



**F I N N**

THE JOHN F. FINN INSTITUTE  
FOR PUBLIC SAFETY, INC.

## **DDACTS in Theory and Practice**

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The John F. Finn Institute for Public Safety, Inc., is an independent, not-for-profit and non-partisan corporation, whose work is dedicated to the development of criminal justice strategies, programs, and practices that are effective, lawful, and procedurally fair, through the application of social science findings and methods. The Institute conducts social research on matters of public safety and security – crime, public disorder, and the management of criminal justice agencies and partnerships – in collaboration with municipal, county, state, and federal criminal justice agencies, and for their direct benefit. The findings of the Institute’s research are also disseminated through other media to criminal justice professionals, academicians, elected public officials, and other interested parties, so that those findings may contribute to a broader body of knowledge about criminal justice and to the practical application of those findings in other settings.

The Finn Institute was established in 2007, building on a set of collaborative projects and relationships with criminal justice agencies dating to 1998. The first of those projects, for which we partnered with the Albany Police Department (APD), was initiated by John Finn, who was at that time the sergeant who commanded the APD’s Juvenile Unit. Later promoted to lieutenant and assigned to the department’s Administrative Services Bureau, he spearheaded efforts to implement problem-oriented policing, and to develop an institutional capability for analysis that would support problem-solving. The APD’s capacity for applying social science methods and results thereupon expanded exponentially, based on Lt. Finn’s appreciation for the value of research, his keen aptitude for analysis, and his vision of policing, which entailed the formulation of proactive, data-driven, and – as needed – unconventional strategies to address problems of public safety. Lt. Finn was fatally shot in the line of duty in 2003. The Institute that bears his name honors his life and career by fostering the more effective use of research and analysis within criminal justice agencies, just as Lt. Finn did in the APD.

## Introduction

Data-Driven Approaches to Crime and Traffic Safety (DDACTS) is a NHTSA/BJA initiative, the core of which consists of putting traffic enforcement to work in addressing both crime and traffic safety problems. It incorporates elements of problem-oriented policing, particularly in defining the targets of police efforts as clusters of related incidents, and could encompass other (non-enforcement) approaches to these problems as well. DDACTS also features the use of partnerships with other agencies to amplify the effects of traffic enforcement.<sup>1</sup>

In this paper, we offer some background on DDACTS. We briefly review the lineage of DDACTS, as the most recent outgrowth of data-driven policing, and thereby set DDACTS in the context of its strategic heritage: directed patrol, problem-oriented policing, and Compstat. We then review theory and evidence on the spatial concentration of crime and crashes, and on the crime and crash reduction effects of spatially focused enforcement initiatives, of which DDACTS is one, to better understand the potential and the limitations of DDACTS enforcement. We then briefly discuss the virtues of problem-solving, multi-agency partnerships, and offender-based approaches to crime and crash problems, which can complement directed traffic enforcement. Finally, we consider some of the implications for the practice of DDACTS.

## The Emergence of Data-Driven Policing

DDACTS follows and builds on several developments in policing over the past 30 years, in each of which the use of data to drive police operations is central. These developments include directed patrol, problem-oriented policing, and Compstat.

### *Directed Patrol*

Directed patrol, which was introduced more than thirty years ago, involves the deployment of police resources to high-risk targets. Kansas City, for example experimented with two forms of directed patrol in the 1970s: location-oriented patrol and perpetrator-oriented patrol, which directed both patrol officers and a tactical unit to high-crime areas and high-risk offenders, respectively.<sup>2</sup> But the use of real-time data to drive these and other police operations has become more prevalent and more sophisticated in the last ten years, as developments in information technology have reduced the cost and improved the capacity of law enforcement agencies to process the data on which managers can rely to allocate resources to address crime and disorder problems. Patrols can be deployed to hot spots during “hot” times based on spatial and temporal analyses of crime. Police managers can consider day-of-week and time-of-day analyses to pinpoint when and where crime spikes, and crime-specific analyses to pinpoint concentrations of robberies or burglaries, for example.

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<sup>1</sup> See James H. Burch, II, and Michael N. Geraci, “Data-Driven Approaches to Crime and Traffic Safety,” *Police Chief* 76 (July 2009), pp. 18-23.

<sup>2</sup> Tony Pate, Robert A. Bowers, and Ron Parks, *Three Approaches to Criminal Apprehension in Kansas City: An Evaluation Report* (Washington: Police Foundation, 1976).

### *Problem-Oriented Policing*

Problem-solving, as the term is now used in police circles, is a process that focuses attention on constellations of related incidents – “problems” – and the conditions that contribute to them, on the plausible assumption that if one or more of the conditions can be changed, the problem may be ameliorated or even solved entirely.<sup>3</sup> Such problem-oriented policing is contrasted with incident-driven policing, which provides only for handling incidents one by one, as police typically do when they respond to 911 and other calls for service. Problem-solving requires not only a recognition that incidents are related to one another, but also careful analysis of conditions that contribute to the problem and that are within the power of police (and/or their partners) to alter.

Moreover, problem-solving is thought to be most effective when the search for responses that might alter the identified conditions is not limited to the enforcement of the law. The popular problem analysis triangle (and the companion crime triangle) is a tool in whose use many officers have been trained, and it directs attention to the three components of crime problems: an offender, a victim, and a location.<sup>4</sup> Each of these may afford some leverage on the problem, though police attention has traditionally focused on the offender. Situational crime prevention, by contrast, focuses on features of the location, changes in which may reduce the opportunities for offending. Similarly, changes in the behavior of would-be victims may also reduce the opportunities for offending. As we discuss below, research on police operations suggest that police are most effective when they employ diverse tactics with a strategic focus.

With some minor adjustment, we might transform the crime triangle into a crash triangle, whose three sides include the driver, the vehicle, and the location. Traffic enforcement tends to concentrate on the driver’s behavior, while automotive engineers attend to the features of the vehicle, and traffic engineers attend to features of the road (locations).

### *Compstat*

Compstat is an administrative innovation introduced as part of the “reengineering” of the New York City Police Department wrought by Commissioner William Bratton, in the mid-1990s.<sup>5</sup> Commissioner Bratton gave precinct commanders more authority to develop operational plans and to allocate their resources accordingly, and through Compstat, they were held accountable for using their authority to achieve crime-reduction results. NYPD’s Compstat was – correctly or not – credited with the dramatic decline in New York City’s crime rate through the latter half of the 1990s, and consequently it has been widely emulated by police agencies across the U.S. and across the world. Compstat *can* be an organizational mechanism that serves to, first, direct attention to important police outcomes – crime, disorder, fear of crime, quality of

<sup>3</sup> See, generally, Herman Goldstein, *Problem-Oriented Policing* (New York: McGraw-Hill, 1990), and Anthony A. Braga, *Problem-Oriented Policing and Crime Prevention* (2<sup>nd</sup> ed.; Monsey, NY: Criminal Justice Press, 2008).

<sup>4</sup> Ronald V. Clarke and John E. Eck, *Crime Analysis for Problem Solvers in 60 Small Steps* (Center for Problem-Oriented Policing, n.d.).

<sup>5</sup> William Bratton, *Turnaround: How America’s Top Cop Reversed the Crime Epidemic* (New York: Random House, 1998), especially chap. 14. Also see Eli B. Silverman, *NYPD Battles Crime: Innovative Strategies in Policing* (Boston: Northeastern University Press, 2001).

life, citizen satisfaction, and even traffic safety – and second, to stimulate the formulation and implementation of tactical and strategic operations that are directed toward those outcomes.<sup>6</sup> Like problem-solving, Compstat is data-driven and outcome oriented, and when it works well, it prompts police at many levels in the chain of command to focus on outcomes and approach problems creatively, partly because it provides for managerial oversight and “relentless” follow-up.

## Theory

### *Crime*

Both police and criminologists have long recognized that crime is not randomly distributed across urban landscapes, though our understanding of the degree of spatial concentration, and of the forces that produce this concentration, is deeper now than it was even twenty years ago. An examination of calls for service in Minneapolis showed that among the 115,000 addresses and intersections in that city, police were dispatched to 70,000 at least once in the course of a one-year period, but nearly half of those each generated only one call, while 3 percent of the addresses accounted for 50 percent of the calls.<sup>7</sup> These hot spots in Minneapolis each had at least 15 calls. And it appears that hot spots tend to stay hot. In Seattle, an analysis of incident reports from 1989 to 2002 showed that over this fourteen-year period, 4 to 5 percent of the street segments accounted for about half of the incidents each year, *and* 2 percent of the street segments were stable with slightly more than 10 incidents per year, while an additional 4 percent of the segments were stable with about 7 incidents per year.<sup>8</sup>

Criminological theory and research has identified a number of factors that shape the spatial distribution of crime. Routine activities theory directs attention to the behavior of victims as well as of offenders, and the presence or absence of guardians, as factors that structure criminal opportunities. Crimes occur where and when motivated offenders and suitable targets converge in the absence of capable guardians.<sup>9</sup> The crime triangle followed from this theory, and so too have insights into the social forces that inhibit crime: guardians, handlers, and place managers. These dynamics can be observed at a broad social level – as when an increase in two-income households, in the 1960s and 70s, weakened guardianship in the home during the workday, making it a more vulnerable target for burglary – and at the micro-social level of individual encounters between offender and target. The encounter could be planned by the offender or serendipitous, but in either case crime is most likely where (and when) guardianship is weak, at places that are not well managed, and by offenders

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<sup>6</sup> Mark H. Moore, *Recognizing Value in Policing: The Challenge of Measuring Police Performance* (Washington: Police Executive Research Forum, 2002).

<sup>7</sup> Lawrence W. Sherman, Patrick R. Gartin, and Michael E. Buerger, “Hot Spots of Predatory Crime: Routine Activities and the Criminology of Place,” *Criminology* 27 (February 1989): 27-55.

<sup>8</sup> David Weisburd, Shawn Bushway, Cynthia Lum, and Sue-Ming Yang, “Trajectories of Crime at Places: A Longitudinal Study of Street Segments in the City of Seattle,” *Criminology* 42 (2004): 283-321.

<sup>9</sup> Lawrence E. Cohen and Marcus Felson, “Social Change and Crime Rate Trends: A Routine Activity Approach,” *American Sociological Review* 44 (1979): 588-605. More generally, see Lawrence W. Sherman, “Hot Spots of Crime and Criminal Careers of Places” in John E. Eck and David Weisburd (eds.), *Crime and Place* (Monsey, NY: Criminal Justice Press, 1995).

whose conduct is not well regulated by “handlers,” such as parents, relatives, friends, teachers, or co-workers.

Guardianship takes many different forms; it is to some extent a function of the self-protective actions of would-be victims (or other targets), and to some extent a function of the social ecology and physical environment of the location. People who take precautions such as notifying their neighbors that they will be vacationing, and cancelling newspaper delivery, make their homes better guarded and less attractive as targets of burglary; similarly, convenience stores that provide for two cashiers rather than a single cashier are better guarded. People who engage in illicit transactions, say for drugs or sex, are attractive targets of robbery, partly because they tend to carry cash (or drugs), and partly because their involvement in illicit activity discourages cooperation with law enforcement, and thus they compromise guardianship; so too do college students, whose lifestyles tend to expose them to risk. Locations that are better illuminated, that are staffed by security, and that are inhabited by people who are prone to intervene to exercise social control over the area, are better guarded.

Place managers, such as landlords or rental property managers, bartenders, and bus drivers can be instrumental in regulating the behavior of people in the locations for which they are responsible, and while they often resist cooperating with the police, they can sometimes be encouraged, trained, and/or prodded into taking steps that reduce the opportunities for crime.

Crime pattern theory directs attention to how the elements of crime – offenders, targets – move and, potentially, converge. The key components of crime pattern theory are nodes, paths, and edges. Nodes are the points of origin and destination in people’s movements, such as home, work, school, and sites of leisure activity. Paths are the routes that people travel among the nodes. Some empirical research has examined offenders’ journey to crime, i.e., how far, and to what kinds of places, offenders travel to the sites of their offenses. While there is some variation across offenders and from one offense type to another, offenders typically commit their crimes in fairly close proximity to their homes (or other nodes), in locations with which they are familiar – their “awareness space” – and in which they fit in, socio-demographically. The boundaries of these social activity spaces are “edges,” near which crime may occur in disproportionate numbers because offenders from neighboring spaces venture no further into an area with contrasting social characteristics.

Places with a high volume of people, residing or passing through, are the sites of large numbers of encounters between motivated offenders and suitable targets as the former recognize and exploit opportunities to victimize the latter. Thus shopping malls, train stations, and sports arenas are all “crime generators.” Places to which offenders gravitate for the purpose of committing crime, such as bar districts, retail drug markets, and large parking lots may be crime attractors. Bars have figured prominently as a type of “risky facility” among crime attractors.<sup>10</sup>

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<sup>10</sup> Clark and Eck, *Crime Analysis for Problem Solvers in 60 Small Steps*, op cit., chap. 28. More generally, see Caterina Gouvis Roman, Shannon Reid, Avi Bhati, and Bogdan Tereshchenko, *Alcohol Outlets as Attractors of Violence and Disorder: A Closer Look at the Neighborhood Environment* (Washington: The Urban Institute, 2008). On crime generators and crime attractors, see Paul Brantingham and Patricia Brantingham, “Crime Pattern Theory,” in Richard Wortley and Lorraine Mazerolle (eds.), *Environmental Criminology and Crime Analysis* (Portland, Ore.: Willan Publishing, 2008).

Thus we can identify several of the social and economic forces that influence the distribution of street crime across a city's neighborhoods, and that also shape the distribution of crime among specific locations – addresses or intersections – within a neighborhood. At either level, the distribution is not random: situational opportunities for crime are not randomly distributed. Police can and should take account of these spatial dynamics in devising interventions.

Moreover, police can proceed with spatial strategies without assuming that crime will be inevitably displaced to other locations, yielding no net decrease in crime. The social, economic, and physical factors that shape the spatial distribution of crime also affect the redistribution of crime, and consequently, spatially focused enforcement is not ineluctably undermined by displacement.<sup>11</sup> To the contrary, it is more common to find the converse of displacement: a “diffusion of benefits” from the targeted area to surrounding areas, which we might attribute to offenders’ overestimation of the spatial parameters of the target area and, hence, of their risk of detection outside of but near the target area.

### *Crashes*

Like crime, vehicle crashes are not randomly distributed across space. Traffic safety researchers have developed several methods of identifying high-crash locations, measures of which can serve to establish priorities for crash-reduction interventions.<sup>12</sup> Crashes may cluster due to a convergence of environmental factors and behavioral factors, in a “crash generator” that might be analogous to a crime generator. The former include structural factors, such as the road alignment (straight or curved) or the configuration of the intersection, traffic signals, speed limits, and urbanization, and dynamic factors, such as precipitation and illumination. Behavioral factors include excessive speed, intoxication, drowsiness, inattentiveness, and so forth. While traffic engineers may be able to alter environmental factors that contribute to the frequency or severity of crashes, police must address behavioral factors. Enforcement is the primary means that police have to discourage unsafe driving behaviors, though other means, such as public education, are also options.

### *Spatially Focused Enforcement*

Spatially focused enforcement is demonstrably effective. The National Research Council's Committee to Review Research on Police Policy and Practices concluded, after a thorough review of the extant literature, that a strong body of evidence supports a focused geographical approach to crime problems.<sup>13</sup> The spatial parameters of

<sup>11</sup> David Weisburd, Laura A. Wyckoff, Justin Ready, John E. Eck, Joshua C. Hinkle, and Frank Gajewski, “Does Crime Just Move Around the Corner? A Controlled Study of Spatial Displacement and Diffusion of Crime Control Benefits,” *Criminology* 44 (2006): 549-591.

<sup>12</sup> See, e.g., Wen Chang and Simon P. Washington, “Experimental Evaluation of Hotspot Identification Methods,” *Accident Analysis and Prevention* 37 (2005): 870-881.

<sup>13</sup> National Research Council, *Fairness and Effectiveness in Policing: The Evidence*, Committee to Review Research on Police Policy and Practices, Wesley Skogan and Kathleen Frydl (eds.) (Washington, DC: National Academies Press, 2004), chap. 6. The discussion that follows here draws from our treatment of tactical patrol; see Robert E. Worden and Sarah J. McLean, *Tactical Patrol: A Synopsis* (Albany: The John Finn Institute for Public Safety, Inc, 2008), accessible at <http://finninstitute.org/publications/synopses/>.

targeted locations can be as delimited as a single street block or as broad as an entire city. Moreover, the intensity of spatially focused patrol varies with not only the size of the target area but also with the resources devoted to it, and such operations can provide for enforcement content of several different kinds. But they have common elements:

- They are proactive and aggressive.
- Officers use their uncommitted time to engage in purposeful activity.
- Officers have specific instructions directing their activities.
- These instructions (“directions”) are based on thorough analyses of crime data.<sup>14</sup>

It appears that, under some conditions, merely the presence of police is sufficient to deter some wrong-doing, as in Minneapolis, where hot-spots patrols focused on narrowly defined clusters of addresses with a high volume of calls for service. But the visibility of patrols is, under many circumstances, enhanced when police are proactive and aggressive, that is, when the operation provides for many police-initiated contacts with citizens (and would-be offenders). Of course, that is exactly what intensified traffic enforcement achieves. The deterrent effectiveness of such proactive patrol has been established through both quasi-experimental<sup>15</sup> and non-experimental<sup>16</sup> studies, though the effects are not achieved on all types of crime; robbery, it appears, is especially suppressible, presumably because it tends to be an outdoor crime. Spatially focused gun interdiction patrols have been effective in reducing gun crime.<sup>17</sup> We might infer from the research that these effects are achieved through deterrence and not incapacitation, inasmuch as police arrest only a small proportion of the people who are stopped, but the active presence of police affects perceptions of risk.<sup>18</sup>

Spatially focused traffic enforcement could have other, more indirect, consequences for the incidence of crime as well. Insofar as offenders’ journeys to crime are by car, traffic enforcement that discourages such journeys will alter offenders’ opportunities for crime. Offenders who have outstanding warrants, or suspended licenses, or whose vehicles have expired registrations, are at pronounced risk of

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<sup>14</sup> Gary W. Cordner and Dennis J. Kenney, “Tactical Patrol Evaluation” in Larry T. Hoover (ed.), *Police Program Evaluation* (Washington: PERF, 1998), p. 19. We credit Cordner and Kenney for coining the term tactical patrol to encompass operations to which different labels have been attached in spite of their operational parallels. .

<sup>15</sup> John E. Boydston, *San Diego Field Interrogation: Final Report* (Washington: Police Foundation, 1975).

<sup>16</sup> See James Q. Wilson, and Barbara Boland, “The Effect of the Police on Crime,” *Law & Society Review* 12 (1978): 367-390; Gordon P. Whitaker, Charles David Phillips, Peter J. Haas, and Robert E. Worden, “Aggressive Policing and the Deterrence of Crime,” *Law and Policy* 7 (1985): 395-416; Robert J. Sampson, and Jacqueline Cohen, “Deterrent Effects of the Police on Crime: A Replication and Theoretical Extension,” *Law & Society Review* 22 (1988): 163-189.

<sup>17</sup> See Lawrence W. Sherman and Dennis P. Rogan, “The Effects of Gun Seizures on Gun Violence: ‘Hot Spots’ Patrol in Kansas City,” *Justice Quarterly* 12 (1995): 673-693; Edmund F. McGarrell, Steven Chermak, Alexander Weiss, and Jeremy Wilson, “Reducing Firearms Violence Through Directed Police Patrol,” *Criminology and Public Policy* 1 (2001): 119-148; and Robert E. Worden, Sarah J. McLean, MoonSun Kim, and Heidi S. Bonner, *Deterring Gun Violence: Onondaga County’s Highway Gun Interdiction Details*, Report to the Onondaga County IMPACT Executive Committee (Albany: The John F. Finn Institute for Public Safety, Inc., 2008).

<sup>18</sup> Wilson and Boland, “The Effect of the Police on Crime,” *op cit.*, and Whitaker, *et al.*, “Aggressive Policing and the Deterrence of Crime,” *op cit.*

apprehension when the intensity of traffic enforcement increases. If they perceive intensified traffic enforcement and restrict their mobility accordingly, then they thereby circumscribe their opportunities for crime.

Spatially focused traffic enforcement can also reduce crashes. Drunk-driving crackdowns deter drunk driving, though the deterrent effect decays over time.<sup>19</sup> High visibility enforcement directed at high-crash locations can affect drivers' perceptions, drivers' behavior, and the incidence of crashes.<sup>20</sup>

Insofar as crime hotspots and high-crash locations converge, then police may be able to direct patrols to those places to achieve reductions in both problems. The deterrent effectiveness of enforcement will turn to some degree on the nature of the behavior in question, however. As noted above, not all types of criminal behavior are responsive to focused enforcement, and we might suppose that not all types of driver behavior would be susceptible to deterrence – inattention less than speeding, for instance.

### *Problem-Solving*

Enforcement alone can have beneficial effects when it is strategically focused, but police initiatives tend to be still more effective when they employ a number of tactics in addition to enforcement.<sup>21</sup> Police problem-solving has the twin virtues of strategic focus and tactical diversity. Police who practice problem-solving may approach two or all three sides of the crime triangle, gaining leverage of several kinds on the problem. While enforcement may succeed by increasing the risks of crime, other approaches may succeed by increasing the effort of crime, reducing the rewards of crime, reducing provocations to crime, and/or removing excuses for crime.<sup>22</sup>

Problem-solving is certainly a procedure that is applicable to traffic problems.<sup>23</sup> Whether and how it can be applied to joint crime and traffic safety problems remains to be seen. Police are well-advised to define problems so as to address sets of incidents

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<sup>19</sup> Lawrence W. Sherman, "Police Crackdowns: Initial and Residual Deterrence," in Michael Tonry and Norval Morris (eds.), *Crime and Justice: A Review of Research*, Volume 12 (Chicago: University of Chicago Press, 1990).

<sup>20</sup> See, e.g., F. Dennis Thomas, Richard D. Blomberg, Raymond C. Peck, Linda A. Cosgrove, and Philip M. Salzberg, "Evaluation of a High Visibility Enforcement Project Focused on Passenger Vehicles Interacting with Commercial Vehicles," *Journal of Safety Research* 39 (2008): 459-468. Also see Jack Stuster, *Creating Impaired Driving General Deterrence: Eight Case Studies of Sustained, High-Visibility, Impaired-Driving Enforcement* (Washington: National Highway Traffic Safety Administration, 2006), and T.J. Zwicker, N.K. Chaudhary, M.G. Solomon, J.N. Siegler, and J.D. Meadows, *West Virginia's Impaired Driving High Visibility Enforcement Campaign, 2003-2005* (Washington: National Highway Traffic Safety Administration, 2007).

<sup>21</sup> National Research Council, *Fairness and Effectiveness in Policing: The Evidence*, *op cit.*, pp. 248-249.

<sup>22</sup> Marcus Felson and Ronald V. Clarke, *Opportunity Makes the Thief: Practical Theory for Crime Prevention*, Police Research Series, Paper 98 (London: Home Office, 1998), esp. pp. 24-25.

<sup>23</sup> See, e.g., Michael S. Scott, *Drunk Driving*, Problem Oriented Guides for Police, Problem-Specific Guides Series No. 36 (Washington: Office of Community Oriented Policing Services, 2006); Michael S. Scott, *Speeding in Residential Areas*, Problem Oriented Guides for Police, Problem-Specific Guides Series No. 3 (Washington: Office of Community Oriented Policing Services, 2001); Justin A. Heinonen and John E. Eck, *Pedestrian Injuries and Fatalities*, Problem Oriented Guides for Police, Problem-Specific Guides Series No. 51 (Washington: Office of Community Oriented Policing Services, 2007).

that are similar; if the problems are dissimilar, they will call for different solutions.<sup>24</sup> Even so, it is possible that through the analysis of crime and crash problems, police may discover that a crime problem and a crash problem have some joint origins, and thus that a bundle of steps could address both problems simultaneously. We know that both crime and crashes share several risk factors: alcohol (and other psychoactive substances), youth, and men. If police take seriously the analysis stage of problem-solving, they might well find linkages between crime and crashes that allow for common responses. For example, problems of serious assaults and alcohol-related crashes might stem from the alcohol served at the same small number of bars, and training servers there to recognize impairment and regulate consumption could reduce both assaults and crashes.

### *Partnerships*

Conventional wisdom in law enforcement now holds that multi-agency partnerships to promote crime prevention and community safety are more effective than the traditional single system approach. Partnerships with other agencies, including but not limited to other criminal justice agencies, can enhance the repertoire of responses to identified problems from which solutions can be formulated. Multi-agency partnerships are increasingly a supported means of accomplishing tasks and an expected practice for law enforcement agencies. Data indicate that the demand for collaboration has been steadily rising for the last twenty years.<sup>25</sup> In fact, National survey data indicate that the number of U.S. law enforcement agencies who report participating in “partnership-building activities” has grown from 58% in 1995 to 80% in 1998.<sup>26</sup>

The potential value of such collaborations is, perhaps, highlighted by the federal and state investments in facilitating them. In the 1990s, on the heels of the Boston Gun Project and its successful Operation Ceasefire, the Department of Justice (DOJ) stimulated and supported the formation of such collaboration with its Strategic Approaches to Community Safety Initiative (SACSI), which provided not for multi-agency collaboration but also for a research partner to drive analysis. DOJ subsequently supported such partnerships throughout all of the federal districts, with a focus on gun violence, with Project Safe Neighborhoods (PSN). New York State’s Operation IMPACT, which was showcased for the DDACTS pilot sites, has likewise funded multi-agency partnerships formed to develop local, data-driven crime-reduction strategies. To form a partnership is not to form a successful and effective partnership, however. Successful collaboration requires trust, sharing of authority, a clear mission, clearly defined roles, and effective leadership.<sup>27</sup>

<sup>24</sup> Clarke and Eck, *Crime Analysis for Problem Solvers in 60 Small Steps*, *op cit.*, chap. 6.

<sup>25</sup> See Dennis P. Rosenbaum, “Evaluating Multi-Agency Anti-Crime Partnerships: Theory, Design and Measurement Issues,” *Crime Prevention Studies*, 14 (2002); Jeffrey A. Roth, Joseph F. Ryan, Stephen J. Gaffigan, Christopher S. Koper, Mark H. Moore, Janice A. Roehl, Calvin C. Johnson, Gretchen E. Moore, Ruth M. White, Michael E. Buerger, Elizabeth A. Langston, and David Thacher, *National Evaluation of the COPS Program: Title I of the 1994 Crime Act* (Washington, DC: U.S. Department of Justice, National Institute of Justice, 2000); and William Burrell, “Conflict Resolution: The Key to Effective Collaboration,” *Community Corrections Practice* 10 (2003).

<sup>26</sup> Roth, *et al.*, *National Evaluation of the COPS Program: Title I of the 1994 Crime Act*, *op cit.*

<sup>27</sup> See Myra Wall Downing, *Measuring Collaboration in Criminal Justice Problem Solving Projects*. (Washington, DC: National Institute of Justice, 2006); Terence Dunworth, Gregory Mills, Gary

## Offenders

Just as a small proportion of locations account for a disproportionate share of crime, so too does a small proportion of offenders account for a disproportionate share of crime. This fact has long been recognized by both practitioners and criminologists, and repeat offender programs are about as old as directed patrol. But interventions that are constructed around this concentration have proliferated in the last decade, in both the United States and the United Kingdom. In this country, it was Boston's Operation Ceasefire, perhaps, that rekindled interest in a strategic focus on high-rate offenders. In the wake of a precipitous increase in youth gun homicides, a multi-agency initiative in that city concentrated on the most violent youth gangs, and to ensure that the elevated risk of sanction for which the initiative provided was communicated to the targeted gangs, agency partners worked with the community to send the message directly, calling gang members in to tell them that further gun violence by their respective gangs would certainly prompt a swift and severe response. This "focused deterrence" appears to have worked, as youth homicides fell by 63 percent.<sup>28</sup> Other cities emulated Boston's focused deterrence initiative, and insofar as such interventions have been evaluated, they have been uniformly effective.<sup>29</sup>

In addition, a number of PSN sites mounted chronic violent offender strategies. Using different mixes of criminal history information and field intelligence, PSN task forces targeted high-risk offenders for priority enforcement that took several different forms, including the documentation of field stops, post-arrest case enhancement, priority prosecution, intensive community supervision of probationers and parolees, and proactive investigations.<sup>30</sup> Prolific offenders also have been targeted as a part of intelligence-led policing in the UK.<sup>31</sup>

Some evidence suggests that concentrations of crime and crashes may intersect in a subset of offenders, as they do in a small number of locations. A study of 52,000 drivers in the United Kingdom examined data on their criminal and traffic ("motoring") offenses over a five-year period.<sup>32</sup> The analysis showed a strong association between criminal offending and "serious" traffic offenses, i.e., dangerous driving, driving while

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Cordner, and Jack Greene, *National Evaluation of Weed and Seed: Cross Site Analysis*. Washington, DC: U.S. Department of Justice, National Institute of Justice, 1999); and Rosenbaum, "Evaluating Multi-Agency Anti-Crime Partnerships," *op cit*.

<sup>28</sup> See David M. Kennedy, Anthony A. Braga, and Anne M. Piehl, *Reducing Gun Violence: The Boston Gun Project's Operation Ceasefire* (Washington: NIJ, 2001), and Anthony A. Braga, David M. Kennedy, Elin J. Waring, and Anne M. Piehl, "Problem-Oriented Policing, Deterrence, and Youth Violence: An Evaluation of Boston's Operation Ceasefire," *Journal of Research on Crime and Delinquency*, 38 (2001), pp. 195-225.

<sup>29</sup> For a summary, see Heidi S. Bonner, Robert E. Worden, and Sarah J. McLean, *Focused Deterrence Initiatives: A Synopsis* (Albany: The John Finn Institute for Public Safety, Inc, 2008), accessible at <http://finninstitute.org/publications/synopses/>.

<sup>30</sup> See Tim Bynum and Scott H. Decker, *Chronic Violent Offender Lists: Case Study 4*, Project Safe Neighborhoods: Strategic Interventions (East Lansing, Mich.: Michigan State University, 2006).

<sup>31</sup> See Jerry Ratcliffe, *Intelligence-Led Policing* (Portland, Ore.: Willan Publishing), and Paul Dawson, *Early Findings from the Prolific and Other Priority Offenders Evaluation*, Home Office Development and Practice Report 46 (London: Home Office, 2005).

<sup>32</sup> Jeremy Broughton, "The Correlation between Motoring and Other Types of Offence," *Accident Analysis and Prevention* 39 (2007): 274-283.

intoxicated, and driving while disqualified: “2.5% of the male drivers committed at least one primary non-motoring offence between 1999 and 2003, but this group included 30.6% of men who committed at least one serious motoring offence .... Men who committed between 4 and 8 non-motoring offences ... committed on average 21 times as many serious motoring offences as men who committed no non-motoring offences ....”<sup>33</sup> The most pronounced association involved driving while disqualified.

Our own analysis of (custodial) arrests for criminal and traffic offenses in one city in New York State reveals a similar association there. Across a five-year period, from 2004 through 2008, police in this city arrested 3,117 people at least once each for aggravated unlicensed operation of a motor vehicle (AUO). More than 60 percent of those people had also been arrested at least once in that same time period for a penal law offense, including 34 percent arrested for drug possession, 23 percent arrested for a Part I offense, 11 percent arrested for a Part I violent offense, and 4 percent arrested for a weapons offense (such as criminal possession of a firearm). Moreover, the 628 people arrested at least twice for AUO are still more disproportionately involved in serious criminality: 50 percent had been arrested for drug possession, 30 percent for a Part I offense, 15 percent for a Part I violent offense, and 6 percent for a weapons offense. Thus there is reason to believe that serious chronic offenders are threats to public safety both on the road and off, and in their violations of traffic laws make themselves vulnerable to traffic law enforcement.

### Practice

The most straightforward approach to capitalizing on this theoretical and empirical knowledge is to direct enforcement resources to the locations at which concentrations of crime and crashes intersect, as in Baltimore and Rochester. But this spatial overlap might obscure some temporal disjunctures, as the experiences in those cities illustrate, as the preponderance of crashes occur at different times of the day than the preponderance of the crimes. Both spatial and temporal data should be used to identify the target areas at particular times. Moreover, analysis should be done to determine the contours of the identified problems to better direct enforcement efforts.

We might add, however, that rather subtle differences in the nature of the enforcement could have significant implications for its effectiveness. Indianapolis police applied two forms of directed gun patrols: one form provided for markedly increased contact with all citizens through traffic enforcement, making large numbers of stops with limited intrusiveness; a second form provided for stopping only those individuals suspected of involvement in crime. The latter form of patrol yielded fewer contacts with citizens and fewer citations, including both traffic and pedestrian stops during which officers made more “thorough, focused investigation”; the officers made nearly three times as many arrests for every 100 stops, and it was only this form that was associated

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<sup>33</sup> *Ibid.*, p. 282.

with reductions in violent crime.<sup>34</sup> Such an “enhanced” form of traffic enforcement might be essential in achieving crime reduction.

In addition, it may be necessary to experiment (loosely) with the intensity (or “dosage”) of the patrols and their duration, for previous research does not suffice to specify the level of patrol visibility or activity, relative to the size or population of a targeted area, that is necessary, or for how long the elevated enforcement must be sustained, in order to affect offenders’ perceptions of risk. Police managers should be prepared to make adjustments in these dimensions of the operation as it is conducted.

This spatial approach does not exhaust the possibilities for DDACTS. It is conceivable that an offender-based approach could be applied, alone or in conjunction with a spatial focus, and that other problem-solving methods could be adopted that take into account the conditions that give rise to joint crime and crash problems. For example, an analysis of offenders’ journeys to crime may point toward other spatial targets, for even if they are not the hotspots of crime, the paths on which offenders travel may afford opportunities to intercept them en route to or from crime, and thus to deter or incapacitate them. Proactive, visible policing may raise the perceived risk of crime as offenders approach *their* targets, or apprehend offenders in possession of stolen property or illicit commodities as they depart. If these routes intersect with crash hotspots, then they may constitute target areas for spatially focused traffic enforcement.

Furthermore, as we observed above, we have reason to believe that the people who engage in serious, chronic offending also engage in a variety of other, less serious forms of deviance; the individuals who commit armed robberies, or who respond to perceived slights with violence, also tend to engage in aggressive driving or commit other traffic infractions. Thus traffic enforcement could provide some traction in controlling serious offenders, affording opportunities to apprehend and capture information about them, just as the enforcement of turnstile-jumpers in New York City proved to be effective in that city. Traffic violations might be used as a source of leverage on criminal offenders, preventing both the crimes that they commit and the traffic safety hazards that they pose, if when their licenses are suspended they are the targets of a focused deterrence initiative. Even without the expense and drama of a call-in, the deterrence message could be sent – through probation officers, as appropriate, or even through the mail – to these offenders, advising them that police are aware of their license suspension, and of the maximum penalties for unlicensed operation. The license plate numbers of the vehicles registered to these drivers could be loaded into license plate readers, to provide for a greater probability of detection.

Problem-solving approaches that rely on tactics other than enforcement are conceivable, and will depend on police to conduct more extensive and deeper analysis than merely mapping crime and crashes to better understand the conditions that contribute to identifiable patterns, and to search for levers that can be pulled – directly,

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<sup>34</sup> Edmund F. McGarrell, Steven Chermak, and Alexander Weiss, *Reducing Gun Violence: Evaluation of the Indianapolis Police Department’s Directed Patrol Project* (Washington: NIJ, 2002), p. 8. Also see Whitaker, *et al.*, “Aggressive Policing and the Deterrence of Crime,” *op cit.*; this analysis finds that stops based on suspicion have crime reduction effects. We would note that a tactical patrol operation in Syracuse, which resembles the more traffic enforcement oriented patrol in Indianapolis, has been effective in reducing shootings in that city. We attribute its success to its scale, providing for three times (or more) the intensity of the Indianapolis intervention. See Worden, *et al.*, *Deterring Gun Violence*, *op. cit.*

by police, or indirectly, by agency or community partners – in order to affect those conditions.

Finally, we would also stress that, whether the focus is spatial or offender-based, it is important to maintain that strategic focus in the face of competing priorities or simple organizational entropy. Mechanisms to monitor the implementation of the initiative(s) and to assess outcomes, like those that are part of Compstat, are essential for DDACTS. It is not sufficient to count traffic tickets or other outputs, and if targeted problems are not responding to police efforts, further analysis of the problems is in order, along with a search for alternative approaches.