
INTRODUCTION

by

Michael G. Maxfield

Rutgers University, Newark, NJ

This volume is the product of a conference held at the Police Institute, Rutgers University School of Criminal Justice, in October 2003. The conference itself followed occasional meetings of a working group comprising law enforcement and other public officials from the U.S. state of New Jersey, and representatives from insurance carriers, auto rental firms, researchers, and others. Modeled after an earlier initiative to reduce violent crime in Newark, New Jersey — the Greater Newark Safe Cities Initiative (GNSCI) — the auto theft group had intended to use collaborative problem solving through participation by state and local agencies, together with stake holders in the private sector, to reduce auto theft in the northern part of the state, which is part of the New York City metropolitan area. In this effort, like the GNSCI, the auto theft group was roughly based on the widely publicized Boston project, Operation Ceasefire (Kennedy et al., 2001; Braga et al., 2001).

After an initial series of meetings in which professionals, primarily from law enforcement agencies, presented briefings on auto theft and fraud in the state, working group members recognized that while participants had a vast range of experience and knowledge about car theft in its various forms, some degree of focus was lacking. It also became clear that the very limited scope of research on vehicle theft in the U.S. offered few insights to guide the problem-solving effort. As is the case with so many good ideas in connection with crime prevention, the suggestion for a conference came from Ron Clarke, who pointed out that the New Jersey group had much to learn from researchers and officials who were more experienced in deploying problem-solving tools to address particular crime problems.

From the start, the conference was planned as a vehicle to produce a *Crime Prevention Studies* volume on auto theft. Conference delegates prepared papers incorporating certain common themes, then centered on specific topics within those themes. All were asked

to orient their papers and presentations around certain key facts known about auto theft, many of which had emerged in discussions of the New Jersey working group. This introductory chapter briefly reports activities of the New Jersey working group that led to the conference. Rather than a simple chronicle of the group's efforts, this description sets something of a backdrop to illustrate certain obstacles to collaborative problem solving with respect to auto theft. The chapter then outlines what delegates were asked to think about, and briefly summarizes their contributions to the volume. A concluding section suggests directions for research distilled from authors' contributions and conference discussions.

BACKGROUND

The New Jersey working group was formed on the initiative of high-level state and local officials in law enforcement. Police agencies in the northern part of the state, within and adjoining the New York City metropolitan region, were asked to send representatives to a working group that would meet every two weeks. Other participants included insurance investigators, security staff from national rental car companies doing business in the area, state insurance fraud investigators, and personnel from a regional agency that regulated the region's international ports.

Most participants were officers in local police departments and investigators working in a handful of insurance companies; the latter tended to be retired from law enforcement careers. Most were individuals at an operational level, with uneven support from sponsoring agencies. As is frequently the case with police and their insurance company counterparts, their attention centered on more stringent enforcement, believing they understood the nature of the car theft problem and lacked only resources in the form of additional staff to address it (Goldstein, 2003).

Nevertheless, many participants had keen insights into the complexity of car theft and the many forms it assumed. One participating inter-jurisdictional agency had been formed in recognition of the cross-jurisdictional form that many car theft problems assumed. The agency was inherently place-based in that its staff patrolled in teams through areas where stolen cars were commonly recovered, reasoning that thieves lived in these neighborhoods and could be located by directed patrol (Krimmel and Mele, 1998). Other participants recognized the importance of learning about legitimate and quasi-legitimate car-related businesses to better understand the dimensions of theft for profit.

Participants also believed that the problem of car theft was underappreciated by the general public and officials at higher levels. By way of illustration, it quickly became clear through limited analysis in two economically disadvantaged cities that the temporary theft of older cars parked on the streets of impoverished neighborhoods was the modal type of car theft. Police almost uniformly recognized that this produced major hardships, despite relatively low monetary losses, for low income residents whose low-value cars were often not insured for theft losses. It was also widely recognized that car theft further undermined the quality of life in struggling neighborhoods. One participant, representing an aggressive auto theft task force, even claimed that street-level drug dealers applauded police efforts to arrest car thieves whose reckless driving kept potential customers away.

After a few meetings it became apparent that the group suffered two general problems, and these contributed to a third. First was unfamiliarity, if not discomfort, with collaboration across jurisdictions and with other types of agencies. It was not obvious where participants' areas of responsibility overlapped. All supported the principle of collaboration, but the pay-off of problem analysis and interventions with an eye to prevention seemed abstract; prevention was not clearly connected with anyone's area of responsibility. In particular, investigating insurance fraud seemed to have little relationship to preventing the theft of older, uninsured vehicles by juvenile thrill-seekers. Representatives from law enforcement were themselves curiously bifurcated between investigators and stealth units that sought to apprehend thieves in the act. All participants were interested in doing something. But most understandably had difficulty seeing where unfamiliar proposals to promote cross-jurisdictional information sharing and collaborative action would have much impact, either in the larger scheme of things or with respect to their day-to-day responsibilities.

The second problem revolved around getting and using accurate data on car theft. The largest urban jurisdiction, Newark, had been maintaining detailed records of thefts and recoveries to support routine command-level review of police activity. Other participants saw the value in being able to map thefts and recoveries, but data and resources to support such activity were not available. When asked to produce information on thefts and arrests in their jurisdictions, some representatives produced photocopies of Uniform Crime Report summary data published in a state report two years earlier.

In the absence of good analysis, participants routinely generalized from compelling examples — "I've heard about (or seen) this problem, so it must be common." Such reasoning supported what they be-

lieved to be true about car theft. Carjacking — robbery of a vehicle — was a common example. Police, and professional staff from state-level agencies, believed that enhanced car security would increase carjacking. So virtually any reported carjacking was cited as further evidence to support this generalization. Theft of keys by parking lot attendants, car theft as a form of gang initiation, and organized crime involving Polish immigrants were other examples of stories people had heard about and assumed were widespread. Presentations at meetings of law enforcement professional groups revealed a related pattern. Speakers would describe extreme cases to their attentive audience, leaving the impression that the extreme case was becoming the norm.

Finally, the working group concept, as borrowed from Boston and the GNSCI, was built on the assumption of sustained action informed by analysis over a period of time. Analysis for only one jurisdiction that suffered from much interjurisdictional theft held limited interest for insurance investigators and others with wider jurisdiction, or local law enforcement officers from other areas who had neither data nor analytic resources to replicate even the basic mapping exercises conducted in Newark. Plans for longer-term activity to improve data and local coordination in prosecuting car theft arrests were developed and presented to state-level sponsors of the working group about one year after meetings had begun. But the plans were not completely developed, politically feasible, or endorsed by a sufficient number of participants to attract much interest. In the meantime, workgroup participants sought near-term results to maintain their interest and sustain support from sponsoring organizations for continued participation. Since these were unlikely to be forthcoming, it was decided to have a conference.

The foregoing is not intended to condemn participants or sponsors of the New Jersey working group. Rather this is presented as a typical, though by no means universal, description of the general absence of compelling interest in taking any sort of systematic action against car theft in the U.S. Other forces are at work as well. Few U.S. researchers have paid much attention to car theft in the years since Clarke and Harris (1992a and 1992b) lamented a similar lack of interest (for notable exceptions see Copes, 2003; Hazelbaker, 1997; Rengert, 1996; La Vigne et al., 2000; Clarke and Goldstein, 2003). Compared to other many other Western countries, rates of car theft in the U.S. are low, ranking 14th in the International Crime Victim Survey of 17 industrialized countries in the year 2000 (van Kesteren et al., 2000).

With this in mind, conferees and authors were asked to address the following general themes that were intended to offer something of

an agenda for stimulating research and policy development in the U.S.

It is misleading to view auto theft as a uniform offense. At the most general level, vehicles are stolen for profit, in which case they are not recovered intact, or for temporary use, in which case they are usually recovered, though often damaged in some way. Within these two general categories are a number of other subtypes, each involving some differences in theft techniques, motives, and types of vehicles targeted (Clarke and Harris, 1992a; Challinger, 1987). Accordingly, different types of interventions may be required to reduce different types of car theft. This is consistent with the situational crime prevention principle of developing interventions that target very specific types of offenses (Clarke, 1997).

Auto theft involves multiple interests. The problem of auto theft is most productively viewed as involving interests beyond victim, offender, and law enforcement. Just as many economic interests are represented in automobile trades, car theft involves actors from diverse organizational and commercial spheres. These include: owners; law enforcement agencies; government agencies that document and regulate vehicles; insurance carriers; businesses involved in producing, selling, shipping, repairing, and providing (or not) parking spaces for vehicles; and thieves pursuing different types of motives. Different types of car theft involve different constellations of interests. Following another principle of situational crime prevention, ownership of the problem of car theft should be shared, and parties sharing ownership should be involved in devising interventions.

Vehicles are mobile. One consequence of mobility is that car theft often cuts across geographic jurisdictions, thus complicating questions of responsibility, especially in parts of the U.S. where political jurisdictions are highly fragmented. For example, Table 1 shows data on completed car thefts originating in Newark, NJ and cars stolen elsewhere but recovered in Newark.

Considering the sum of these measures as total car theft activity in Newark, at least 55% of all car theft incidents are known to bridge political jurisdictions. This is significant in two respects. First, to better understand the scope and nature of car theft, data systems should be able to link vehicles stolen in one jurisdiction and recovered in another. Although car theft data are carefully maintained in Newark, this is not the case in most other New Jersey jurisdictions. Second, Newark police data document patterns of thefts that take place elsewhere, but Newark police have no formal authority to implement any preventive or other measures in those jurisdictions. So the fact that car theft cuts across jurisdictional boundaries means that responsibility is fragmented.

Table 1: Completed Car Thefts, 2002

Theft from Newark	Number	Percent
Not recovered	1,276	13
Recovered in Newark	2,880	30
Recovered elsewhere	1,382	14
Theft from elsewhere		
recovered in Newark	3,891	41
Total car theft activity	9,429	100%

Limits on available data. Vehicles are among the most thoroughly documented classes of personal property, and vehicle theft is one of the most reliably reported offenses. According to the U.S. National Crime Victimization Survey, 95% of completed car theft victimizations were reported to police in 2002 (U.S. Bureau of Justice Statistics, 2003). Results from the 2000 International Crime Victims Survey in 17 industrialized countries indicate 91% of car theft victims reported the offense to police (van Kesteren et al., 2000). Yet beyond these highly aggregated data, information required to better understand car theft is elusive. For example, data maintained by the Newark Police Department make it possible to document thefts, recoveries, and recovery condition with some degree of confidence. But Newark data offer a one-way view. Most other jurisdictions in New Jersey make no effort to record details on thefts and recoveries with the objective of routinely monitoring the scope of car crime.

Vehicle theft is costly. Excluding arson, car theft accounts for the highest losses among property crimes that target individuals. A general analysis of the costs of crime in Australia (Mayhew, 2003, pp.39-40), estimates the unit cost of car theft to include about (A)\$4,000 in property losses. Tabulations from the National Motor Vehicle Theft Reduction Council CARS Analyzer indicate that about (A)\$231 million in insurance claims were filed in 2002 (author's computations). Estimates for the U.S. are less precise; National Crime Victimization Survey tabulations indicate that 81% of the 780,600 motor vehicle thefts disclosed in 2002 involved losses greater than \$1,000 (U.S. Bureau of Justice Statistics, 2003).

However, even these relatively high direct costs are misleading since widespread insurance coverage compensates victims directly. In fact, casualty insurance might well have been the model for the victim compensation programs that virtually abrogate responsibility

for preventing crime, instead paying some estimated portion of losses. Insurance is an example of what economists refer to as a moral hazard, undermining incentives to guard one's property against losses. The ultimate example of this is insurance fraud, or "give-ups," where car owners or leaseholders unable or unwilling to maintain payment schedules stage a theft and collect insurance payments. So many of the up-front costs of car theft can be actuarially diffused, thus weakening individual incentives to guard valuable property, and subsequent pressures on government to take action.

PAPERS IN THIS VOLUME

Against this background, several themes emerged in the conference, themes that are nicely represented in the collection of chapters here.

Getting Their Attention

Official attention to car theft is easily displaced to what appear to be more pressing problems. Property damage, personal injury or death inflicted by thrill-seeking thieves notwithstanding, car theft is considered less harmful than other problems — gang activity, drug trafficking, terrorism — that are more difficult to document but are widely accepted as serious threats to security and well-being. Being better able to document, or dramatically portray, the potential harms produced by car theft is one requirement to generating more official attention. Furthermore, the various businesses involved in producing, selling, and repairing cars are not necessarily directly harmed by and may even benefit from car crime. Cars never recovered must be replaced, paid for in most cases by insurance settlements. Stolen cars that are recovered usually bear some damage that is repaired, again often paid for by insurance. All this adds to profits from car sales, repairs and insurance premiums. What is missing is some way of allocating responsibility for vehicle security or persuading various interests to act in some way.

Gloria Laycock's paper kicks off the volume by describing how the U.K. Car Theft Index, an annual measure of car theft rates standardized by make and model, offered a means of encouraging manufacturers to build better security into new vehicles. Likewise, the Car Theft Index was instrumental in prompting requirements that engine immobilizers be installed in all new vehicles sold in the U.K. The chapter describes how the Car Theft Index was developed, including problems encountered and how these were dealt with.

This is presented through a very useful framework for considering accountability for crime prevention more generally. Laycock first points out that competency must precede responsibility for crime prevention — before they can be usefully urged to lock their cars, drivers must have a car with locks. Competency and responsibility vary across different frames of reference. Police are responsible for recording crimes brought to their attention, which presents citizens with a competency in the form of attentive police. With that competency at hand, citizens become responsible for reporting crimes to police. Much of what governments have traditionally been expected to do is to promote the safety and security of citizens, which may be partly accomplished by encouraging or requiring improvements to the safety of manufactured goods like automobiles. Thus, cars have safety features, partly in response to government regulations and partly in response to consumer preferences (see Graeme Newman's chapter for more on this).

The Car Theft Index enhances competency by supplementing information about car security available to prospective customers in the form of theft rates. With additional information, buyers are better equipped to consider security (or not) in deciding which car to buy. The index subsequently encourages responsibility among car makers by providing information that supports buyer choices linked to security. This approach avoids the anguish of direct regulation by facilitating more informed choices by consumers, a happy situation for governments that are increasingly supportive of market freedoms.

Ray Carroll's paper offers an excellent example of the kind of information-based leverage that Laycock describes. Established upon recommendation of a task force report, Australia's National Motor Theft Reduction Council (NMVTRC) has pursued a number of coordinated initiatives at all levels of government. Recognizing the need to thoroughly document any proposals, NMVTRC early on developed its Comprehensive Auto theft Research System (CARS) to present accurate information about the problem of auto theft, and support comprehensive evaluations of substantive initiatives. Carroll's chapter recognizes that auto theft must compete with other problems for attention on the agenda of policy makers, and is a low priority for manufacturers driven by other incentives. But because influence accompanies information, much of the power wielded by NMVTRC is rooted in the information it is able to present to a variety of stakeholders. Similarly, Carroll points out that such information can be a source of public interest and political pressure.

As in Laycock's description of the Car Theft Index, Carroll offers examples of how the carrot of market-based incentives is more likely to succeed than the stick of direct regulation. Similarly, attempting to

accommodate the interests of stakeholders is preferred to political battles that try to pitch high principles against powerful economic interests. This is underscored by a major NMVTRC project to improve vehicle and parts identification. Instead of blindly lobbying for better identification systems, NMVTRC joined with manufacturers of possible devices to develop specifications and cost estimates (A D Edwards Consulting Pty Ltd, 2003). In this way the council played an important but subtle government role in promoting product development and investment with the objective of bringing efficient and effective devices to market. Coupled with a successful demonstration project and accompanying benefit-cost analysis, proposals to require better parts-marking stand a much better chance for success. In addition to supporting this technology, Carroll describes how NMVTRC is working with police and registration authorities to develop administrative systems to make best use of datadot identification.

Datadot technology focuses crime prevention efforts squarely on the theft of cars and parts for economic gain. Carroll also describes a project that tries to intervene early with young offenders, mostly involved in temporary theft for thrill-seeking. Known as "motor projects," these programs center on the fascination of young people with cars. In addition, the NMVTRC has sponsored publicity campaigns designed to appeal to young thieves (Skelton, 2000), a theme picked up by Barthe in a later chapter of this volume.

Concealability Redefined

Consideration of vehicle and parts identification technologies calls our attention to documentation as one dimension of theft for economic gain. Paradoxically, motor vehicles are among the best documented personal property, yet car theft seems to be especially facilitated by manipulation of identifying information. Jewelry and other small, valuable items are not so uniformly documented by inscribed numbers recorded and maintained by government organizations and insurers. Cars are marked in numerous places with complex identification numbers, and whole vehicles are labeled with license plates readily visible from considerable distances. It is, however, not especially difficult to conceal the identity and ownership of a vehicle by altering numbers or swapping license plates. The most extreme example of this is "rebirthing," where registration information for wrecked vehicles written off as total losses is transferred to a vehicle of the same make, model and year. In this way stolen vehicles can be laundered by registering them anew; once rebirthed, a stolen vehicle essentially vanishes, being completely, though not physically concealed.

The chapter by Barry Webb, Melissa Smith and Gloria Laycock calls our attention to the potential role of vehicle registration and licensing systems in car crime. Their paper expands the concept of designing out crime to include administrative systems that can either facilitate crime through lax oversight, or prevent it through systematic monitoring and robust systems for identification and cross-checking. Administrative systems can facilitate theft by making it easy to register a stolen vehicle directly or through rebirthing. Loopholes in vehicle documentation can similarly facilitate evading car registration tax or insurance fraud. At the same time, improving administrative systems offers an opportunity to reduce theft and fraud. The authors offer this as both a general principle to support the operation of administrative systems as a lever to reduce crime, and an example of how theft might be reduced by shifting our attention from physical security exclusively, considering also parallel enhancements to more secure registration. Further, accumulating evidence suggests that the effects of improved physical security may be wearing out (Brown, this volume), underscoring the need to tighten up documentation and registration procedures if progress in reducing auto theft is to be maintained.

Much of what Webb et al. describe centers on defeating reasonably sophisticated attempts to falsify vehicle documentation. The chapter by Matthew White and Charles Dean describes what might be the least elaborate way of concealing the identity of a vehicle (stolen or not) and its owner: printing a block of numbers on a piece of ordinary paper and taping it to a rear window. Temporary license plates are commonly used in the U.S. to enable new owners to drive their vehicles for a period of time — usually 2-4 weeks — pending receipt of permanent registration documents and number plates. However, White and Dean describe how administrative systems in one U.S. state make it almost laughably easy to drive a temporarily registered vehicle indefinitely. This situation results from a combination of poor design coupled with fragmented responsibility for monitoring the distribution and use of temporary plates. Several consequences follow, ranging from virtual immunity to registration fees through the extreme concealability afforded by the absence of temporary license numbers in any records system. Reasoning that such anonymity might be most attractive to offenders active in other domains, White and Dean present a simple but clever analysis demonstrating that offenders and offenses are more common in an area where temporary tags are more prevalent.

These two contributions present both problems and opportunities. That thieves exploit weaknesses in vehicle documentation is a problem. Improving physical identifiers and the administrative systems

for keeping track of them offers an opportunity to reduce vehicle theft, especially permanent theft, and to deny offenders the anonymity available through non-traceable license plates.

Intervening in Car Design and High-risk Situations

Despite the vulnerability of cars to theft and concealment through false registration, there is considerable potential to make vehicles more secure and to reduce opportunities for theft. Technology offers the promise of continual improvements to the security of cars and component systems, beyond the physical barriers presented by door and steering column locks (see Webb, 1994). Electronic immobilizers of various types have been available on cars sold in the U.S. for over a decade, and are increasingly required on new cars sold in other countries.¹ Cars are at most risk of theft when parked, unattended (Clarke and Mayhew, 1998). Improving the design and management of places where cars are parked, which become effectively concentrations of attractive targets, is another promising way to reduce theft. Two chapters examine the impact of electronic immobilizers in the U.K. (Rick Brown), and the scope for preventing car crime in parking lots (Pat Mayhew and Greg Braun).

Brown's paper uses the Car Theft Index as an evaluation tool. This paper combines two elements largely absent in the U.S. — regulation with an eye to improved security, and use of comprehensive national data for evaluation. In his careful comparison of changes in theft rates by year and age of vehicle, Brown finds what might be termed a moving shutter of an impact. Car models most squarely affected by the immobilizer requirement showed the greatest reduction in theft, for the years immediately following enhanced security requirements. The impact appears to be selective in an understandable way, but temporary in a troubling way. Temporary theft is most sharply reduced for models with new immobilizers fitted. Theft rates increased for older vehicles, those already at greatest risk of theft. Permanent theft rates declined less, and have actually increased for newer cars.

These findings suggest that thieves are either learning to defeat immobilizers, following a few years to practice, or that the technology of theft is changing. The former possibility is more troubling, as it suggests that bypassing immobilizers is a skill that might be disseminated among thieves. New technologies of theft refer to a shift in the actions of offenders. They may now focus on how to obtain keys that are then used to steal vehicles (noted in Carroll's chapter in this volume). Though also troubling, this suggests sharpening a focus on owner (or dealer) behavior to better protect keys. In either case,

Brown tentatively concludes that requiring enhanced security for new vehicles is likely to produce limited effects at first. Larger effects may follow after some period of time as newer more secure vehicles become more widely owned and less secure vehicles are retired. Gradual security enhancements permit the evolution of theft techniques in ways that are believed to be more difficult if security regulations are applied to all registered vehicles, as was the case in Germany and Western Australia (Forbes, 2000).

Mayhew and Braun describe the potential for car crime prevention by targeting concentrations of targets at risk — parking lots. This chapter begins by observing that many types of offenses beyond thefts of and from cars are committed in parking lots. The likely mechanism here is that parking lots attract cars by definition, and cars require operators who may themselves become vulnerable to assault or robbery. Cars and their contents are objects of theft, and may be targets for vandalism. The paper then reviews available evidence on what sorts of features of lots appear to be associated with risk of car crime, considering the scope for prevention by manipulating these risk factors.

One comprehensive example of this is the U.K. Secured Car Park program, rooted in the assumption that undertaking bundles of modifications of lots (or, better, designing new facilities with security in mind) can reduce car crime. A comprehensive evaluation of this program has been completed (Smith et al., 2003), which Mayhew and Braun summarize here. Drawing on the results of this evaluation the authors sum up the potential for reducing different types of car crime in different categories of lots. This chapter focuses our attention on natural concentrations of targets, thus presenting opportunities to bundle interventions at lower costs. In contrast, efforts to reduce car crime against decentralized targets — cars parked all over city streets in residential neighborhoods — are likely to require different strategies.²

Crime Analysis for Problem Solving

The chapters by Brown and by Webb et al. illustrate the use of the comprehensive data systems (described by Carroll and by Laycock) in large-scale assessments. Against the big-picture analysis of comprehensive data are street-level uses of those data to distinguish patterns of thefts from the large volume of otherwise undifferentiated incidents. Because cars are mobile, car theft presents an extreme example of how cross-jurisdiction crime complicates enforcement. This also underscores the benefits of prevention — if inter-jurisdictional enforcement is so difficult, preventing thefts becomes

even more attractive. Two chapters offer examples of this, why it is so, and what's to be learned from analysis of regional data on car theft.

Nanci Plouffe and Rana Sampson describe how a problem-solving exercise revealed patterns of car and truck theft across a large area in Southern California. Although areas near the border with Mexico appeared to have particularly high rates of theft, quite a lot of variability in risks was found. Using theft and recovery data from several jurisdictions, Plouffe and Sampson identified a few models of older cars and trucks that had very low recovery rates. In addition, they detected large numbers of thefts from parking lots serving different types of shopping centers. Finally, areas with high vehicle theft rates also ranked high on calls for service for other types of offenses.

This selection is notable for several features. First, it is a rare example of problem analysis on car theft in the United States. Second, the authors drew on region-wide data that enabled them to compare theft rates and to trace patterns of thefts and recoveries. Third, the patterns of thefts and recoveries found in their data differed from police beliefs about car theft in the region. Fourth, working with teams of police officers they concluded that tightened border security to detect stolen vehicles crossing into Mexico would be of no use because cars stolen from nearby locations usually crossed the border before the theft was detected. This meant that police avoided the all-too-common finger-pointing in trying to allocate responsibility for a problem and its solution. Instead, the teams identified parking facilities that were at particular risk, and compared those to similarly situated parking lots that had very few thefts. They were thus able to identify specific elements of risk heterogeneity in parking lots, which led them to propose interventions to reduce thefts from high-risk lots. In its ultimate focus on specific types of parking lots, this chapter complements the more general discussion of parking lots and car theft by Mayhew and Braun. Finally, Plouffe and Sampson make useful comments on sources of error in regional crime data, together with practical solutions for improving data accuracy.

The chapter by Rick Brown and Ron Clarke offers another example of regional analysis of vehicle theft data applied to illuminating international trafficking. Stemming from a larger project on the U.K. National Criminal Intelligence Service, this chapter lays out a general model of intelligence development and use regarding successive levels of organized criminal activity. The model is then applied to international trade in stolen vehicles and parts, drawing on specific projects rooted in intelligence development. In this case, trucks were being stolen from several areas in England and disassembled for eventual shipment to Nigeria, where they were reassembled. Notice that this is

a very specific theft mechanism. The scars of chopping and refitting have little impact on a stolen truck's use; chopping and rebuilding luxury sedans would leave scars unacceptable to most drivers of such cars, or require workers highly skilled at rebuilding vehicles. This chapter illustrates the value of regional analysis that aggregates data from several police forces. The volume of unrecovered truck theft, while increasing, was not so large in each police area as to attract much attention. Only after aggregate analysis of reports from several police areas was the scale of increase in unrecovered theft large enough to be noticed.

Though this case illustrates a successful effort to disrupt organized shipments of stolen trucks, Brown and Clarke also call our attention to the serious obstacles to more careful scrutiny of out-bound shipments in efforts to detect thefts. The authors describe how the organized criminal activity present in this case differs from traditional assumptions about organized crime. In the case of international vehicle theft, loosely organized individuals, some of whom have highly specialized skills, collaborate through networks developed for a specific type of criminal activity. Given the need for special skills and the opportunistic nature of these organizations, Brown and Clarke suggest that legitimate commercial traffic is deliberately used as cover to mask illegal activities conducted as a side business. The loose, flexible nature of organized criminal activity contrasts with that of enforcement, which is hierarchical and not especially flexible, a mismatch that impedes traditional models of investigation and enforcement.

Learning from Other Domains

The final two chapters document how efforts to combat vehicle crime might learn from other examples to encourage behavior in particular directions. Public information campaigns are launched by governments, private, and quasi-public organizations to sell people things, dissuade them from using drugs, urge them to contribute time or money to worthy causes, and the like. Automobile advertising seems especially cunning in its ability to project the viewer into what it might be like to own some powerful, stylish, or luxurious vehicle. Advertising for some makes and models emphasizes safety features.

Emmanuel Barthe's chapter describes the potential uses of publicity campaigns for crime prevention. Most crime prevention publicity campaigns are directed at potential victims, offering advice on how to protect one's property or person, but Barthe focuses on the scope for publicity directed at offenders. Publicity can be especially useful in its ability to target specific audiences, in much the same

way advertising campaigns are designed to appeal to specific clusters of potential consumers. In this way publicity may be ideally suited to crime prevention by making it possible to tailor messages to particular audiences in specific settings. Barthe describes a limited number of evaluations of publicity campaigns. He then draws on the experience of public health advertising as a useful analog in its attempt to promote self protection in another domain, and offers a model for designing publicity campaigns to prevent theft of headlights.

The U.S. national government has been much more actively involved in promoting vehicle safety than it has vehicle security. In the volume's final chapter, Graeme Newman chronicles the history of car safety initiatives, then lays out the much more attenuated record of government action with respect to security. It is especially interesting to consider the role played by consumer advocacy organizations, and to note the absence of consumer pressures (in the U.S.) to improve car security. Though there are no doubt limits to the parallels between safety and security, a remark by Ray Carroll at the Newark conference is instructive: "Imagine buying a new car where you were told that the brakes were pretty good, but not great. If you drive carefully you should be OK."

Several presentations and comments at the conference lamented the limited attention devoted to auto theft by government officials in the U.S. Discussions frequently turned to how car crime could be made a more prominent item on policy agendas. Graeme Newman's contribution offers a big-picture view of how governments became involved (or not) in the cognate issue of vehicle safety. Newman shows how a combination of consumer pressure, subtle shifts in the attractiveness of car features, and entrepreneurial interest groups produced spurts of federal involvement, but only reluctant advances by car manufacturers. As the political acceptability of promoting public safety came to be displaced by a government bent on deregulation, safety issues came to be advanced mostly through the marketplace. This chapter suggests that marketing offers the best hope for advancing the prominence of auto theft as a policy issue, a theme that recurred in conference discussions. If, as Newman shows, the automobile has become an icon of U.S. culture, perhaps the revered status of cars can become a lever to better protect them and their contents. The interests of insurers and car makers in this enterprise are less clear than they are in promoting auto safety. The portion of auto insurance premiums to cover theft losses is quite small, so upward adjustments involve only a small out-of-pocket expense, even for very high risk vehicles. Car makers sell more vehicles to replace those stolen, and may actually benefit from the small market expan-

sion prompted by theft. So identifying and mobilizing interests to promote better car security will be no easy task.

DIRECTIONS FOR FUTURE RESEARCH

The chapters in this volume represent substantial advances in our knowledge of car theft and promising interventions. Most chapters illustrate the value of sound data to analyze patterns of theft and assess the impact of interventions. At the same time, the research presented here highlights the need to improve data and to continue research in particular directions.

Recovery Data

For many years researchers and auto theft investigators have used information about the specifics of individual thefts and recoveries to make inferences about the type or reason for theft (Clarke and Harris, 1992b; Challinger, 1987). Whether or not a vehicle has been recovered is commonly used to distinguish temporary theft from permanent theft. However useful, this classification scheme can be misleading in two related ways.

First, non-recovery is an ambiguous status. A vehicle can be unrecovered for several reasons: it has been so completely destroyed that it cannot be identified; it has been re-birthing by having identifying numbers switched with another car of the same make, model, and year; it has been physically concealed (in some structure or body of water); it has crossed an international border; or, as has been the case in Australia and the U.S., it has crossed a state or local border and deficiencies in administrative and recording systems preclude making a link between theft and recovery reports. Each of these possible fates can be associated with different theft motives and corresponding interventions.

Second, the condition of recovered vehicles and circumstances of recovery are important. Vehicles that have been stripped or burned are recovered, but their condition signals permanent, not temporary theft. Recovery of a vehicle from a remote location or from a large body of water may indicate dumping and possible insurance fraud. Insurance policies commonly require that 30 days or more elapse without recovery before settling a claim, so recoveries that take place 30 or more days following a theft report are additional indicators of possible fraud.

Insurance Fraud

Thinking more carefully about what non-recovery means, together with recording details of recovery condition and circumstances can help distinguish thefts from fraudulent theft reports — insurance "give-ups.* Identifying insurance fraud assumes even greater importance as vehicle security improves. Carroll (2001) has argued that with better security, give-ups and fraudulent claims become more plausible explanations for the theft of vehicles fitted with immobilizers; that is, theft reports of secure cars become less credible. Another view, cited in three chapters of this volume, is that better physical security may be displacing thieves' attention from stealing cars to stealing keys. That view is consistent with reports from New Jersey law enforcement teams, claiming that more stolen cars are being recovered with keys. A systematic inventory of fraud risk markers accompanied by appropriate training for theft investigators would provide useful information about the volume of fraudulent reports. The number "20%" is commonly cited in New Jersey, but that is based more on expert judgments than systematic analysis and classification.³

A focus on insurance fraud would have the added benefit of squarely addressing an issue of interest to insurance carriers. Obtaining better data partly for the purpose of better measuring fraudulent theft reports produces data that can better estimate actual thefts, including those of vehicles that may be of less interest to insurance carriers.

Improving data in this area would require collaboration among researchers, insurance carriers, and law enforcement. Investigators for insurance carriers and law enforcement agencies have considerable expertise in interpreting individual reports, but their interests center on information to support denying a claim or initiating a prosecution. Lesser standards are required to estimate the volume of possible frauds for crime analysis and research applications. Investigators can tally risk markers that would support classifying the likelihood of fraud as possible, likely, and very likely, or some other set of categories. Researchers could systematically model different combinations of risk factors in efforts to identify reports with varying numbers of fraud risk markers.

In conference discussions, Ray Carroll described an effort to codify investigative case files from law enforcement agencies in Australia. Samples of case files will be extracted and subject to content analysis. Key elements of cases will then be identified and presented to panels of investigators. Through an iterative process it is expected that patterns of theft types can be distinguished that can subse-

quently be analyzed for frequency. An expansion of this effort to include investigators for insurance carriers offers the potential to improve theft, recovery and other data as described above. Meetings of the New Jersey auto theft working group revealed something of the enormous body of knowledge of auto theft investigators. This could be enhanced by interviewing samples of insurance fraud suspects, with the goal of developing aggregate indicators of fraud rather than supporting individual investigation and prosecution.

Offender Studies

Several chapters drew at least indirectly on a small number of offender studies that demonstrate the coincidence of car theft and other types of offending. Some authors described a "culture of offending," in which the techniques of car theft may be learned through associations and informal networks. This squares with what little is known about the progression of offending. It would be especially useful to learn whether involvement in car theft is a gateway offense or whether auto thieves simply do car crime among other types of offenses. Similarly, the progression of involvement in car theft — observing, riding in a stolen car, stealing more vulnerable vehicles, etc. — needs to be more clearly understood. Better longitudinal data are required. In much the same way that retrospective studies of child abuse and later offending offer highly misleading evidence on the link (Widom, 1989), cross-sectional or retrospective studies of car thieves can misinterpret car theft as a gateway rather than a nexus.

If car theft is a gateway offense for some subset of offenders, then early intervention programs might offer promise. Initiatives like the Australian Street Legal program have mixed different categories of offenders, combining: high-rate car thieves; those having only one known theft; and high-rate offenders not previously active in car theft, but thought to be at high risk of subsequent involvement. Apart from the fact that this is quite a heterogeneous mix of targets for a single program, it does not address questions of movement among offense types. Given the wide variety of prior police contacts found by West and Miller (2001), it seems more likely that juvenile involvement in car theft follows involvement in car break-ins and other property offenses.

Better understanding these links can inform broader policy development, as implied by Webb et al. and Brown (this volume). For example, if a culture of car theft is supported by informal learning of theft techniques, then nationwide initiatives as in Germany offer the potential to disrupt "mainstreaming" — where professional thieves learn to defeat improved security and eventually pass their knowl-

edge on to the larger number of less skilled offenders. But requiring better security only in new vehicles may allow professionals to gradually learn how to defeat new systems while continuing to steal older, less secure vehicles. These skills eventually filter down to less skilled thieves primarily engaged in temporary theft.

Traffic offenses and accidents represent another category of illegal activities that may disproportionately involve stolen cars. Newark, New Jersey police track reports of erratic driving as quality-of-life indicators that can reveal car theft problems in that city's neighborhoods. A study of cars illegally parked in spaces reserved for disabled drivers found that a much higher than average proportion of such cars were registered to owners wanted by police, were recorded as stolen, or exhibited some irregularity with respect to documentation (Chenery et al., 1999). Newspaper stories about crashes involving stolen cars are common. As implied by the chapter by White and Dean, research on the co-occurrence of car theft, other offenses, and traffic violations is warranted.

Legitimate Commerce

It is becoming increasingly clear that much car crime is linked to otherwise legitimate businesses in some way. This can be direct, where an auto parts dealer might knowingly purchase stolen parts, or indirect, where someone might unknowingly purchase stolen parts at a flea market. Police offer many examples of direct involvement: parking attendants steal valet keys from autos, planning a later theft; dealer service staff make copies of keys; towing and storage companies steal cars with flatbed trucks; body shops certify that totaled vehicles are repaired.

Indirect links are probably more numerous and difficult as policy and research targets. Papers in this volume by Brown and Clarke and by Plouffe and Sampson point to the large volume of legitimate international movement in cars and parts as an effective mask to the much smaller number of stolen cars crossing the U.S.-Mexican border, or stolen trucks shipped out of English ports. Similar problems are likely to frustrate attempts to control the mixing of stolen and legitimate car parts in repair businesses.

Just as the large volume of legitimate insurance claims can frustrate efforts to single out fraudulent claims, more efficient strategies for research and intervention may lie in a variety of sorting and sampling procedures. Police may feel too understaffed to undertake many routine inspections of body shops and car repair facilities. However, participants in the New Jersey working group described ways to single out shops more likely to be involved in illegal markets and re-

sources for checking on those activities. Patrol units on overnight shifts can identify unusual levels of activity at repair shops, and use discretionary time to conduct quick inspections. Or a large but still finite number of repair shops — about 110 in Newark — might be sorted by investigators into categories reflecting likely involvement in illegal markets for sampling and subsequent routine inspection.

In a more general sense, the numerous links between illegal and legal trade offer policy and research opportunities. Samples of registered car businesses can be stratified and selected for inspection or interviews. Interviews can be conducted in much the same way researchers begin snowball samples with key informants. If shipments of stolen parts or whole vehicles are concealed within a larger volume of legal trade, samples of shipping containers can be examined to estimate the volume of illegal trade.



Address correspondence to: Michael G. Maxfield, Professor of Criminal Justice at Rutgers, the State University of New Jersey. E-mail: <maxfield@rutgers.edu>.

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NOTES

1. See National Motor Vehicle Theft Reduction Council (2003) for general information on types of immobilizers.
2. Different kinds of lots may appeal to larger numbers of opportunistic thieves, who tend to commit fewer offenses each in central business districts, or to smaller numbers of high-rate offenders, as might be found in shopping center lots or lots at outlying commuter transport facilities.
3. See Clarke and Brown (2003) for an example of how inaccurate such estimations by experts can be.