assume erroneously that they are at higher risk of apprehension or punishment. Discouragement occurs when a crime prevention program reduces the rewards associated with a criminal act. For example, removing coin-fed gas and electricity meters from apartments that had been burglarized in a public housing estate in England led to an overall burglary decline across the entire housing project (Pease, 1991). In this case, it seemed that taking out a proportion of the meters was enough to discourage potential burglars, who “could no longer be sure of finding a meter containing cash without expending a great deal of additional effort” (Clarke and Weisburd, 1994: 173).

Weisburd and Telep (forthcoming) build on Clarke and Weisburd’s (1994) arguments to suggest other possible explanations for diffusion effects. They point to research by Taniguchi, Rengert, and McCord (2009), for example, that relies on economic instead of psychological (i.e., offender-based) theory to explain diffusion. Applying the theory of “agglomeration economies” to Philadelphia, they find that removing the largest and most profitable site from an illegal drug market will reduce the size of the overall market by making drug dealing in the surrounding area less profitable. The logic here is similar to the economics of the legitimate retail sector where closing a major department store in a mall may negatively impact the profits of smaller surrounding stores. Particularly relevant to larger units of geography such as the neighborhood, Weisburd and Telep (forthcoming) also discuss research from the community development literature (see Thomson, 2008) that suggests that public investment in one neighborhood can lead to residents in that neighborhood as well as residents in nearby neighborhoods making a greater private investment to improve the community. While these studies do not explicitly examine crime, this notion of spillover effects in neighborhoods is relevant to the study of diffusion processes.

Only two reviews have focused explicitly on displacement and diffusion effects. Guerette and Bowers (2009) reviewed situational crime prevention studies, finding some displacement in 26 percent of the 574 observations from 102 studies they examined, and a diffusion of crime control benefits in 27 percent of the examined studies. Focusing only on studies reporting on spatial displacement and diffusion, they found that 37 percent of the observations showed evidence of spatial diffusion while only 23 percent showed evidence of spatial displacement. As situational crime prevention tends to focus on specific situations in specific places, this review concentrates observations on what might be termed “micro” areas of geography, usually a single facility or location, or sometimes a small cluster of buildings (for example, a housing project). Bowers et al. (2011), in a Campbell Collaboration systematic review of crime displacement in police interventions make the micro geographic focus explicit, examining primarily studies of interventions at what have come to be termed crime hot spots (e.g., Sherman, Gartin, and Buerger, 1989; Sherman and Weisburd, 1995; Weisburd and Green, 1995).2 They included 44 studies in a narrative review, 16 of which also contained sufficient quantitative data on treatment, control, and catchment areas to perform a meta-analysis. They also find little evidence of displacement of crime, reporting that on average police interventions at micro-

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1 Each observation represents either an assessment of a different type of displacement (e.g. spatial, temporal, etc.) or a single type of displacement in multiple areas (e.g. looking at three different buffer zones for spatial displacement).

2 Their specific definition of a micro-place was “a specifically defined area that is smaller than a city or region,” including census blocks, police areas, housing estates, districts, suburbs, block areas, series of roads, neighborhoods or hot spots (Bowers et al., 2011: 16).
places are associated with significant reductions in crime, and while changes in crime in catchment areas were non-significant, the trend favored diffusion of benefits rather than displacement. In their analysis of 36 studies that contained treatment and catchment area outcomes, they also found evidence in favor of diffusion of benefits over displacement, although the finding could not be statistically tested.

Like these two reviews, much of the primary research on displacement discussed above has focused on local area (“micro place”) displacement. That is, studies have been concerned with geographically focused police initiatives at crime hot spots of a single street block, or clusters of street blocks with high intensities of specific types of crime. Indeed, some of the strongest and most persuasive evidence against the assumption of immediate spatial displacement has come from recent studies of focused interventions at crime hot spots (see Braga, 2007). However, displacement may also occur across larger areas (“macro places”), such as police beats, neighborhoods, cities, regions, states, and even nations (McIver, 1981). Displacement in these contexts involves the movement of crime across administrative, governmental, and/or social boundaries as a result of larger scale interventions of formal social control (such as policing strategies and changes in laws or policies) implemented by governmental or private agencies (McIver, 1981).

Teichman (2005), for example, argues such larger scale displacement can occur as a result of efforts by jurisdictions to push criminal offenders to neighboring locations (see also Broude & Teichman, 2009; Marceau, 1997). By increasing sanctions or the probability of detection, for example, a jurisdiction could change a criminal’s opportunity costs and, for certain financially motivated crimes, make it worth the offender’s effort to displace to a neighboring jurisdiction with less severe sanctions. Teichman (2005) points to the Michigan Auto Theft Prevention Authority as an example, noting that increased enforcement efforts against auto theft and chop shops displaced auto thieves to neighboring states such as Illinois. He also argues that jurisdictions can more explicitly try to remove offenders by banishing them or creating a hostile environment. He points to sex offender laws that severely regulate offenders’ place of residence as an example of a law that could displace offenders to states with less stringent registration requirements (see also Logan, 2006).

Anecdotal evidence of large-area displacement can even be found at a global level. The United Nations World Drug Report (2007: 16), for instance, describes displacement on a larger scale in regards to international methamphetamine markets, noting that “[i]mproved controls in Canada and further tightening of controls in the USA have led to a decline in the number of clandestine laboratories operating within the USA and a shift of production across the border to Mexico. However, Mexico has now also improved its precursor control regime, prompting drug trafficking organizations to exploit other areas, such as Central America and possibly Africa.” Thus, national drug control policy may have been responsible for pushing methamphetamine laboratories across international borders.

The study of large-area displacement is important because, despite the extent of research on “micro places,” many police interventions take place at geographic units larger than hot spots. For example, the Evidence-Based Policing Matrix, a compilation of rigorous policing evaluation studies (Lum et al., 2011), suggests that police are frequently targeting crime and disorder at the neighborhood level. While 16 of the 97 studies included in the Matrix (16.5%) focused on crime micro places, 39 (40.2%) used the neighborhood as the unit of analysis. Three studies used the jurisdiction as the unit of analysis. While the Matrix did not systematically assess displacement

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3 See more on the overlap between this review and the Bowers et al. review in the inclusion criteria section.
4 View an interactive version of the Matrix at http://gemini.gmu.edu/cebcp/Matrix.html
and diffusion effects in these studies, these results suggest the importance of understanding the relationship between formal social control interventions at larger geographic units and displacement/diffusion of crime.

There are several reasons to question the applicability of the findings on displacement and diffusion of crime control benefits in micro-places to larger geographic units. First, the types of interventions used in larger areas are often different from those applied to smaller places. For example, changes in the law that could result in crime (or benefits) shifting across boundaries clearly apply to an entire jurisdiction, rather than a small group of street blocks. Further, any type of intervention applied over a larger area will necessarily differ from those applied to small areas in terms of intensity, focus, and dosage, which could affect displacement and diffusion outcomes. Second, displacement across administrative areas may differ from displacement across hot spots or other small areas that are not ‘officially’ defined. For example, offenders may find it more difficult to move to a different area when the area is large (it may not be practical to move to a new city or cross state lines), but there could also be benefits in such moves, such as avoiding social control agents like the police by crossing administrative borders. A third and related point is that differences in enforcement are more clear-cut across administrative boundaries than small areas. Finally, socioeconomic composition and behavioral norms may vary more widely across large places than small ones, and could also be related to the mechanisms by which displacement and diffusion occur. The theory of crime displacement is still in an early stage of development and the reasons for these potential differences are not yet fully understood; however, investigating whether there is evidence for these differences could help to inform theoretical advances.

Furthermore, empirical evidence on large area displacement is more equivocal than that on displacement at micro places. A series of early studies found little or no evidence of crime displacement to neighboring suburbs as a result of citywide crime control programs in Dallas (Callaway, 1975), St. Louis (Stenzel, 1977), and Boston (McPheters & Stronge, 1981). In Cleveland, displacement to neighboring suburbs was found for larcenies and auto theft, but not for burglaries and robberies (Planning and Management Consulting Corporation, 1974). Hakim and colleagues’ (1979) analysis of inter-jurisdictional spillover and police expenditures found significant crime displacement for aggregate property crime, but not for violent crime. Their analysis showed that increased police expenditures in a hypothetical jurisdiction A would displace crime to jurisdiction B, which would then respond by also increasing police expenditures.

More recently, Malm and Tita (2006) found no evidence that “green teams” designed to reduce marijuana production displaced growing from target jurisdictions in British Columbia to surrounding areas of the province. In contrast, Worrall and Gaines (2006) found possible displacement effects in their analysis of a citywide police-probation partnership to reduce juvenile crime in San Bernardino. Little displacement was found for robbery and theft, but assault and motor vehicle theft were displaced to surrounding cities at levels similar to the reduction in these crimes that occurred in San Bernardino. Burglary displacement was greater than the direct effect the intervention had on burglary.

We recognize at the outset that the thrust of much recent criminological research on geographic areas has been the importance of focusing in on small units of geography (e.g. see edited volume by Weisburd et al., 2009). This research tends to show great heterogeneity of crime and other social factors when examining smaller places within macro-level units such as neighborhoods (see Weisburd et al., forthcoming). This suggests three potential issues for our review. First, increasing the size of intervention units may make it more difficult to detect displacement and
diffusion effects. That is, it may be easier to assess whether crime moves around the corner than to determine whether it moves across city borders, in part because of the greater heterogeneity of macro places. Weisburd et al. (2006) found in a study of micro-place displacement that drug dealers and prostitutes reported that they were unlikely to move their trade to a different area as a result of a drug market crackdown, because they feared starting over in an unfamiliar area that might also represent somebody else’s “turf” (see also Eck, 1993). If this variability is apparent across micro places, it may be even more pronounced in larger areas. Crime may only be displaced to other parts of the same geographical unit, given the difficulties of relocating criminal operations. We are curious to examine the extent of these variations, and what methodologies and statistical techniques scholars have used to attempt to understand and measure displacement and diffusion at these larger levels. However, we recognize that any difficulties in effectively measuring larger-scale displacement in these primary studies may limit our conclusions, and we will report in detail any issues that arise.

A related problem is that in some interventions the area of treatment may be very large (e.g., a whole neighborhood) but the actual targeting of places will actually be focused on specific places. In “focused deterrence” programs, for example, (see Braga and Weisburd, forthcoming), the intervention is brought to a large area, but police actually focus activities in targeted ways within that larger area. In this review, we will not look at displacement within the larger area of treatment, but rather we are concerned with whether treatment within a neighborhood or community leads to overall displacement or diffusion to other communities or neighborhoods.

A second related problem is that larger scale interventions are more likely to be heterogeneous in their actual implementation. As the unit size increases, the likelihood of uniform application of any social control treatment across the entire unit decreases. Specifically, interventions at micro places will likely receive more consistent attention and application of resources. At larger levels of geography, crime may be displaced to smaller areas that are within the treatment area but received inconsistent implementation of the treatment. Again, such problems are inherent in research of this type, and we recognize the potential limitations and will be transparent in reporting them. Our coding protocol (see below) allows us to record any implementation difficulties reported in the primary studies, and we will pay close attention to the scope of the large-scale interventions included in the review.

Third, the notion of a “large scale geographic unit” adds additional heterogeneity to our studies. Our systematic review defines a “macro place” as any geographic unit from a neighborhood to a whole jurisdiction, and neighborhood-level displacement may not be the same as jurisdiction-level displacement. At the outset, it is difficult to estimate how many studies of any given geographic unit we will include in the final review, but as we describe below, our analyses will not ignore this unit of analysis heterogeneity. If sufficient studies are found within each category of unit, it may be possible to subdivide the studies further, according to the type of intervention. We envisage finding two broad subcategories of intervention that follow macro-geographic lines: policing interventions that are targeted at larger, formal or informal police operational areas (for example, police beats, districts, or neighborhoods), and governmental or legal interventions aimed at larger administrative areas such as cities, states, or countries. There are likely to be theoretical differences between these two types of interventions that would justify their separation in our analysis. For example, policing interventions, even at larger levels of geography, may have higher visibility to the public than changes in legal policy. As a result, policing interventions may have a greater deterrent effect than legal changes in the target areas, which could push crime (or crime control benefits) elsewhere.
While we understand these limitations, we think a systematic review of macro-level displacement remains important for two reasons. First, as noted earlier, police and other social control agencies often use larger geographic units of analysis in their interventions. While recent research suggests that crime is concentrated at micro units of geography (Sherman et al., 1989; Weisburd et al., 2004), and that there is great heterogeneity of crime within macro units of geography (Groff et al., 2010; Weisburd et al., 2010), we cannot simply ignore the large percentage of interventions that are still conducted at larger units. Second, as described in this section, there is not a clear evidence base that suggests that displacement is unlikely at the macro level. Since less attention has been given to large area displacement and diffusion effects, we cannot be confident that the growing body of research suggesting that displacement is not inevitable and is often inconsequential at the micro level necessarily applies to larger units of geography. Thus, we feel it important to undertake a systematic assessment of what we know about displacement and diffusion of crime control benefits in broadly targeted place-based interventions.

3. OBJECTIVES OF THE REVIEW

The objective of this systematic review is to synthesize the extant empirical evidence (published and unpublished) on crime displacement and diffusion of crime prevention benefits across large geographic units as a result of formal social control interventions. Specifically, this review will seek to answer the following questions:

1. To what extent do formal social control interventions or legislative changes targeted at ‘macro places’ (e.g. police beats, police districts, cities, jurisdictions, states and countries) lead to spatial displacement of crime/disorder or diffusion of crime/disorder prevention benefits?

2. Do displacement/diffusion effects vary for different types of interventions and different types of crime or disorder?

3. Do displacement/diffusion effects vary based on the geographic unit of analysis?

4. METHODOLOGY

4.1 Criteria for inclusion and exclusion of studies in the review

The preliminary eligibility criteria are as follows:

1. The main intervention must be an instance of formal social control, such as a law enforcement (policing) strategy targeted at a particular beat or neighborhood (for example, a community policing or problem-oriented policing strategy, or an increase in police patrol or other police resources in a specific beats or precincts); or a legal or policy change (for example, a statewide ordinance to ban “chop shops” for the disposal of stolen vehicles). The instance of formal social control must be implemented with the explicit purpose of controlling or preventing crime or disorder. The intervention may be applied by a governmental agency or private entity with law enforcement functions.
2. The intervention must be targeted at a ‘macro’ geographic area. We define macro areas as larger geographic units at which crime prevention resources are organized and can be distributed. That is, these units have some form of administration or government with at least some control over how crime is addressed in that unit. These include police beats, police districts or precincts, cities, jurisdictions (i.e. counties), states, and countries. We would include non-administrative units only when they are specifically defined in the intervention as representing “neighborhoods” or “communities.” We will collect all studies using neighborhoods or communities (or estates in the UK), but may analyze these studies separately depending on the comparability of these studies to other eligible studies. Smaller geographic areas, such as street segments or small aggregations of street segments (e.g. Sherman & Weisburd, 1995) are classified as ‘micro places’ (see above), and are excluded from this review.

We recognize our examination of macro-level displacement at geographic areas overlaps somewhat with the Bowers et al. (2011) review described above. Bowers and colleagues included some police interventions that focused on neighborhoods or police precincts within a city. Our review takes a more expansive view of the macro level, so while some overlap is likely, we will also collect studies using larger geographic units than Bowers et al. considered. Additionally, we do not limit our review to only police interventions, so we also take a more expansive view of what constitutes crime prevention efforts at geographic areas.

3. The intervention must be assessed using at least one crime or disorder related outcome. This could include measures related to total crime or disorder, total amount of a particular crime or disorder type, or the timing of crime or disorder events. Measures of crime and disorder may overlap: we will include disorder outcomes that are also crimes (for example, prostitution and drug use), and other indicators of social and physical disorder that may not be defined as crime in all jurisdictions (for example, graffiti and littering).

4. The study must measure spatial displacement or diffusion effects. Displacement and diffusion effects need not be the sole focus of the evaluation, but they must be explicitly measured as part of the evaluation (e.g. just noting that displacement did not appear to be an issue without supporting quantitative evidence will be insufficient). Typically, programs will measure crime or disorder outcomes in geographic areas that surround/border the target site for the intervention and the comparison sites (“catchment areas”).

5. We will include randomized experiments or quasi-experiments with a comparison group that did not receive the intervention or change in conditions, as well as quasi-experiments that adjust for secular trends (e.g. citywide crime rates), in our main analysis. We may also include ‘natural experiments’ in which a legal or policy change for a particular area creates a clearly defined comparison area independently of assignment by researchers.

We recognize that many studies of displacement and diffusion are likely to simply look at pre-post changes in the target and surrounding areas (i.e. not make use of a comparison group). We think these studies are highly vulnerable to historical validity biases. For example, if crime goes down in a target area and in the surrounding area, two possible conclusions can be drawn. One is that there is a target crime prevention benefit, and a diffusion of crime prevention benefits to the surrounding area. But absent a comparison condition or some adjustment for secular trends, an equally reasonable conclusion is that there was an historical trend of lower crime in the areas overall. It is sometimes argued that a decrease in crime in the target area but an increase in the surrounding areas would provide a reasonable case for a “displacement” effect even without a comparison group or adjustment for secular trends. However, even here the
“displacement” effect could simply represent a secular trend, while the target area effect represented the success of the intervention in offsetting a general secular trend. Because of our concern with drawing conclusions from such studies, we have made an initial decision to avoid including them in our main quantitative analysis. We do plan to collect such studies in the search stage of our review and report on their outcomes in a narrative review.

Exclusion criteria:

We will exclude qualitative studies or descriptive studies of displacement that do not include some measurable formal social control “intervention.” This would include, for example, reports that speculate upon how U.S. drug control policy in Colombia could be moving drug production to other countries but provide no quantitative data, or studies that examine a police neighborhood-level intervention quantitatively, but provide only brief qualitative speculation on displacement (e.g., “The intervention does not seem to have led to displacement to nearby areas”). We will not exclude studies on the basis of language or geographical location. Limited resources do not allow us to search in languages other than English, but we will obtain and translate non-English language studies with English abstracts or keywords that are identified in our search.

4.2 Search strategy for identification of relevant studies

Several strategies will be used to perform an exhaustive search for literature fitting the eligibility criteria. First, a keyword search will be performed on an array of online abstract databases (see lists of keywords and databases below). Second, we will review the bibliographies of past reviews of crime displacement, while recognizing at the outset that most of these reviews have focused on displacement at micro levels of geography. Third, we will perform forward searches for works that have cited seminal displacement studies. Fourth, we will perform hand searches of leading journals in the field. Fifth, we will search the publications of several research and professional agencies (see list below). Sixth, after finishing the above searches and reviewing the studies as described later, we will e-mail the list to leading scholars knowledgeable in the area of crime displacement and diffusion of crime control benefits. These scholars will be defined as those who authored a study that appears on our inclusion list. This is likely to identify additional studies, as these experts may be able to refer us to studies we may have missed, particularly unpublished pieces such as dissertations. Finally, we will consult with an information specialist at the outset of our review and at points along the way in order to ensure that we have used appropriate search strategies.

The following databases will be searched:

1. Australian Criminology Database (CINCH)
2. Congressional Research Services Reports
3. Criminal Justice Abstracts
4. Criminology Abstracts
6. Criminology
7. Criminology and Public Policy
8. Justice Quarterly
10. Journal of Criminal Justice
11. Police Quarterly
12. Policing
13. Police Practice and Research
14. British Journal of Criminology
15. Journal of Quantitative Criminology
16. Crime and Delinquency
17. Journal of Criminal Law and Criminology
18. Policing and Society
19. Security Journal

5 These will include Barr and Pease (1990), Eck (1993), Hesseling (1994), Guerette (2009), and Guerette and Bowers (2009)
4. Criminal Justice Periodical Index
5. Dissertation Abstracts
6. EconLit
7. Evidence-Based Policing Matrix
8. GEOBASE
9. GeoBib
10. GeoRef
11. Google Scholar
13. GPO (U.S. Government publications)
14. Hein Online
15. JSTOR
16. LexisNexis Law Reviews and Journals
17. MedLine
19. PAIS International
20. PolicyFile
21. ProQuest
22. Research Now
23. Social Science Abstracts (SocialSciAbs)
24. Social Science Citation Index (ISI Web of Knowledge)
25. Social Science Research Network (SSRN)
26. Sociological Abstracts
27. Westlaw
28. Worldwide Political Science Abstracts

The publications of the following groups will be searched:
1. Center for Problem-Oriented Policing (Goldstein Award submissions, Tilley Award Submissions, Situational Crime Prevention Evaluation Database)
2. Criminal Justice Press (Crime Prevention Studies, volumes 1-26)
3. Institute for Law and Justice
5. Office of Community Oriented Policing Services (COPS Office)
6. Police Executive Research Forum
7. Police Foundation
8. Rand Corporation
10. Urban Institute
11. U.S. Drug Enforcement Agency
13. Vera Institute for Justice (policing publications)

The following agencies’ publications will be searched and the agencies will be contacted if necessary:

1. Australian Institute of Criminology
2. Danish National Police (Politi)
3. Finnish Police (Polsi)

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8 We recognize that Google Scholar may yield an unmanageable number of studies (“hits”) and we thus will adjust/restrict our keyword search as necessary when querying this database.
4. Home Office (United Kingdom)
5. Ministry of Justice (United Kingdom)
6. National Policing Improvement Agency - National Police Library (United Kingdom)
7. Netherlands Police (Politie)
8. New Zealand Police
9. New Zealand Ministry of Justice
10. Norwegian Ministry of Justice and the Police
11. Royal Canadian Mounted Police
12. Swedish National Council on Crime Prevention (Brâ)
13. Swedish Police Service

The following keywords will be used to search the databases listed above (in all cases where police is listed we would also use policing and “law enforcement”; in all cases where “diffusion of crime control benefits” is listed we would also use “diffusion of benefits”):

1. Displacement AND crime
2. “Diffusion of benefits” AND crime
3. “Diffusion of crime control benefits” AND crime
4. Drugs AND displacement
5. Drugs AND “diffusion of benefits”
6. Drugs AND spillover
7. Drugs AND deflection
8. “Social control” AND displacement
9. “Social control” AND “diffusion of crime control benefits”
10. Police AND “diffusion of crime control benefits”
11. Police AND displacement
12. Crime AND spillover
13. Crime AND deflection
14. Displacement AND “criminal mobility”
15. Police AND geography AND crime
16. “Problem-oriented policing” AND displacement
17. “Community policing” AND displacement
18. Police AND “situational crime prevention”
19. Policy AND crime AND displacement
20. Policy AND crime AND “diffusion of crime control benefits”
21. Law OR Legislation AND displacement
22. Law OR Legislation AND “diffusion of crime control benefits”
23. Penalty OR Sanction OR Punishment AND Displacement
24. Policy AND drugs AND displacement
25. Policy AND drugs AND “diffusion of crime control benefits”

Several strategies will be used to obtain full-text versions of the studies found through searches of the various abstract databases listed above. First, we will attempt to obtain full-text versions from the electronic journals available through the George Mason University library research database. When electronic versions are not available, we will use print versions of journals available at the library. If the journals or books are not available at George Mason University, we will make use of the Washington Research Library Consortium (WRLC) and the Interlibrary Loan Office (ILL) to try to obtain the journal from the libraries of other area schools. If these methods do not work, we will contact the author(s) of the article and/or the agency that funded the research to try to get a copy of the full-text version of the study.
4.3 Description of methods used in the component studies

The studies included in this review will use methodologies that are variations of a treatment versus comparison group research design with a post-test measure. Some studies may have additional follow-up comparisons. The unit of analysis will be large-scale geographic areas (e.g. neighborhoods, police districts, cities, jurisdictions), and countries. In general the outcomes will likely be drawn primarily from official data on crime and disorder. The studies will also vary in their method of assignment to treatment and comparison areas. A small number may use randomized methods to assign treatment to geographic areas. Quasi-experiments in which specific areas are assigned to treatment or control by a police department and/or research team will likely be more common. Quasi-experimental studies also may adjust crime counts in target and catchment areas for secular (e.g. citywide) crime trends.

All eligible studies will include a post-intervention measure of displacement and/or diffusion of crime control benefits that result from a large-scale social control intervention. These measures will typically be crime or disorder related and be drawn from official police data (usually calls for service or incident report data). Outcome data could also be drawn from observations of physical and/or social disorder or victimization data. As discussed above, displacement and/or diffusion of benefits may be measured according to changes in crime in designated catchment areas adjoining the treatment area (and sometimes also the control area), or by changes in crime types or timing in the treatment area.

4.4 Criteria for determination of independent findings

It is possible that some studies will report multiple findings on different outcomes and/or different samples. In the case of independent samples, the results will be treated as separate findings and all such results will be included in the analysis. An example of this would be a study reporting on the effects of a large-scale intervention on displacement and diffusion in multiple target sites. Other studies may report on multiple crime-related displacement outcomes in the same target site. For cases such as this with multiple findings from the same sample, each will be examined independently to decide how to either combine the findings or to choose the one that best represents the study.

However, some studies could have multiple primary outcomes. Where researchers prioritize specific outcomes in their study, we will note those outcomes as primary outcomes. For example, in some sociological studies researchers note outcomes that were the primary focus of the intervention, but then for the sake of scientific transparency report all available outcomes. We would code a maximum of five primary outcomes, with the criteria of choosing the maximum, average effect size and minimum effect size to offer flexibility in calculating an overall effect size for such studies. The same strategy will be used for any studies reporting the same outcome multiple times with different types of data. Finally, some studies may involve multiple sites within a single city or locality. Such cases will be treated as one study with sub units, and independent effect sizes for primary outcomes will again be created in the same manner as above.

4.5 Details of study coding categories

All eligible studies will be coded on a variety of criteria (including details related to them) including:

a. Reference information (title, authors, publication etc.)
b. Nature and description of selection of site
c. Nature and description of selection of comparison group/site or period
d. The unit of analysis (police district, neighborhood, city, jurisdiction, state, country etc.)
e. The sample size
f. Methodological type (randomized experiment, quasi-experiment or pre-post test)
g. A description of the intervention at a large-scale geographic area
h. A description of the strategy for measuring displacement and diffusion including description of catchment area (when applicable)
i. Dosage intensity and type
j. Implementation difficulties
k. The statistical test(s) used
l. Pre and post outcome measure statistics in intervention area(s), comparison area(s), and catchment area(s)
m. Reports of statistical significance (if any) for both the effects of the intervention and the displacement/diffusion effects
n. Effect size/power (if any)
o. The conclusions drawn by the authors

Cody Telep and Zoe Vitter (PhD-level research assistants at George Mason University) will independently code each eligible study under the guidance of Dr. Charlotte Gill. Where there are discrepancies, Prof. Weisburd and Prof. Teichman will review the study and determine the final coding decision. A preliminary coding sheet is included in the Appendix.

4.6 Statistical procedures and conventions

Meta-analytic procedures will be used to combine data from studies. For eligible studies, with enough data present, effect sizes will be calculated using the standardized measures of effect sizes as suggested in the meta-analytic literature (e.g., Lipsey and Wilson, 2001). Mean effect sizes will be computed across studies and weighted (using the inverse variance weighting procedure) to account for the greater precision of effect size estimates from larger samples. We assume a random effects model for meta-analysis of effect sizes, which accounts for the diversity of crime prevention interventions in large-scale geographic areas.

Reviews of displacement offer a special challenge in meta-analysis because rather than a simple treatment–control comparison of outcomes, we are interested in whether the change in crime in the catchment areas (the places to which crime or crime control benefits might be displaced as a result of an intervention in another area) differs to a greater or lesser extent from the change in the control areas relative to the treatment areas. We believe that an optimal comparison would be the simplest one that compares treatment “catchment” areas to “control” catchment areas. In this scenario, one would assess whether areas around treatment sites experience greater crime increases or decreases than those around control sites. At the same time, we recognize that scholars have recently focused on the overall difference between treatment and catchment areas to compare the change that has occurred in a catchment area relative to a control area. For example, in this scenario a treatment effect must be found for a displacement effect to be measured. Our own view is that displacement or diffusion of benefits may still be observed in catchment areas even when the intervention appears to have no effect in the treatment area, because there may still be a treatment effect that the researchers did not observe (e.g., because of measurement problems or low statistical power: see e.g. Weisburd and Telep, forthcoming). Recognizing that some scholars disagree with our view, we would also assess displacement and
diffusion using the “weighted displacement quotient” (WDQ; Bowers and Johnson, 2003; Guerette and Bowers, 2009).  

We also hope to examine contextual or moderating features of displacement and diffusion effects. Though it is difficult to know at the outset, we think it important to assess differences in displacement and diffusion effects based on variables such as initiative type, crime type targeted, and unit of geography used for intervention. Our moderator analyses will utilize the analog to the ANOVA method (see Lipsey & Wilson, 2001) for categorical moderator variables and meta-analytic regression analysis for continuous moderator variables or analyses involving multiple moderators. At the same time, we recognize that such analyses will be dependent on the number of studies that are available for inclusion in the meta-analysis.

Differential measurement of displacement and diffusion of benefits across studies and heterogeneity in the types of interventions studied also present challenges for our analysis. For example, we expect most studies will examine spatial displacement (the movement of crime from one place to another), but as discussed above, displacement can take several other forms, including temporal and tactical. We will not analyze studies together when their outcomes are based on different displacement constructs. There is no theoretical reason to believe that spatial and temporal displacement, for example, occur via the same mechanisms. If most of the studies we find focus on spatial displacement and only two or three focus on other types, we will report on the non-spatial displacement studies narratively and focus the meta-analysis on spatial displacement outcomes only. Similarly, we recognize that within the broad definition of ‘governmental social control,’ intervention types will include both targeted tactics such as policing strategies, and more generally applicable interventions like legal and policy changes. Again, depending on the number of studies of each type we identify, we will analyze targeted and general interventions separately, and will focus the meta-analysis on one type if insufficient studies are found on the other.

Finally, publication bias is a concern in every meta-analysis. As such, we will use traditional methods to test for the sensitivity of the findings to publication bias in the experimental and quasi-experimental studies. These methods will include a comparison of the mean effect size for published and unpublished studies and, if the number of studies is sufficient, a trim-and-fill analysis (Duval & Tweedie, 2000).

4.7 Treatment of qualitative research

Qualitative studies will not be included in the current review.

5. TIMEFRAME

The review process will adhere to the following schedule:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision and approval of protocol</td>
<td>June 2011</td>
</tr>
<tr>
<td>Search for published and unpublished</td>
<td>April-June 2011</td>
</tr>
</tbody>
</table>

---

9 The WDQ is given by \((D_a/C_a - D_b/C_b)/(R_a/C_a - R_b/C_b)\), where \(R_a\) is the crime count in the treatment area post-intervention, \(R_b\) is the crime count in the treatment area pre-intervention, \(C_a\) is the post-intervention crime count in the comparison area, \(C_b\) is the pre-intervention crime count in the comparison area, \(D_a\) is the post-intervention crime count in the catchment area, and \(D_b\) is the pre-intervention crime count in the catchment area (Bowers et al., 2011).
6. PLANS FOR UPDATING THE REVIEW

The authors plan to update the review every five years.

7. ACKNOWLEDGEMENTS

We are grateful to the National Policing Improvement Agency of the United Kingdom for their support of this systematic review.

8. STATEMENT CONCERNING CONFLICT OF INTEREST

David Weisburd has been a principal investigator on a number of studies that examined displacement and diffusion effects, although these have focused almost entirely on targeted police initiatives. While his work is generally associated with findings of little spatial displacement, he is committed to identifying what research can say about displacement and diffusion in general. For example, while his 2006 Jersey City Study identified little spatial displacement, the qualitative data pointed to evidence of the importance of ‘method displacement’ (i.e., offenders shifting from prostitution on the street to making “appointments” with clients in hotels) as a response to geographically focused police programs.

Doron Teichman has argued in previous work in law review articles that laws and other formal social control interventions can lead to displacement at a larger scale (e.g. crime moving across state boundaries). He is also committed to identifying what the extant literature indicates about large scale displacement.

Cody Telep has recently written a chapter with Prof. Weisburd on the diffusion of crime control benefits, but he has not conducted any empirical research on displacement or diffusion and is committed to identifying what the extant literature shows regarding large scale displacement.

Charlotte Gill and Zoe Vitter have not conducted any prior studies involving displacement and diffusion effects.
9. REFERENCES


10. APPENDIX: CODING SHEET

I. ELIGIBILITY CHECK SHEET

1. Document ID: __ __ __ __
2. First author last name: __________________
3. Study Title: ________________________________
4. Journal Name, Volume and Issue: ___________________________________
5. Document ID: __ __ __ __
6. Coder’s Initials __ __ __
7. Date eligibility determined: ______________
8. A study must meet the following criteria in order to be eligible. Answer each question with a “yes” or a “no”

a. The main intervention is an instance of formal social control that occurs in a geographic area larger than a crime hot spot, with the explicit purpose of controlling or preventing crime or disorder. ______

b. The intervention is assessed using at least one crime or disorder related outcome. This could include measures related to total crime or disorder, total amount of a particular crime or disorder type, or the timing of crime or disorder events. ______

c. The study measures spatial displacement or diffusion effects. Displacement and diffusion effects need not be the sole focus of the evaluation, but they must be explicitly measured (e.g. just noting that displacement did not appear to be an issue without supporting quantitative evidence is insufficient). ______

d. The study uses one of the following research designs: randomized experiments, quasi-experiments with a comparison group that did not receive the intervention or change in conditions, or quasi-experiments that adjusts for secular trends (e.g. citywide crime rates). ______

If the study does not meet the criteria above, answer the following question:

a. The study is a review article that is relevant to this project (e.g. may have references to other studies that are useful, may have pertinent background information) ______

b. The study reports on displacement and/or diffusion but does not include a comparison group or adjustment for secular trends. ______

II. CODING PROTOCOL
Reference Information

1. Document ID: ___ ___ ___ ___
2. Study author(s): ____________________
3. Study title: _______________________
4a. Publication type: ______
   1. Book
   2. Book chapter
   3. Journal article (peer reviewed)
   4. Thesis or doctoral dissertation
   5. Government report (state/local)
   6. Government report (federal)
   7. Police department report
   8. Technical report
   9. Conference paper
   10. Other (specify)
4b. Specify (Other)_____________________
5. Publication date (year): ______________
6a. Journal Name: ____________________
6b. Journal Volume: _______________
6c. Journal Issue: ____________
7. Date range of research (when research was conducted):
   Start: ______________
   Finish: ______________
8. Source of funding for study: ______________
9. Country of publication: ______________
10. Date coded: __________
11. Coder’s Initials: __ __ __

Describing the Intervention

12a. Which of the following best describe the type of intervention? (Select all that apply)
   1. Police crackdown
   2. Problem-oriented policing
3. Community policing
4. Situational crime prevention
5. Other local law enforcement strategy
6. Private security intervention
7. Change in crime policy (state/national)
8. Change in legislation (state/national)
9. Other

12b. Specify (Other)___________________

13. Briefly describe the government social control intervention
__________________________________________________________________________
__________________________________________________________________________

14a. At what type of crime is the intervention directed? (select all that apply)
   1. All offense types
   2. Property offenses
   3. Violent offenses
   4. Drug offenses
   5. Weapons offenses
   6. Sexual offenses
   7. Other

14b. Specify (Other)___________________

**Implementation of Intervention**

15. What did the evaluation indicate about the implementation of the intervention? ______
   1. There were no implementation issues
   2. There were minor implementation issues
   3. There were more substantial implementation issues
   4. There were major implementation issues/the project was not implemented as planned
   5. Unclear/no process evaluation included

16. If the process evaluation indicated there were problems with implementation of the intervention, describe these problems:
__________________________________________________________________________
__________________________________________________________________________

**Location of the Intervention**

17. Country where study was conducted: __________________________

18. City (and state/province, if applicable) where study was conducted: ___________________

*The following questions refer to the area receiving treatment:*
19a. Geographic area receiving treatment: ______
   1. Police beat
   2. Community/neighborhood
   3. Police district/precinct
   4. Entire city
   5. County
   6. Province or State
   7. Country
   8. Other (specify)

19b. Specify (Other)___________________

20. What is the exact geographic area receiving treatment?
   _______________________________________________________________

The following refer to the area not receiving treatment (applicable if there is a separate comparison group in the study)

21a. Geographic area NOT receiving treatment: ______
   1. Police beat
   2. Community/neighborhood
   3. Police district/precinct
   4. Entire city
   5. County
   6. Province or State
   7. Country
   8. Other (specify)

21b. Specify (Other)___________________

22. What is the exact geographic area not receiving treatment?
   _______________________________________________________________

The following refer to the area used for measuring displacement/diffusion effects

23a. Does the study include a separate catchment area around the treatment area for measuring displacement/diffusion effects? ______
   1. Yes
   2. No

23b. If yes, what geographic area was used for measuring displacement/diffusion effects:
   _______________________________________________________________
6. Province or State
7. Country
8. Other (specify)

23c. Specify (Other)_____________________

24a. Does the study also include a catchment area for displacement/diffusion around the control area?
   1. Yes
   2. No
   3. No control area

24b. If yes, what geographic area was used for measuring displacement/diffusion effects:
     ______
     1. Police beat
     2. Community/neighborhood
     3. Police district/precinct
     4. Entire city
     5. County
     6. Province or State
     7. Country
     8. Other (specify)

24c. Specify (Other)_____________________

25. What is the exact geographic area used to measure displacement/diffusion effects (e.g. a catchment area)?
   _____________________________________________________________________________
   _____________________________________________________________________________

Assessment of Displacement/Diffusion:

26a. What type(s) of crime displacement was measured? (Select all that apply)
   1. Spatial/Geographic
   2. Temporal
   3. Target
   4. Tactical
   5. Offense
   6. Offender/Perpetrator

26b. Specify (Other)_____________________

27a. What type(s) of diffusion of crime control benefits was measured? (Select all that apply)
   1. Spatial/Geographic
   2. Temporal
   3. Target
   4. Tactical
   5. Offense
   6. Offender/Perpetrator

27b. Specify (Other)_____________________

25
Methodology/Research design:

28a. Type of study: _____
   1. Randomized experiment
   2. Nonequivalent control group (quasi-experimental)
   3. Multiple time series (quasi-experimental)
   4. Interrupted time series
   5. Natural experiment
   6. Other (specify)

28b. Specify (Other)___________________

Outcomes reported (Main Effect of Intervention) (Note that for each outcome, a separate coding sheet is required)

29. How many crime/disorder outcomes are reported in the study? _____

30. What is the specific outcome recorded on this coding sheet?
   ________________________________________________________________

31. Was it the primary outcome of the study? ______
   1. Yes
   2. No
   3. Can’t tell/researcher did not prioritize outcomes

32a. Was this initially intended as an outcome of the study? ______
   1. Yes
   2. No (explain)
   3. Can’t tell

32b. If no, explain why:
   __________________________________________________________________
   __________________________________________________________________
   __________________________________________________________________

Outcomes reported (Displacement/Diffusion Effects) (Note that for each outcome, a separate coding sheet is required)

33. How many crime/disorder outcomes related to displacement and diffusion of crime control benefits are reported in the study? _____

34. What is the specific outcome recorded on this coding sheet?
   ________________________________________________________________

35. Does this outcome match the main effect outcome noted in question 30?
   1. Yes
   2. No
**Dependent Variable (Main Effect of Intervention)**

36a. What type of data was used to measure the outcome covered on this coding sheet? _____
   1. Official data (from police/government)
   2. Researcher observations
   3. Self-report/victimization surveys
   4. Other (specify)

36b. Specify (Other)___________________

37a. If official data was used, what specific type(s) of data were used? (Select all that apply)
   1. Calls for service (911 calls)/crime reports
   2. Arrests
   3. Incident reports
   4. Level of citizen complaints
   5. Other (specify)
   6. N/A (official data not used)

37b. Specify (Other)___________________

38a. If self-report/victimization surveys were used, who was surveyed? (Select all that apply)
   1. Residents/community members
   2. Business owners
   3. Elected officials
   4. Government/social service agencies
   5. Other (specify)
   6. N/A (self-report surveys not used)

38b. Specify (Other)___________________

39. Did the researcher assess the quality of the data collected?
   1. Yes
   2. No

40a. Did the researcher(s) express any concerns over the quality of the data?
   1. Yes
   2. No

40b. If yes, explain
   ________________________________________________________________________
   ________________________________________________________________________
   ________________________________________________________________________

**Dependent Variable (Displacement/Diffusion Effects)**

41a. What type of data was used to measure the outcome covered on this coding sheet? _____
   1. Official data (from the police)
   2. Researcher observations
   3. Self-report/victimization surveys
   4. Other (specify)
41b. Specify (Other)___________________

42a. If official data was used, what specific type(s) of data were used? (Select all that apply)
   1. Calls for service (911 calls)/crime reports
   2. Arrests
   3. Incident reports
   4. Level of citizen complaints
   5. Other (specify)
   6. N/A (official data not used)

42b. Specify (Other)___________________

43a. If self-report/victimization surveys were used, who was surveyed? (Select all that apply)
   1. Residents/community members
   2. Business owners
   3. Elected officials
   4. Government/social service agencies
   5. Other (specify)
   6. N/A (self-report surveys not used)

43b. Specify (Other)___________________

44. Did the researcher assess the quality of the data collected?
   1. Yes
   2. No

45a. Did the researcher(s) express any concerns over the quality of the data?
   1. Yes
   2. No

45b. If yes, explain
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

46a. Were any sources of nonequivalence or bias reported or implied in the application of the
    intervention or its analysis?
   1. Yes
   2. No

46b. If yes, what sources of nonequivalence or bias were identified? (check all that apply and
    explain)
   1. Extraneous events or factors occurring during the intervention period; historical artifacts
   2. Selection of treatment area based on high baseline crime rate
   3. Measurement confounds (measure changes over time)
   4. Differential attrition, breakdown of randomization, or contamination of control group
   5. Pre-test analyses indicated nonequivalence between treatment and control groups
   6. Statistical analyses failed to adjust for nonequivalence at baseline
   7. Inappropriate statistical analysis for design
8. Any outcomes measured by reporters that did not have corresponding outcome measures in the results

46c. If yes, did the researchers discuss the implications of the bias for their findings?
   1. Yes
   2. No

**Effect size/Reports of statistical significance**

**Sample size**

47. Based on the unit of analysis for this outcome, what is the total sample size in the analysis (e.g. total number of jurisdictions targeted)?

48. What is the total sample size of the treatment group (group that receives the intervention)?

49. What is the total sample size of the control group (if applicable)?

50. What is the total sample size of the group used to measure displacement/diffusion effects? (e.g. the number of catchment areas)

51a. Was attrition a problem in the analysis for this outcome?
   1. Yes
   2. No

51b. If attrition was a problem, provide details (e.g. how many cases lost and why they were lost).

52a. What do the sample sizes above refer to?
   1. Crimes
   2. People
   3. Geographic areas/places
   4. Other (specify)

52b. Specify (other) ________________

**Effect Size Data (Main Effect)**

53. Raw difference favors (i.e. shows more success for):
   1. Treatment group
   2. Control group
   3. Neither (exactly equal)
9. Cannot tell (or statistically insignificant report only)

54. Did a test of statistical significance indicate statistically significant differences between either the control and treatment groups or the pre and post tested treatment group? _____
   1. Yes
   2. No
   3. Can’t tell
   4. N/A (no testing completed)

55. Was a standardized effect size reported?
   1. Yes
   2. No

56. If yes, what was the effect size? ______

57. If yes, page number where effect size data is found ______

58. If no, is there data available to calculate an effect size?
   1. Yes
   2. No

59a. Type of data effect size can be calculated from:
   1. Means and standard deviations
   2. t-value or F-value
   3. Chi-square (df=1)
   4. Frequencies or proportions (dichotomous)
   5. Frequencies or proportions (polychotomous)
   6. Other (specify)

59b. Specify (other) __________

Pre-post Study Counts

60a. Pre-period number of events for current outcome in target area ______

60b. During intervention-period number of events for current outcome in target area ______

60c. Post-period Number of events for current outcome in target area ______

60d. Pre-period number of events for current outcome in comparison area ______

60e. During intervention-period number of events for current outcome in comparison area ______

60f. Post-period number of events for current outcome in comparison area ______

61a. Did the evaluation control for validity by using multivariate methods (i.e. regression) to assess the impact of the program?
   1. Yes
   2. No

61b. If yes, did this analysis find that the intervention reduced the outcome at a statistically significant level?
   1. Yes
   2. No
3. N/A

*Means and Standard Deviations*

62a. Treatment group mean. ______  
62b. Control group mean. ______  

63a. Treatment group standard deviation. ______  
63b. Control group standard deviation. ______  

*Proportions or frequencies*

64a. \( n \) of treatment group with a successful outcome. ______  
64b. \( n \) of control group with a successful outcome. ______  

65a. Proportion of treatment group with a successful outcome. ______  
65b. Proportion of treatment group with a successful outcome. ______  

*Significance Tests*

66a. \( t \)-value ______  
66b. \( F \)-value ______  
66c. Chi-square value \((df=1)\) ______  

*Calculated Effect Size*

67a. Effect size ______  
67b. Standard error of effect size ______  

*Effect Size Data (Displacement/Diffusion Effect)*

68. Raw difference favors (i.e. shows more success for):  
   1. Displacement  
   2. Diffusion of crime control benefits  
   3. Neither (exactly equal)  
   9. Cannot tell (or statistically insignificant report only)  

69. Did a test of statistical significance indicate statistically significant differences between the control and treatment group catchment areas? ______  
   1. Yes  
   2. No  
   3. Can’t tell  
   4. N/A (no testing completed)  

70. Was a standardized effect size reported?  
   1. Yes  
   2. No  

71. If yes, what was the effect size? ______
72. If yes, page number where effect size data is found _______

73. If no, is there data available to calculate an effect size?
   1. Yes
   2. No

74a. Type of data effect size can be calculated from:
   1. Means and standard deviations
   2. *t*-value or *F*-value
   3. Chi-square (df=1)
   4. Frequencies or proportions (dichotomous)
   5. Frequencies or proportions (polychotomous)
   6. Other (specify)

74b. Specify (other) __________

**Pre-post Study Counts**

75a. Pre-period number of events for current outcome in target catchment area _______
75b. During intervention-period number of events for current outcome in target catchment area _______
75c. Post-Period Number of events for current outcome in target catchment area _______
75d. Pre-period number of events for current outcome in comparison catchment area _______
75e. During intervention-period number of events for current outcome in comparison catchment area _______
75f. Post-Period number of events for current outcome in comparison catchment area _______
75g. Weighted Displacement Quotient (WDQ) _______

76a. Did the evaluation of displacement/diffusion control for validity by using multivariate methods (i.e. regression) to assess the impact of the program on displacement?
   1. Yes
   2. No

76b. If yes, did this analysis find that the intervention impacted displacement/diffusion at a statistically significant level?
   1. Yes
   2. No
   3. N/A

**Means and Standard Deviations**

77a. Treatment catchment area mean. _____
77b. Control catchment area mean. _____

78a. Treatment catchment area standard deviation. _____
78b. Control catchment area standard deviation. _____

**Proportions or frequencies**
79a. \( n \) of treatment catchment area with a successful outcome. ______
79b. \( n \) of control catchment area with a successful outcome. ______

80a. Proportion of treatment catchment area with a successful outcome. ______
80b. Proportion of control catchment area with a successful outcome. ______

**Significance Tests**

81a. \( t \)-value ______
81b. \( F \)-value ______
81c. Chi-square value \((df=1)\) ______

**Calculated Effect Size**

82a. Effect size ______
82b. Standard error of effect size ______

**Conclusions made by the author(s)**

*Note that the following questions refer to conclusions about the effectiveness of the intervention in regards to the current outcome/problem being addressed on this coding sheet.*

83. Conclusion about the impact of the intervention on crime in the target area? ______
   1. The authors conclude intervention led to a decline in crime
   2. The authors conclude the intervention did not have a significant impact on crime
   3. The authors conclude the intervention had a significant backfire impact on crime
   4. Unclear/no conclusion stated by authors

84a. Did the assessment find evidence of geographic/spatial displacement of crime? ______
   1. Yes
   2. No
   3. Not tested
   4. Can’t tell

84b. If yes, was there evidence of overall spatial displacement or just displacement of certain crime types?
   1. Overall displacement
   2. Certain crime types
   3. N/A- no spatial displacement or not measured
   4. Can’t tell

84c. If certain crime types, specify which types of crime evidenced spatial displacement
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________

85a. Did the assessment find evidence of temporal displacement of crime? ______
   1. Yes
   2. No
   3. Not tested
   4. Can’t tell
85b. If yes, was there evidence of overall temporal displacement or just displacement of certain
crime types?
   1. Overall displacement
   2. Certain crime types
   3. N/A- no temporal displacement or not measured
   4. Can’t tell

85c. If certain crime types, specify which types of crime evidenced temporal displacement
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

86a. Did the assessment find evidence of tactical displacement? _____
   1. Yes
   2. No
   3. Not tested
   4. Can’t tell

86b. If yes, was there evidence of overall tactical displacement or just displacement of certain
crime types?
   1. Overall displacement
   2. Certain crime types
   3. N/A- no tactical displacement or not measured
   4. Can’t tell

86c. If certain crime types, specify which types of crime evidenced tactical displacement
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

87a. Did the assessment find evidence of target displacement? _____
   1. Yes
   2. No
   3. Not tested
   4. Can’t tell

87b. If yes, was there evidence of overall target displacement or just displacement of certain
crime types?
   1. Overall displacement
   2. Certain crime types
   3. N/A- no target displacement or not measured
   4. Can’t tell

87c. If certain crime types, specify which types of crime evidenced target displacement
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

88a. Did the assessment find evidence of offense displacement? _____
   1. Yes
2. No
3. Not tested
4. Can’t tell

88b. If yes, was there evidence of overall offense displacement or just displacement of certain crime types?
   1. Overall displacement
   2. Certain crime types
   3. N/A- no offense displacement or not measured
   4. Can’t tell

88c. If certain crime types, specify which types of crime evidenced offense displacement

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

89a. Did the assessment find evidence of offender displacement? ______
   1. Yes
   2. No
   3. Not tested
   4. Can’t tell

89b. If yes, was there evidence of overall offender displacement or just displacement of certain crime types?
   1. Overall displacement
   2. Certain crime types
   3. N/A- no offender displacement or not measured
   4. Can’t tell

89c. If certain crime types, specify which types of crime evidenced offender displacement

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

90. Did the author(s) conclude there a relationship between the intervention and overall crime displacement? ______
   1. Yes
   2. No
   3. Can’t tell

91. If the authors provided a possible explanation for crime displacement, provide that here. If not or if no overall displacement, write N/A

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

92a. Did the assessment find evidence of geographic/spatial diffusion of crime control benefits?

   1. Yes
   2. No
   3. Not tested

35
4. Can’t tell

92b. If yes, was there evidence of overall spatial diffusion of crime control benefits or just diffusion for certain crime types?
   1. Overall diffusion of crime control benefits
   2. Certain crime types
   3. N/A- no spatial diffusion of crime control benefits or not measured
   4. Can’t tell

92c. If certain crime types, specify which types of crime evidenced spatial diffusion of crime control benefits

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

93a. Did the assessment find evidence of temporal diffusion of crime control benefits? _____
   1. Yes
   2. No
   3. Not tested
   4. Can’t tell

93b. If yes, was there evidence of overall temporal diffusion of crime control benefits or just diffusion for certain crime types?
   1. Overall diffusion of crime control benefits
   2. Certain crime types
   3. N/A- no temporal diffusion of crime control benefits or not measured
   4. Can’t tell

93c. If certain crime types, specify which types of crime evidenced temporal diffusion of crime control benefits?

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

94a. Did the assessment find evidence of tactical diffusion of crime control benefits? _____
   1. Yes
   2. No
   3. Not tested
   4. Can’t tell

94b. If yes, was there evidence of overall tactical diffusion of crime control benefits or just diffusion for certain crime types?
   1. Overall diffusion of crime control benefits
   2. Certain crime types
   3. N/A- no tactical diffusion of crime control benefits or not measured
   4. Can’t tell

94c. If certain crime types, specify which types of crime evidenced tactical diffusion of crime control benefits?
95a. Did the assessment find evidence of target diffusion of crime control benefits? _____
1. Yes
2. No
3. Not tested
4. Can’t tell

95b. If yes, was there evidence of overall target diffusion of crime control benefits or just diffusion for certain crime types?
1. Overall diffusion of crime control benefits
2. Certain crime types
3. N/A- no target diffusion of crime control benefits or not measured
4. Can’t tell

95c. If certain crime types, specify which types of crime evidenced target diffusion of crime control benefits?
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

96a. Did the assessment find evidence of offense diffusion of crime control benefits? _____
1. Yes
2. No
3. Not tested
4. Can’t tell

96b. If yes, was there evidence of overall offense diffusion of crime control benefits or just diffusion for certain crime types?
1. Overall diffusion of crime control benefits
2. Certain crime types
3. N/A- no offense diffusion of crime control benefits or not measured
4. Can’t tell

96c. If certain crime types, specify which types of crime evidenced offense diffusion of crime control benefits?
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

97a. Did the assessment find evidence of offender diffusion of crime control benefits? _____
1. Yes
2. No
3. Not tested
4. Can’t tell

97b. If yes, was there evidence of overall offender diffusion of crime control benefits or just diffusion for certain crime types?
1. Overall diffusion of crime control benefits
2. Certain crime types
3. N/A - no offender diffusion of crime control benefits or not measured
4. Can’t tell

97c. If certain crime types, specify which types of crime evidenced offender diffusion of crime control benefits?
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

98. Did the author(s) conclude there a relationship between the intervention and an overall diffusion of crime control benefits? ______
   1. Yes
   2. No
   3. Can’t tell

99. If the authors provided a possible explanation for overall diffusion of crime control benefits, provide that here. If not or if no overall diffusion of benefits, write N/A
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

100. What did the authors conclude in regards to the relationship between main intervention effects and displacement/diffusion effects? ______
   1. Crime displacement was greater than crime reduction from intervention
   2. Crime displacement was less than crime reduction from intervention
   3. N/A - main intervention had no significant impact
   4. N/A - no assessment made

101. Did the authors measure cost effectiveness?
   1. Yes
   2. No

102. If yes, what did they conclude about the cost-effectiveness of the police intervention?
   1. Intervention was cost-effective
   2. Intervention was not cost-effective
   3. Unclear
   4. N/A not measured

103. Additional notes about conclusions:
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

104. Additional notes about study:
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________