THEFTS FROM CARS IN CENTER-CITY PARKING FACILITIES: A CASE STUDY IN IMPLEMENTING PROBLEM-ORIENTED POLICING

by

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Abstract: *This paper describes a problem-oriented policing project, extending over a period of more than two years, which was designed to reduce thefts from cars parked in the center-city of Charlotte, NC. A progressive tightening of focus led to a detailed analysis of the risks of theft, and the associated security features, in the 39 decks and 167 surface lots in the center city. This analysis showed: (1) that risks of theft were much greater in lots than in decks, and (2) that higher risks of theft in lots were associated with inadequate fencing, poor lighting and the absence of attendants. These data played an important part in obtaining the agreement of lot owners and operators to make security improvements. Before most of these improvements had been made, however, thefts in the lots began to decline, possibly as the result of more focused patrolling by police and security personnel. The paper concludes with a discussion of the difficulties encountered by police in undertaking problem-oriented projects, and of ways to help them meet these difficulties.*

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INTRODUCTION

The concept of problem-oriented policing (Goldstein, 1979, 1990) has been widely endorsed by the American and British police. In the United States, federal grant programs, supported by the 1994 Crime Act, have promoted the concept, and many police departments have made a commitment to it in one form or another (Scott, 2000). The annual problem-oriented policing conference sponsored by the Police Executive Research Forum (PERF) attracts between 1,000 and 1,500 delegates per year, while submissions for the Herman Goldstein Award for Excellence in Problem-Oriented Policing total about 100 per year (Scott and Clarke, 2000). In England and Wales, all 43 police forces claim to be undertaking some form of problem-oriented policing (Read and Tilley, 2000). The British police also have an annual conference devoted to advancing problem-oriented policing projects, and have the Nick Tilley Award to recognize outstanding projects.

Despite these endorsements, advocates of problem-oriented policing, we included, have continued to express disappointment with the projects reported in its name (Clarke, 1997, 1998; Goldstein, 1994a,b, 1996a,b; Read and Tilley, 2000; Scott, 2000; Scott and Clarke, 2000). Many are little more than well-intentioned efforts to improve community relations, barely recognizable as problem-oriented policing. Where they do include problem-solving elements, the problems may be small-scale (sometimes confined to a single address), analysis may be perfunctory, and evaluation often consists of testimonials from citizens or the local newspaper. In the few reported cases of larger-scale projects fitting the definition of problem-oriented policing, analysis seldom goes deeper than looking at calls-for-service data or statistics of reported crimes, responses frequently depart little from traditional enforcement strategies, and evaluation rarely explores alternative explanations for any drops in crime.

The commentators cited above have not been led to conclude that this experience negates the value of the concept or is indicative of "theory failure" — perhaps because a sufficient number of successful problem-oriented projects have been published to sustain faith in the concept.[1] Rather, they have assumed that the disappointing experience of applying problem-oriented policing results from "implementation failure," which they attribute to a variety of sources. We will not be departing from this position, but will anchor our discussion of implementation difficulties in a detailed description of one problem-oriented project in which we have been involved as consultants — an effort to reduce theft from cars in the center city of Charlotte, North Carolina.

It is rare that those who contribute to the development of theories and concepts have the opportunity to play as active a role as we did in an actual effort at implementation, and to observe the entire implementation process so closely. Such a relationship has some drawbacks and hazards. Our involvement made the project atypical. One cannot, as a result, generalize from the project, either in weighing the results or in planning a replication, without allowing for this involvement. And while we tried to remain objective, we are vulnerable to the charge that our involvement compromised our objectivity. But the relationship had its unique benefits. By joining with the project team in muddling through the many complex issues that were encountered, we had the opportunity to gain unique insights into the difficulties of implementation. Thus, while we offer this case study as one more commentary on the state of problem-oriented policing, we believe it offers a somewhat unique and different perspective. As will be seen, it claims mixed results — some successes and some failures — both of which have lessons for the future.

PROJECT BACKGROUND

Our involvement in this project began with a request by Chief Dennis Nowicki to Goldstein, who was serving as an in-house adviser to the Charlotte-Mecklenburg Police Department (CMPD) under a grant from the U.S. Department of Justice's Office of Community Oriented Policing Services (the COPS Office). As part of his work with the CMPD, he was asked to review the department's efforts to implement problem-oriented policing. The department had invested substantially in training in problem-oriented policing and in urging line officers to identify and address problems. Goldstein's review led him to conclude that more progress would be made in implementing the concept if time and resources could be focused on just a few projects in which an intensive, careful effort would be made to address a specific substantive problem. These projects could then be used as illustrations of the type of problem-oriented policing project to which others could aspire.

Captain Jerry Sennett and his officers in the David One district, which encompasses Charlotte's center city,[2] suggested that a suitable candidate for this kind of intensive effort would be a project focused on thefts from parked cars in their district. These "larcenies from autos" (or LFAs) constituted a large proportion of all crimes reported in David One, and bringing them down would make a substantial dent in the district's crime statistics. This was an important objective not only for the district captain, but also for the CMPD, given the

significance attached to controlling crime in the recently redeveloped and revitalized center city (known locally as Uptown). LFAs had been resistant to control through conventional police operations and, in fact, were increasing at a rate faster than economic growth. Between 1998 and 1999, they jumped from 1,011 to 1,313. The District One officers knew that these statistics were likely to underestimate the problem because victimization surveys have consistently found that only about 30-50% of LFAs are reported to the police. Moreover, they also believed that LFAs fueled drug and alcohol use by the offenders involved.

Goldstein agreed that the David One LFAs could provide a suitable focus for the kind of project he had in mind and, soon after, he invited Clarke to join him in helping with the analysis and in identifying possible preventive measures. In a series of short visits extending over more than two years, Clarke and Goldstein met regularly with Captain Sennett and several of his officers and the crime analysts assigned to the district — a group that came to be referred to as the project team.[3] Also attending most of these meetings was Steve Ward, a senior assistant district attorney who was assigned to work as an adviser within the CMPD and who was supportive of efforts to increase the effectiveness of the police while making more discrete use of the criminal justice system. The role played by Goldstein and Clarke was essentially consultative: to explain the process of problem-oriented policing, to help talk through the difficulties encountered during the project, to discuss the experience gained elsewhere in dealing with theft from vehicles, to raise points for further inquiry or action, and to make suggestions about data analysis. In tandem with the project team, this work resulted in refining the focus of the project; obtaining a better understanding of the problem; selecting and gaining agreement to solutions; and assessing effectiveness.

DEFINING THE PROBLEM

The first meetings of the project team were largely taken up with defining the problem. It was soon decided to focus on the Uptown where, in 1998, just over 50% of David One's LFAs were reported and where, despite heavy levels of policing,[4] most of the increase in LFAs had occurred. Uptown is a clearly defined geographical area of about one square mile, encircled by a freeway system. The area covers about 170 city blocks, which mostly hold office buildings, hotels and associated retail and parking facilities. In the northern corner is a well-established, affluent residential district, and in the eastern corner is a second residential district, consisting of newly-built condo-

miniums, on land which had been cleared of low income housing that had deteriorated in its quality. The west corner holds the Ericsson Stadium, home of the Carolina Panthers. A trolley line, that had fallen into disuse, but is now being restored, runs across the area in a North-east/South-west direction (see Figure 1).

Each business day, Uptown accommodates some 50,000 commuters who travel into the city by car. Most of these cars are parked in decks or surface lots scattered throughout the area. This pattern is reflected in LFAs, of which 83% in 1998 occurred in decks or lots, and only 17% in residential property or on the streets. Hot spot mapping (see Figure 2) by Monica Nguyen, the crime analyst originally assigned to the project, showed that LFAs were concentrated in the center of Uptown where residences and street parking are largely absent, but where, in support of the businesses and nightlife, there are many decks and lots. In light of these facts, it was decided to tighten further the project's focus to deal only with Uptown LFAs occurring in lots and decks.[5]

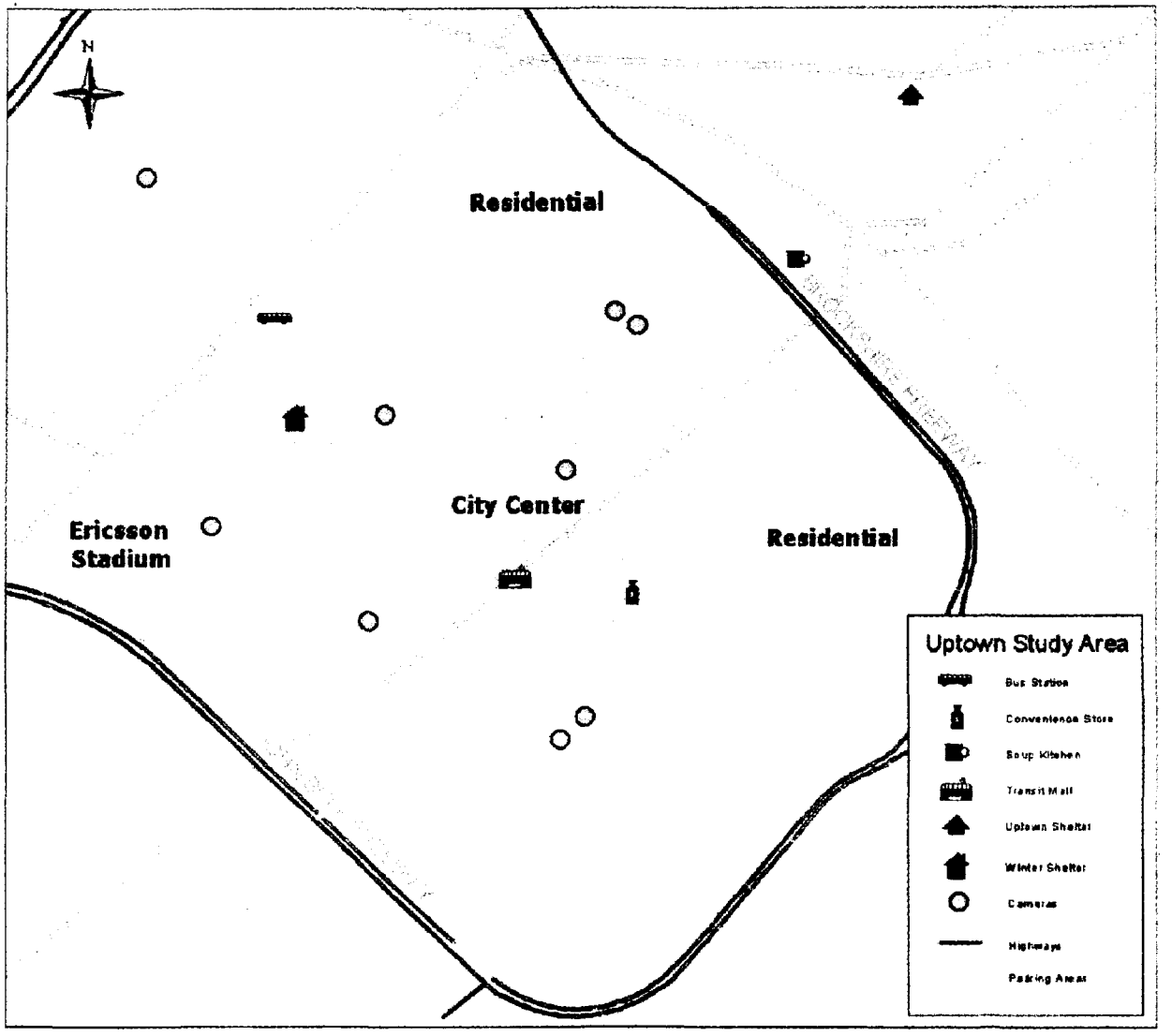
The Police View Of The Problem

In the course of dealing with the problem over the previous few years, the police had developed their own view of the causes and potential solutions. They tended to blame a combination of careless victims, lenient courts, and offenders who were supporting drug or alcohol habits. In more detail, their diagnosis comprised the following elements:

(1) LFAs are quick and easy to commit. Most LFAs in Uptown are committed by breaking a window (which is often shattered using a spark plug) and taking items left inside the car. Thefts may take less than 30 seconds to commit and may not be discovered until several hours later when commuters return to their cars. Without having any need to touch the car, fingerprints are rarely left at the scene. Because of the large area to be patrolled, police rarely catch an offender in the act.

(2) In a congested criminal justice system, LFAs are not considered serious offenses by the courts and tend to be treated leniently. The few arrests that are made, therefore, rarely result in offenders being taken off the streets, which means they are free to repeat the same offense.

Figure 1: Uptown Charlotte – the Area Selected for the Study of LFAs



(3) The victims are office workers in the day and customers of clubs and restaurants at night. Many victims must share the blame for LFAs because they leave items, such as cell phones, compact disks and clothes, inside the car in plain view.

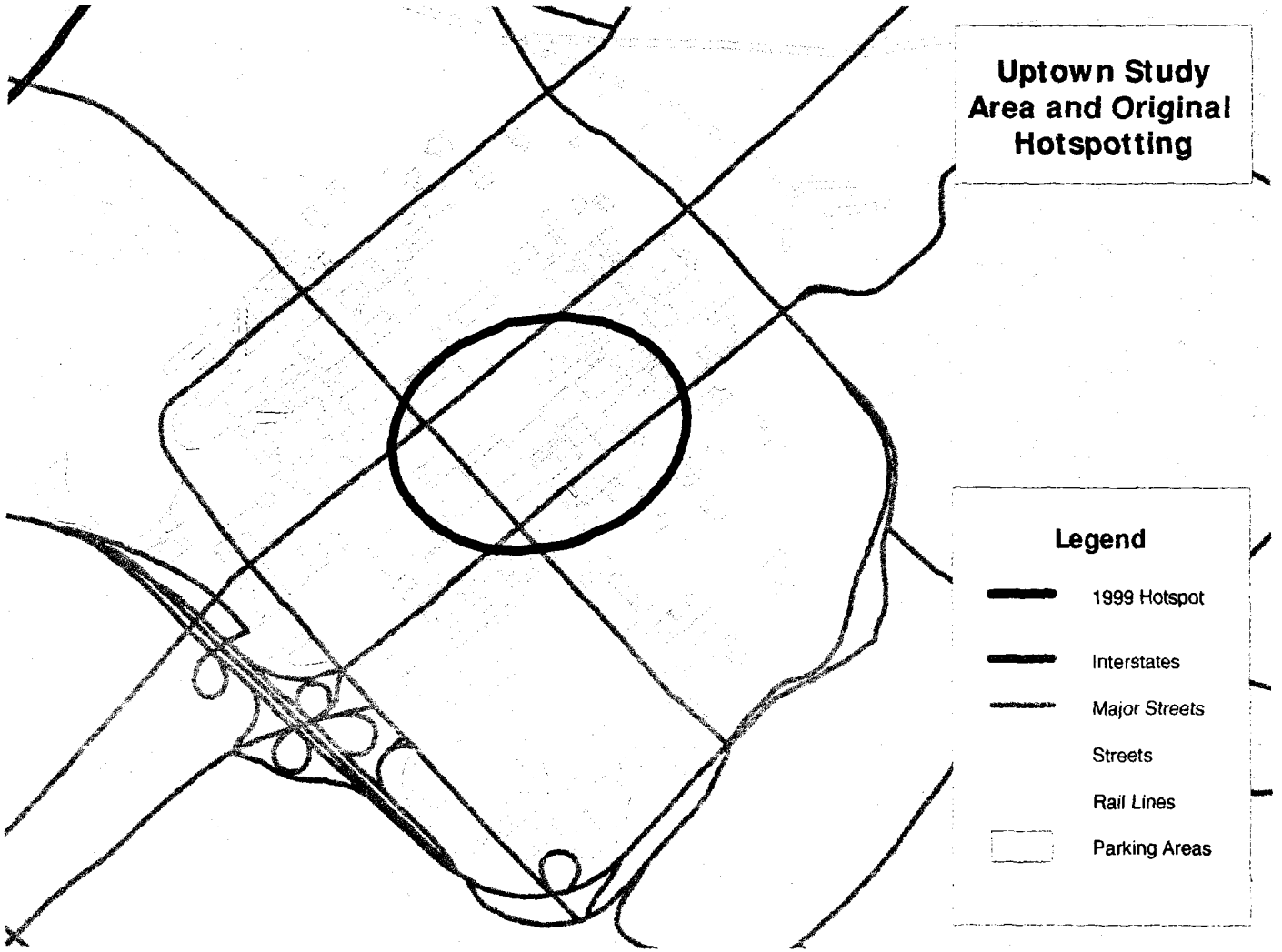
(4) Offenders can find a ready market for items they steal in the numerous pawnshops and known street drug markets located in areas close to the Uptown. (Officers spoke of having identified 14 such locations.)

(5) Offenders fall into three main groups: (1) habitual street criminals with drug habits; (2) petty offenders with alcohol problems who spend their days hanging around Uptown; and (3) transients from the city's homeless shelters, many of whom are also alcoholics.

(6) The transients comprise the largest group of offenders and LFAs are committed as part of their daily routine. This begins with their trek from the winter homeless shelter, in the west of the Uptown area, along the trolley line (which, until recently, was not in use), to the soup kitchen, on the other side of Uptown, where they eat their lunch (see Figure 1). Numerous surface lots and decks border the trolley line and it is easy for transients to find something worth stealing in a car and then escape along the trolley route. They sell items they have stolen to drug dealers and pawnshops in the general location of the soup kitchen, and use the proceeds for alcohol. After midday, the transients follow the reverse course and sell stolen items at locations near the homeless shelter. En route they might detour to the convenience store just south of the trolley line to purchase cheap alcohol.

This view governed the strategies pursued by the police. They had worked with cooperating suspects to identify other suspects for arrest. They had attempted to use territorial restrictions as part of sentences for convicted parking lot thieves. They had tried to build cases to enable them to prosecute certain persistent offenders as career criminals, which could result in lengthy prison sentences. They had performed surveillance at high-risk locations. And they had encouraged the placement of "no trespassing" signs in parking facilities to allow the opportunity for officers to detain and question suspects. Apart from these enforcement efforts, they had prompted media stories about not leaving valuables in cars, they had sought to initiate a "business watch" program in the downtown, and they had placed warning notices on cars with tempting items left in plain view.

Figure 2: Concentration of the LFA Problem in Uptown as Determined by Traditional Hot Spot Analysis, 1999.



These efforts had met with little success. Few offenders were arrested and successfully prosecuted, and LFAs in Uptown continued to rise (from 513 in 1998 to 814 in 1999). Even so, some of the David One officers argued that more vigorous pursuit of the strategies would lead to better results. In particular, they wanted to see a more intensive media campaign directed to careless victims, greater efforts to arrest offenders through more direct surveillance and through work with cooperative suspects, and a stronger commitment from the district attorney's office to prosecute alleged offenders and seek harsher sentences for those convicted.

Most of the David One officers initially hoped that the attention focused on the problem through the project would strengthen their hands in pressing for these strategies. They expressed some frustration when their proposed solutions were questioned and an effort was launched to deepen the analysis. In the subsequent discussions that opened that analysis, the ability of the police to substantially increase arrests for LFAs was challenged (see Hesseling, 1995), and the likelihood that the district attorney's office could secure harsh sentences was questioned.[6] Studies were described that had found few benefits from local "lock-your-car" campaigns (Barthe, 2000; Burrows and Heal, 1980; Riley, 1980). In terms of the classic crime triangle (Spelman and Eck, 1989), it was pointed out that the police view of the problem was focused mostly on offenders and victims, rather than on the locations, i.e., the parking facilities and, in particular, the security of those facilities.

As a result of these initial discussions, it was agreed that, while the officers would continue to pursue the strategies they had developed, they would, at the same time, assist with analysis of parking security.

FROM MAPPING HOT SPOTS TO PINPOINTING RISKS

The "hot spot" mapping that showed LFAs were concentrated around parking facilities in the center of Uptown was of limited value in further analysis because each hot spot covered several blocks, containing not only a number of parking facilities, but facilities that were quite diverse as well. However, in discussing the maps, officers would occasionally identify particular facilities that they believed accounted for most of the LFAs. Many of these were simply the largest facilities, where, because of their size, one might expect to encounter more LFAs, but some facilities identified as troublesome were quite small. This suggested that there were features of the design, location or management of the facilities that might make the vehicles parked in them especially vulnerable to LFAs.

It therefore became important to learn more about the parking facilities, but many of these were not even shown in the CMPD maps of Uptown, which had become outdated as a result of the construction boom driven by the city's thriving banking industry. New lots had been created as old buildings had been demolished pending redevelopment, and new buildings had sprung up on the sites of former lots. Even the maps maintained by the city's planning department did not show every facility. Consequently, it was decided to undertake a comprehensive inventory of parking facilities and to count the spaces in each.

This was a major undertaking, absorbing the resources available to the project for a considerable period of time. The crime analyst who had taken over responsibility for the project, Matthew White, supplemented the available information from the planning department with the detailed knowledge of the David One officers regularly assigned to the area and with information obtained from a new aerial survey of the uptown area. This resulted in the identification of 206 separate parking facilities with more than 20 parking spaces — 39 decks and 167 surface lots.

Table 1: Deck and Lot Size, Charlotte's Uptown, 2000

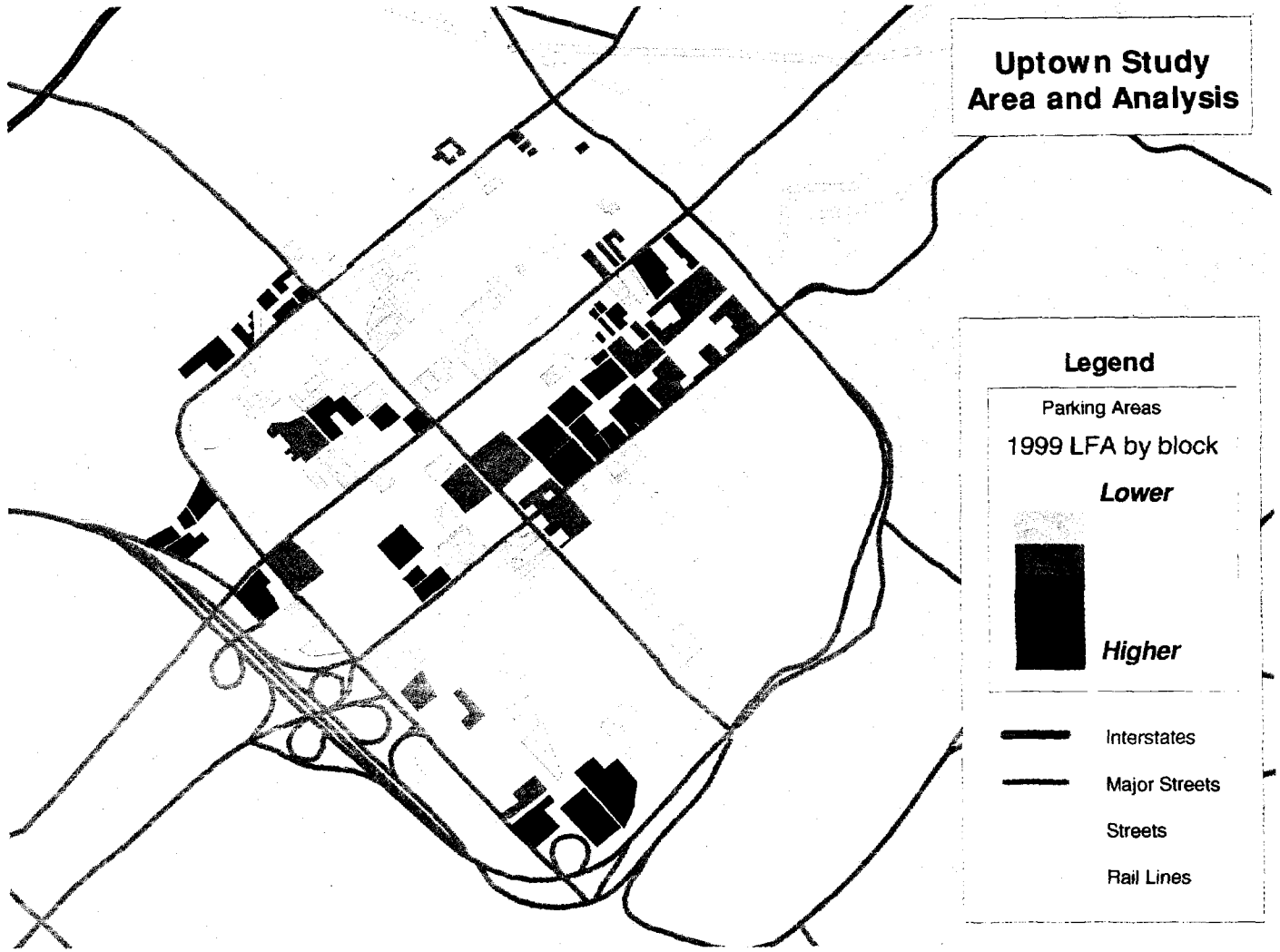
Spaces	Decks	Lots
0-49	0	52
50-99	2	39
100-199	5	43
200-299	3	17
300-499	10	14
500-999	12	1
1000+	7	1
	39	167

The David One officers assigned to the project, Anthony Crawford and Veronica Foster, and the analyst, White, undertook to count all of the spaces in all of the parking facilities — a laborious enterprise. Eventually it was established that there was a total of 42,574 spaces in the 206 facilities, 22,373 of which were in decks and 20,201 in lots. Table 1 summarizes information about the size of the parking facilities.

With these figures in hand, it should have been easy to calculate the rate of LFAs per facility, but unfortunately LFAs were not recorded for individual parking facilities, but only for the block on which these stood (though location codes distinguished LFAs occurring in parking facilities from those occurring from cars parked on the street or on private property). This was because victims making reports could usually identify the block where the car was parked, but not the particular parking facility. There was no difficulty in assigning the theft to that parking facility when it was the only one on the block. Nor was there any difficulty in assigning thefts to particular facilities where the block contained a lot and a deck because the location code permitted these to be distinguished. Rather, the difficulty arose when blocks contained more than one lot or more than one deck, which was the case for more than half of the blocks. In these cases, LFAs were sorted, using their location codes, into those occurring in lots and those occurring in decks before calculating separate rates of LFAs, per parking space, for the decks and for the lots. This meant that all the lots on the block shared the same rate of LFAs, which might be different from the rate for the decks (or deck) in that block.

Once the rate of LFAs per parking space had been determined for each facility, comparisons could be made of their theft risks. Two facts stood out in the results of this exercise. First, it was apparent that the parking facilities bordering the trolley line and the disused rail tracks to the west of uptown had generally higher rates of theft (see Figure 3). This lent support to the police analysis, which had implicated these as conduits for the transients in their daily movements about the city. Second, it was found that the rate of LFAs per parking space was much higher for lots than for decks. In 1999, 93 LFAs occurred in decks, which between them had 22,373 spaces (a rate of 4.1 LFAs per 1,000 parking spaces). But 510 LFAs occurred in lots, which had a total of 20,201 spaces (a rate of 25.3 LFAs per 1,000 spaces). The risk of LFAs per parking space for lots was thus about six times greater than for decks.

Figure 3: Concentrations of the LFA Problem in Uptown, by City Block, as Determined by Relating the Incidence of Theft to the Number of Available Spaces in Off-Street Parking Facilities (Theft Rate), 1999



People are sometimes fearful in garages and decks, especially when they are out of view of attendants and nobody else is around. They often assume therefore that their persons and their cars are more vulnerable to crime. That fewer thefts were found to occur in decks than lots would probably surprise them. In fact, the same result was obtained in research undertaken in London where it was explained in terms of the lack of security in many lots (Webb et al., 1992). Few lots have an attendant, they often lack adequate lighting, and many lack natural surveillance from passers-by or nearby buildings. They also tend to be more open to offenders on foot than decks. Pedestrian movement in and out of decks is restricted to elevators and stairwells, so that a thief carrying stolen items may come into contact with others coming and going. Thieves in lots can make a quicker getaway through a route of their own choosing with greater certainty that they, and the items they are carrying, will not be seen.

The implications were far reaching of the large difference in theft rates between lots and decks. It suggested that decks could be eliminated from the project because they accounted for relatively few LFAs. It also suggested, however, that inadequate security of parking facilities — in both lots and decks — in the Uptown area could indeed be contributing to the LFA problem. If improvements in security were to be sought, these inadequacies needed to be documented. Recognition of this fact led to the next stage of the project — a survey of the security of Uptown's parking facilities, with the expectation that lessons could be learned from examining the decks, with their low rates of theft, as well as the lots.

The Security of the Uptown Decks and Lots

The first step in designing the survey was to review past research on theft in parking facilities. This could have proved a major undertaking, but Clarke's familiarity with this research[7] enabled him to contribute a quick summary of the findings most relevant to the Uptown situation:

- Center-city parking facilities tend to be at greater risk than those in other parts of a city. This may be due to the concentration of parking, making it easier for thieves to find attractive targets.
- Commuter lots where cars are left for long periods of the day have particularly high rates of theft.
- Parking facilities used around the clock tend to have higher rates of theft, if for no other reason than targets can always be found there.

- The availability of cash in pay-boxes, meters and pay-and-display ticket machines attracts thieves.
- For both decks and lots, the presence of attendants greatly reduces risks of theft.
- Closed-circuit television (CCTV) systems installed in parking facilities can be effective in reducing thefts in those facilities.
- Improved lighting can reduce crime in decks and underground garages, and in lots with evening or night use. (The research on this topic is limited.)
- Lots with pedestrian throughways experience higher rates of theft, and thefts have been reduced when pedestrian access is reduced.
- Improvements in perimeter security can reduce vehicle-related thefts. (Again, the research is limited.)
- Lots located near stores and shops have lower rates of theft because of the natural surveillance provided by shoppers and shop staff.
- No evaluations of electronic access systems to public parking facilities have been published, but these have been found effective in preventing theft from parking areas in housing complexes.

The research is far from comprehensive, much of it is small scale and exploratory, and most of it was conducted in the United Kingdom. Nevertheless, it consistently indicates that better-secured facilities (in terms of attendants, natural surveillance and access controls) have lower rates of crime, and it provided helpful guidance on what to include in the survey of Uptown's parking facilities.

This survey was not intended, of course, to meet the rigorous standards of an academic research study. This would have been beyond the resources available to the project. Even a detailed environmental survey of the kind undertaken for a Crime Prevention Through Environmental Design (CPTED) project was not practicable. The need was for a limited survey that: (1) would give a snapshot of the security in Uptown's facilities; (2) would provide pointers to improving security; and (3) could be undertaken quickly without occupying too much of the time of the officers and the crime analyst.

To meet this limited need, the officers and the analyst made a rough assessment of a small set of security variables that were under the control of each facility's operators. Some of the variables included were common to both decks and lots; others were specific to each

kind of facility. The full list of data collected for the 38 decks and 167 lots was as follows:

For both decks and lots:

- Lighting (weak/moderate/strong).[8]
- Day-time attendant (yes/no).
- Night parking available (yes/no).
- Night-time attendant (yes/no).
- Passkey (yes/no).

For decks:

- Security guard service (yes/no).

For lots:

- Pay box (yes / no).
- Fence (none/partial/full).

Data were collected during the night shift when lighting levels could be assessed. Despite the survey's limited objectives, it represented a major data-gathering exercise, requiring an unusual commitment from officers Crawford and Foster.

Table 2: Security-related Features in Decks (N=38) and Lots (N=167), Charlotte Uptown

	Decks	Lots
% with:		
Moderate/strong lighting	77%	39%
Day attendant	74%	6%
Night parking	87%	46%
Night attendant	60%	4%
Pass keys	23%	15%
Security guard service	50%	N/A
No pay boxes	N/A	74%
Fully fenced	N/A	12%

Note: N/A signifies not available.

Once collected, the data yielded two sets of results for lots and decks: (1) simple counts of the distribution of the variables (Table 2),

and (2) statistical relationships between these variables and LFAs, determined through analyses of variance undertaken by crime analyst Kristin Knight (Table 3).

Table 2 shows that, leaving aside night parking, the decks are generally more secure than the lots. The most important difference between them, however, probably accounting for most of the difference in risks of theft, is that decks generally have attendants (74% in the day and 60% at night), whereas lots generally do not (6% in the day and 4% at night).

The relationships between LFAs and security features were not strong (Table 3), and some of the variables appeared to be intercorrelated.[9] The results in Table 3 should therefore not be overinterpreted, but they suggest that:

(1) Security improvements are unlikely to reduce thefts in **decks** because there is no relationship between security features and the rate of LFAs. Most decks needing attendants may have them already and other security features appear to bring little added value.

(2) Reductions in thefts from parking **lots** would result from employing more attendants[10] and probably also from: (1) improving lighting and fencing and, (2) making greater use of passkeys and less use of pay boxes.

Table 3: Relationship between LFAs and Security Features in Decks (N=38) and Lots (N=167), Charlotte Uptown

Relationship between LFAs and:	Decks	Lots
Weak lighting	N.S.	F=1.698, p<0.02
No day attendant	N.S.	F=1.463, p<0.05
Night parking	N.S.	N.S.
No night attendant	N.S.	N.S.
"Security"	N.S.	N/A
Pay boxes present	N/A	F=2.602, p<0.01
No passkeys	N/A	F=1.671, p<0.015
Poor fencing	N/A	F=1.512, p<0.025

Notes:
(1) Relationships determined using analysis of variance.
(2) N.S. signifies not statistically significant; N/A signifies not available.

Together, the analyses in Tables 2 and 3 confirmed the decision to eliminate the decks from the project (their rates of theft were already low and it seemed unlikely they could be reduced further) and to concentrate efforts on improving the security of lots. Their rates of theft were much higher than of decks and there were many indications that if their security were to be improved, thefts could be reduced. Searching for the best ways to improve the security of the Uptown lots — the next stage of the project — occupied the project team for more than a year.

THE SEARCH FOR SOLUTIONS

The SARA model (Eck and Spelman, 1987), which teaches police the value of thinking sequentially about scanning, analysis, response and assessment, has been of great value in introducing police to problem-oriented policing. But it can also be misleading in suggesting the sequence of steps to be followed in any project. In fact, projects rarely follow a linear path from the initial scanning and analysis stages through the stages of response and assessment. Rather, the process is iterative, so that an unfolding analysis can result in refocusing of the project (as happened more than once in the present case), and questions about possible responses can lead to the need for fresh analyses. The longer and more complicated the project, the more iterations of this kind are likely to occur.

Understandably, at the beginning of the project, police continued to utilize the responses they had advocated in the past, and continued to pursue them while the analysis was proceeding. Furthermore, the pros and cons of some of the solutions that had earlier been proposed by the police, such as the closing down of liquor stores patronized by suspects and the relocating of the homeless shelter, were periodically reconsidered. But as the project progressed, these discussions differed markedly from the earlier discussions. They reflected a greater unity and focus in seeking solutions — a result, it appeared, of the exchanges among the participants, who brought different perspectives and experience to the table, and the gradual blending together of the growing findings and the street knowledge of the officers. It was becoming clearer that the heightened enforcement being pursued by officers was having little effect on the overall problem, since the numbers of LFAs in Uptown had risen from 513 in 1998 to 814 in 1999. In addition, having been directly involved in collecting the data on the parking facilities, the David One officers had acquired greater understanding of the part played by inadequate security in LFAs.

In March of 2000, arrangements were made for two David One officers, Sgt. Craig "Pete" Davis and Officer Crawford, and crime analyst White to visit Portland, Oregon. Steve Ward, the assistant district attorney participating in the project, had heard about Portland's success in preventing thefts from autos in the city's Lloyd District, a commercial and office district immediately adjacent to its downtown core. In an area about as large as and similar to Charlotte's Uptown, the number of LFAs had been reduced from about 900 per year in the early 90s to 200-300 per year after the program. Their visit served to support the exploration of new strategies by providing some specific examples of preventive measures that had been used by another police agency for reducing LFAs in addition to the traditional dependence on law enforcement.

The team sent to Portland reported back that the successful program in Portland had been implemented through a partnership of local businesses, private security companies, the police and the DA's office. The program was comprised of: (1) a streamlined legal process that resulted in more convictions and more severe penalties, with repeat offenders being more often sentenced to prison; (2) the installation of electronic single-arm gates at parking lot entrances (to deter thieves cruising in cars); (3) the closing down of camps near the parking facilities that had been illegally established by the homeless; (4) the reorganization of security services to provide a bike patrol covering all the lots; and (5) the provision of a direct radio link between the bike patrol and district police. All these measures were thought to have played a part in the reductions achieved, but the most effective was generally believed to be the bike patrol.

By this time the project team had acquired a sound understanding of the LFA problem and a broad knowledge of responses that had worked elsewhere or might work in Charlotte, given the specific nature of the problem in Uptown. They were now in a position to set about developing an intervention plan that would have an immediate impact on the problem as well as a sustained longer-term effect. Given the complex nature of the problem, it was clear that the plan, as in Portland, would involve several elements requiring partnerships with other agencies, including Uptown business interests, city departments, the parking lot operators and the DA's office. If it were to have any chance of being implemented, it could not be too costly and should anticipate likely bureaucratic and legal difficulties.

It was also accepted that some recommendations might be implemented quite quickly, but others would require a longer time scale, perhaps of two or three years. Accordingly, the plan should take account of anticipated changes in the city that might have an impact on LFAs. Several of these changes, related to the anticipated con-

tinuation in the expansion of the Uptown economy, seemed likely to make the problem worse. These included an expected growth in nighttime activity resulting from the construction of more office space, the building of more housing and hotels, and the opening of more clubs and restaurants. The proposal for construction of a new basketball arena and baseball stadium had been defeated in a recent referendum, but it was expected that these projects might be revived.

Other anticipated changes seemed likely to reduce LFAs. One of these was that more lots would gradually be converted to freestanding decks or to office buildings with garages, with the accompanying security those facilities generally experience. Shorter term, a new trolley service was scheduled to be introduced (in 2002) on the tracks currently used by the transients as a conduit through the city. This new service, with the activity and natural surveillance it would, as a byproduct, generate, would make it harder for the transients, were they inclined to engage in theft, to gain access to the parking lots from the trolley line. This relieved the project team of the need to pursue a response which would assuredly be controversial — the possibility of trying to re-site the shelter or soup kitchen to keep transients, who were thought by the police to be among those responsible for the LFAs, away from the Uptown lots.

A second imminent change was that an Uptown CCTV system was to become fully operational in the first half of 2001. This would be funded from the CMPD's block grant from the federal government and by contributions from business members of the Center City Crime Prevention Council, who made available locations for the cameras atop some of the tallest buildings in Uptown at no cost in exchange for a linkage to their security desks. The system would comprise nine cameras that would be monitored by the police from one central location for up to 10-12 hours per day. The precise proportion of the surface lots that would be subject to surveillance by the cameras was not established.[11] The police involved in the project roughly estimated that a majority of the lots would be under observation. But even if coverage were limited, the cameras might still provide a convincing deterrent to casual thieves.

In deciding upon the final group of measures to include in the intervention plan, the project team avoided blanket requirements for every lot to be illuminated to a particular standard, or to have full-time attendants. While such requirements could effectively reduce LFAs, they might not bring uniform crime prevention benefits for all lots and could also bankrupt the operators of the smaller ones. A more selective, cost-effective approach was sought. With these criteria in mind, the intervention plan that was developed included five distinct recommendations:

(1) The police and the DA's office would continue to develop aggressive policies of arresting offenders, seeking convictions, and seeking severe sentences for repeat offenders. This had always been a central aim of the police response in David One and was also an element of the successful Portland program.

(2) Parking lot operators would be asked to post the address of their lot at the entrance(s) to each lot. This would assist victims in reporting thefts, help police in responding to calls for assistance, and assist future analysis of LFAs by allowing these to be assigned to the specific lot in which the LFA occurred.

(3) Changes would be sought in the city's zoning ordinance that currently, requires, for aesthetic purposes, that all new lots be surrounded by screening (which in practice is usually a fence) that is no less than four feet in height and can have no more than 25% of its surface left open.[12] These fences, most often solid, have reduced surveillance of lots by passing motorists, pedestrians, and police officers on patrol. Furthermore, lots established before the ordinance came into effect in 1993 (and its amendment in 1995), which constitute a majority of all lots, were not required to have screening. The proposed new ordinance would require "see-through" fences to be erected for all new parking lots and, within a period of two or three years, for all existing lots.

(4) With the cooperation and agreement of lot operators, the police would seek to implement a rating scheme that would result in every lot being graded for its security on a number of variables. Grades would be determined by either the police or the building inspector and would be posted at the lot entrances, in the same way health inspection results are posted for Charlotte's restaurants. This rating scheme would be modeled on the "Secure Parking" scheme as originally proposed in the United Kingdom. Experience there has shown that the implementation of the proposal, with adjustments over time, provides a strong incentive for parking facility operators to improve security (VCRAT, 1999).

(5) Funds would be sought for a security bike patrol for the uptown lots similar to the successful patrol introduced in Portland. Such a patrol had also been found effective in rail commuter lots in Vancouver (Barclay et al., 1996). The patrol would be trained in what to look for, how to focus patrols for greatest effect, how to deal with suspicious persons, and when and how to call the police (their radios would be compatible

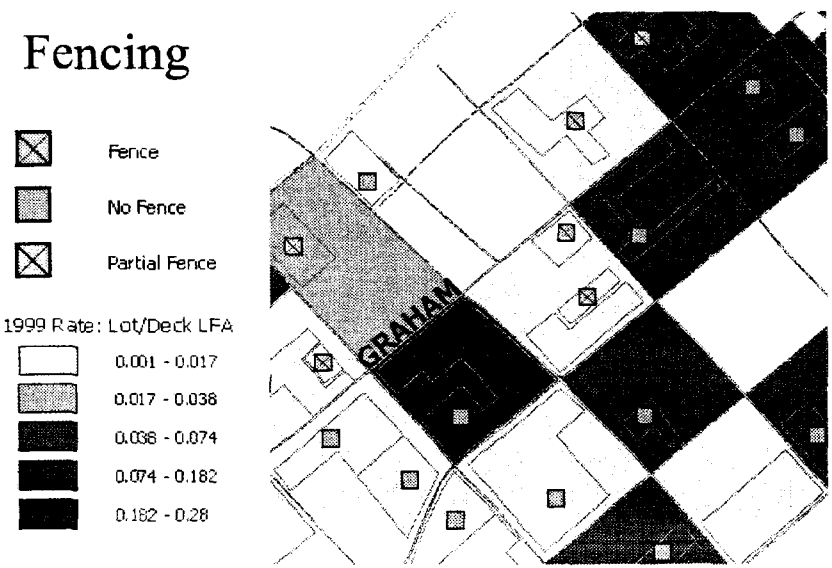
with police radios). The patrols would give the customers and employees of Uptown businesses the same type of security that private patrols give to customers and employees at large shopping malls.

SELLING THE SOLUTIONS

The recommendations for more aggressive legal pursuit of offenders and the posting of lot addresses were relatively uncontroversial. But it was thought that the others, particularly the changes in fencing, the grading system and the bicycle patrol, were likely to encounter resistance from lot operators because of the potential costs and, in the case of the grading system, the commonly expressed concern about increased government regulation. It was decided that a presentation should be put together which would be used in "selling" the intervention plan to lot operators and others. Crime analyst White undertook responsibility for developing the visuals on which the presentation would be based. These were refined over the ensuing months and eventually consisted of 50 PowerPoint slides that took nearly one hour to present. They covered the background to the project, the reasons for focusing on LFAs in parking facilities, the visit to Portland, the decision to study lot security, anticipated developments in Uptown, rejected solutions, the thinking behind the proposed intervention plan, and the next steps toward its implementation.

Considerable care was taken to report the findings of the analyses in a readily understandable form. The crime analyst spent many hours developing maps that clearly showed differential risks of LFAs throughout Uptown. In reporting the statistical relationships between LFAs and security features, he avoided correlation coefficients (which many people have difficulty interpreting) and, instead, made use of maps showing lots that were close to one another, but which differed in their levels of security and in their rates of theft. For example, he found adjacent lots that varied in lighting quality and which had quite different rates of LFA. Figure 4 shows the maps he made to illustrate the relationships between LFAs and lighting quality, fencing and the presence/absence of attendants.[13]

Figure 4: Relationships Between Security Features in Parking Lots and Rates of Theft in Those Lots, Uptown, 1999



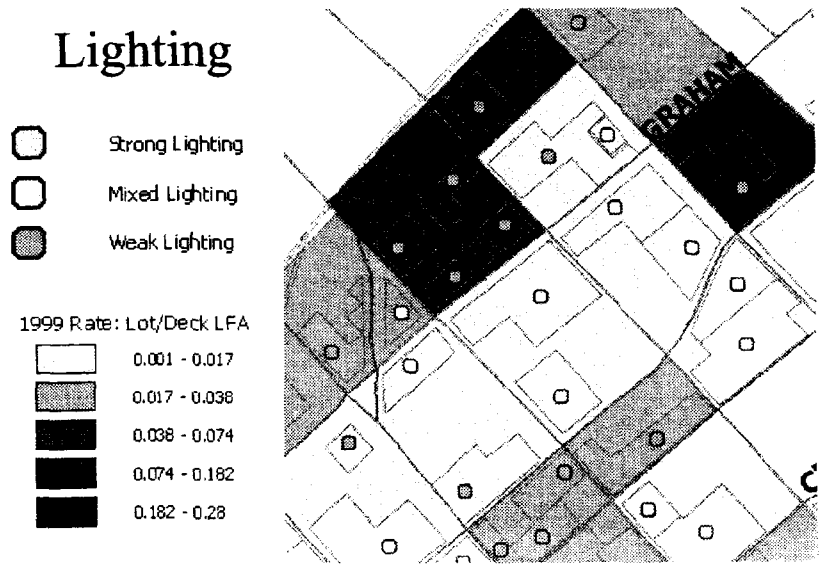
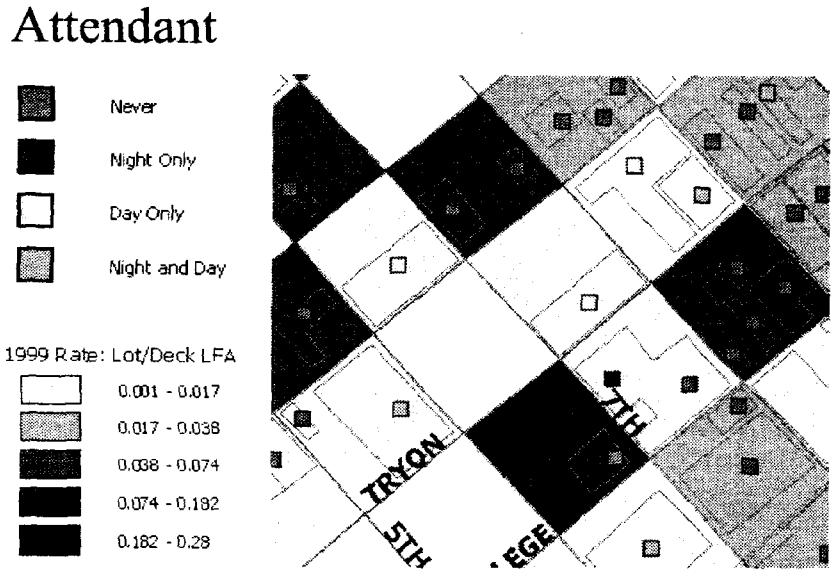
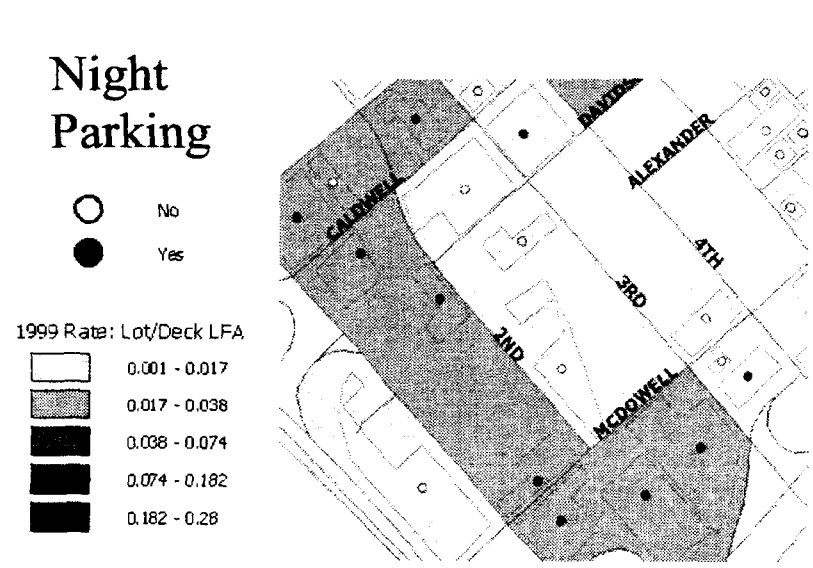


Figure 4 (continued)





Also, in preparation for the meetings, two members of the David One team, Officers Crawford and Robert Vandergrift who were trained in Crime Prevention through Environmental Design, undertook surveys of three pairs of adjacent lots with widely differing LFA rates to identify the differences in the security of the lots. The striking results of these surveys were included in the presentation, together with photographs of the lots showing the differences between the two lots in each of the three pairs.

This presentation formed the basis of a report made on the project to Chief Darrel Stephens (who had recently succeeded Chief Nowicki) and senior officers of the CMPD. This meeting was helpful in refining the presentation, particularly concerning the likely benefits of the new CCTV system, but it also raised important issues regarding the proposed bike patrol and security grading system. Concerning the bike patrol, it was pointed out that the additional officers funded by Uptown businesses were already undertaking bike patrols and these patrols had gradually been extended into parking facilities, but these did not seem to be controlling the problem. To recommend that bike patrols be undertaken by additional security officers would likely provoke the question as to why these should be expected to succeed when police bike patrols had not. As for the grading system, the project team was instructed to undertake a careful study of the police capacity for undertaking these surveys, which would involve technical difficulties as well as requiring a considerable resource investment.

These comments resulted in a more cautious presentation, in which recommendations were phrased more tentatively with fuller discussion of the difficulties attached to each. Over the succeeding months, this presentation was made by Captain Sennett, assisted by the project team, to Uptown lot operators, to Charlotte's Center City Crime Prevention Council, and at a meeting with the city's planning department. The sequence of these meetings was carefully arranged so that agreement in principle to the intervention plan was obtained first from the parking lot operators, whose cooperation was vital, and that agreement was then conveyed to those with whom the team subsequently met.

The project team considered these meetings to be highly successful, which we can confirm having been present at the one with the Center City Crime Prevention Council. At least 80 people attended this meeting, representing a wide range of business and city interests, including the three largest parking lot operators (controlling among them 85% of the parking spaces in Uptown). Those present were clearly impressed by the professional nature of the presentation and by the wealth of detailed information presented about the prob-

lem. No criticism was voiced of the inability of police to control LFAs, and very little dissent was expressed concerning the recommendations. To the contrary, expressions of support and offers of help in implementing the plan were made from the floor.

During the period that these meetings were being held, the project team was undertaking work needed to advance the recommendations. Little new needed to be done about aggressive legal pursuit of offenders since this was already agreed policy, though David One officers now regularly request that a territorial exclusion order be part of the sentence imposed on an offender convicted on an LFA charge who is returned to the community under probation. The recommendation concerning the posting of lot addresses was quickly accepted and lot operators are already beginning to comply. Progress was initially slow in changing the fence ordinance, despite the endorsement of lot operators, and a letter of support written by Tim Crowe, a nationally-known expert in CPTED.[14] After the presentation at the planning department, however, the director of planning agreed to lend his support, considered vital, to the new ordinance. He also suggested that it should be extended to include requirements about adequate lighting and, at the time of writing, the revisions to the ordinance are being drafted and subjected to the approval of interested parties before being formally submitted to the City Council for its approval.

A security grading system that the police could administer is also being developed, again with the assistance of Tim Crowe. Lot operators made surprisingly few objections to the scheme. They asked only that: (1) they be given a preliminary "grade" (A, B, C or D) for each lot, which would only be made final after they have the opportunity to make necessary improvements, and (2) that they be given the opportunity to be re-graded whenever they make subsequent improvements. They also expressed reservations about the requirement for posting of grades at lot entrances. At the time of writing, these matters are still under discussion.

The lack of opposition to the proposed bike patrol might have been due to the absence of details about costs and who would bear these. Captain Sennett obtained proposals from two interested security companies for a patrol that would call for two persons to be on duty at any one time, augmented by another two at peak hours — requiring that, in all, eight persons be trained and available to fill this level of staffing. The costs of the proposals were similar and were comparable to the cost of hiring fully equipped CMPD officers on an off-duty basis. At the time of writing, Sennett is working with the Center City Crime Prevention Council to find ways of paying for the patrols. An alternative being considered is to combine the existing

bike patrols provided by Bank of America for lots used by its employees[15] with similar patrols to be provided by another major Uptown bank.

Meanwhile, David One (with funds from the local Alcohol Beverage Control authority) has very recently implemented a new communications system that allows the Bank of America security officers and those of some other Uptown businesses to have direct radio contact with the on-duty David One field supervisor and the David One district office. This will enable greater advantage to be taken of the CCTV surveillance of lots undertaken by several of these security companies. It is also a further step in forging a crime prevention partnership between the police and the private security firms operating in Uptown.

An Unexpected Decline In Thefts

The work of selling and implementing the intervention plan spanned the end of 2000 and the beginning of 2001. It was during this period that it became evident that LFAs in Uptown were declining. In fact, the decline in 2000 was substantial (38%), the number having dropped from 814 in 1999 to 506 in 2000. Most of the decline took place in the lots and decks, not on the streets or on private property (see Table 4).[16]

Table 4: Location of LFAs in Charlotte Uptown 1998-2000

	1998	1999	2000	Reduction in 2000*
Decks	58	93	52	44%
Lots	292	510	269	47%
Elsewhere	163	211	185	12%
Totals	513	814	506	38%

*Compared with 1999.

Clearly, the decline was not due to the intervention plan, which had not yet been implemented. Nor was it due to the CCTV system, whose first cameras only became operational in November 2000. Finally, it does not appear to have been due to any greater success in

arresting offenders in 2000. In that year, 11 LFA arrests were made in Uptown compared with 25 in 1999 and 16 in 1998.

The most likely explanation for the fall is that the lots began to attract more attention from police and security patrols in 2000, partly as the result of the project team's activities. This was argued in a report on the project made by David One to the COPS office in April 2001:

> Although not every David One District officer was directly involved in the project, many officers were aware of the District's heightened interest in larceny from auto in the District. As a result, officers became more aware of suspicious activity in surface parking lots as they traveled throughout the District. Because of this heightened awareness, officers stopped to talk to suspicious people who were in the parking lots. The prevention aspect of this interaction with suspicious persons should be credited to the project and to the level of attention the District Captain conveyed to his officers.

Another reason why the lots attracted more attention from police and security patrols was that on July 13, 1999, a woman employed by a law firm in Uptown was fatally stabbed while approaching her vehicle in one of the surface lots. This homicide resulted in a heightened sensitivity to the safety of the lots. It also resulted in an expansion of the coverage of the private bike patrols into the lots used by employees of the buildings maintaining those patrols.

The unprogrammed increase in the surveillance given to the surface lots by patrols does not account for the decline of LFAs in the decks, though this could have been the result of offenders being more generally "scared away" from the Uptown. If so, it would be another example of the diffusion of the benefits of crime prevention activity beyond the targets of intervention (Clarke and Weisburd, 1994).

The number of LFAs continued to drop precipitately in the first quarter of 2001, as shown in Table 5.[17] At this stage, a contributory factor could have been the CCTV system that gradually came into operation in the first quarter of 2001, accompanied by news stories about the system carried by the local papers and TV stations. While few arrests could be attributed to the CCTV cameras,[18] they helped alert officers to suspicious persons in the surface lots and they might have raised the fear of apprehension among potential thieves.

Furthermore, the decline of LFAs in Uptown did not result in displacement of LFAs to the rest of the David One District, where LFAs also declined from a total of 499 in 1999 to a total of 441 in 2000 (see Table 6).[19] This decline of 11.6% was somewhat greater than the 8.5% decline in LFAs reported for the CMPD as a whole (CMPD, 2000). If anything, this pattern suggests, once again, that there may

have been some diffusion of benefits to the rest of David One from the Uptown reductions in surface lot LFAs.

Table 5: LFAs in Charlotte Uptown
January-March, 1998-2001

1998	87
1999	201
2000	144
2001	68
% Reduction in 2001*	53%

*Compared with 2000.

Table 6: LFAs in David One District
1998-2000

	1998	1999	2000
Uptown	513	814	506
Rest of David One	498	499	441
Totals	1011	1313	947

This welcome decline has not removed the need for the measures in the intervention plan, which could help to turn what might otherwise be a short-term improvement into a permanent reduction in LFAs. Indeed, Captain Sennett has resolved to press on with the plan, including the more difficult elements such as the grading system and the bike patrol. Full implementation of the latter might wait however to see how the situation develops over the next year or two.

LESSONS OF THE CASE STUDY

As advocates of problem-oriented policing, we constantly ask ourselves why a concept that is so straightforward, and even commonsensical, is so difficult to put into practice. As explained in the introduction, this question is also repeatedly raised in the literature. Direct involvement in this case study in the CMPD, where the conditions for advancing problem-oriented policing are particularly favorable (e.g., overall reputation as a modern police agency; commitment to the concept; highly developed crime analysis operation; superior data retrieval and mapping capacities) produced a number of insights that inform the larger, broader efforts to implement problem-oriented policing elsewhere.

The most frequent explanation for the absence of a fuller implementation of problem-oriented policing is framed in terms of the difficulty that police experience in making the switch from their usual way of doing business. This conventional method of policing involves a quick "in-out" response to single incidents, commonly referred to as a "fire brigade" response, leaving officers free and ready to respond to the next, potentially more serious incident demanding their attention. The problem-oriented approach requires police to restrain the impulse to use traditional responses of questionable value and, instead, to undertake a slow, methodical analysis of classes of similar incidents so as to identify and implement longer-term, preventive measures. This process might take weeks or months, rather than the minutes or hours usually required for their normal method of responding. It could be characterized as demanding patience at the beginning of a project and persistence at the end. It requires not just a fundamental change of attitudes by individual officers and their supervisors, but also a radical change in police organization and management.[20] In most cases, even when they have embarked enthusiastically on a project, police find these changes difficult to sustain in the environment in which they operate. This is why analyses are so often superficial, responses are uncreative and assessments are perfunctory or absent.

While some of these difficulties were experienced even in the present project,[21] it is still underway after more than two years of continuous work and, despite the unexpected decline in LFAs, it remains focused on achieving the longer-term changes designed to prevent a resurgence of the problem. This degree of persistence is well beyond that which is normally reported. The absence of persistence, sometimes labeled lack of commitment, is frequently cited as the primary reason in explaining the failure to implement problem-oriented policing. But, in our opinion, the much stronger reason for the lack of

progress, reinforced by our experience working on this project (and the other CMPD projects in which we were involved) is the sheer difficulty of undertaking problem-oriented policing. It is both administratively and technically difficult and, unless these difficulties are addressed, there is little prospect of the problem-oriented approach becoming a standard policing method.

As problem-oriented policing was initially conceptualized, it was never contemplated that the primary burden for implementing the concept would rest on line police officers. Around the country, police officers have been introduced to problem-oriented policing through a variety of short-term training programs. Line officers have repeatedly demonstrated that they are among the most committed, from among the ranks and staffs of police agencies, to grasp the concept, conduct studies, and implement new responses. But the most skilled and committed among them will acknowledge that, when it comes to an ambitious, in-depth study of the type undertaken in this case study, there is little in their police training — relating to the analysis of data and, more generally, in research skills — that equips them to carry out such a study on their own. The specialized training and skills needed are more likely found in a crime analysis unit, and the primary responsibility for *analysis*, which is at the heart of problem-oriented policing, must be placed there.[22] Heavy dependence, however, must continue to be placed on officers — for their important role in contributing their knowledge of problems as they exist on the street, in aiding in the collection and interpretation of data, in helping to weigh the merits of alternative responses, and, most importantly, in working on the implementation of new strategies. An appropriate blend of talents must be achieved. Just as it is unlikely that police officers could, by themselves, carry out a problem-oriented policing project, so a crime analysis unit cannot implement problem-oriented policing without the involvement of both line police officers and police leadership.

These assumptions were confirmed in the David One project. The officers had been introduced to problem-oriented policing, but had no training or prior experience in researching, in the required depth, a problem of this magnitude and complexity. With guidance, they responded with growing enthusiasm to the need for collecting information, acquiring information from elsewhere, and conducting surveys. The captain of David One took the lead in presenting the results of the study and negotiating with potential partners in implementing the new strategies. The crime analysts, with no prior experience working on a problem-oriented policing project that was this ambitious and that probed a problem in such depth, demonstrated that,

with guidance, they could use the tools and data readily available to them to take their usual work to a new and higher level.

While a problem-oriented policing project will always compete with the many urgent matters that arise in a police agency, the time consumed in carrying out a project can be greatly reduced. Our limited involvement was not enough to pick up on tasks required doing or to coordinate matters on site in ways that might have sped up the project. The numerous tasks fell to an otherwise busy team of people. Among the lessons of this project was the realization that continued involvement in ambitious problem-oriented policing projects, to be accomplished in a timely manner, requires more on-site, in-house coordination of the various component efforts. The commitment and enthusiasm of the officers and crime analysts involved in this project could have been even more effectively channeled with the sustained attention of a full-time coordinator who could have stayed on top of things, and who could thereby have brought the project to a speedier conclusion.[23] A coordinator could, for example, most likely have sped up the David One project by: (1) expediting the collection of data on parking facilities and parking spaces; (2) assisting the crime analyst in identifying questions for study; (3) searching for other relevant experience in dealing with LFAs; (4) relieving the police of acquiring certain information (e.g., about the costs of fencing and private patrols) and making some contacts (e.g., such as initial explorations with lot operators, the planning department and other partners); (5) assuring follow-up on the many points and questions raised at periodic meetings; and (6) undertaking a host of other essential tasks that fell to individual team members to perform along with their regular work. The need for such coordination, in any project meeting the definition of problem-oriented policing, is a fact that must be faced by departments seriously committed to the approach.

Without substantial and continuous involvement in research, it is not easy for officers engaged in problem-oriented policing to conduct a "literature review" to identify relevant studies and relevant prior experience in dealing with similar problems. And even if they are experienced in conducting a search, they confront other problems. The nature of the literature is such that they may learn about titles, but have difficulty finding copies of actual documents. Specialized libraries that are most likely to have the fullest collection of such materials are few in number and not conveniently located to all agencies. And without familiarity with this body of literature, it is often difficult to judge the quality of the research reported so as to decide what is worth focusing on.

The Internet has helped some police deal with these difficulties, but, for this type of search, computers, too, have their limitations.

While we were able to meet the need for literature review in the present project, ways of helping police everywhere to profit from the available literature must be found. The forthcoming publication of the *Problem-Oriented Guides for Police*, a project developed under a grant from the COPS office, constitutes a substantial step in this direction. These guides, of which 20 have been prepared, seek to present in a synthesized, readable form the lessons that have emerged from the experience of police and others in dealing with specific problems, such as that addressed in the LFA project.[24] Another approach would be to expand the responsibilities of crime analysts, and give them appropriate training, so that they could be expected on request to undertake and report the results of focused literature reviews.

Lastly, the project illustrated the difficulties faced by members of a police agency — both officers and crime analysts — in obtaining the considerable amounts of information needed to guide each stage of a project. They must decide what information is needed, they must identify sources and persuade those holding the information to release it, and they must then analyze and interpret it. The following brief list of the information collected for the present (incomplete) project will illustrate the scope of the work that will often be required:

(1) At the *scanning* stage, data about vehicle-related thefts in the David One area were examined to determine the relative proportions of auto thefts and LFAs occurring in the parking facilities and elsewhere. The hot spot mapping undertaken by the crime analyst facilitated this examination.

(2) At the *analysis* stage, maps of the Uptown area showing individual lots and decks had to be updated from planning records, from aerial photographs and from physical checks made of facilities. The number of spaces in each parking facility had to be recorded and in many cases counted. Security surveys had to be undertaken of the 206 separate parking facilities identified. These data had to be subjected to correlational analysis and significance testing. Rates of LFAs had to be calculated for each block in the city. Computer maps of Uptown showing the distribution of rates of LFAs had to be constructed.

(3) At the *response* stage (still incomplete at the time of writing), cost data were obtained for employing full-time attendants, for installing various kinds of fencing and for the projected bike patrol. Information was obtained about the projected new trolley line. CPTED surveys were undertaken of three parking facilities. Studies were designed (but not carried out because

of lack of resources) to measure the surveillance given to each lot by the CCTV system and from the windows of overlooking buildings. Computer maps were made showing LFAs in adjacent lots with and without attendants and with different levels of lighting and fencing. A detailed grading scheme for lot security was developed with the assistance of Tim Crowe. LFA data for Uptown and the remainder of David One had to be analyzed for 2000/2001 to document the unexpected decline in thefts and to see whether displacement had occurred.

The need for these data draws attention to the vital roles of both crime analysts and line officers in problem-oriented policing. But given the expectation that has built up about officer involvement, the examples emphasize the importance of giving more attention to the role of the crime analysts. Strong and engaged as the analysts were in this case study, and we know of none better, they had, prior to this project, no occasion to get deeply immersed in problem-oriented policing or situational prevention. If this were true in the CMPD, with its unusual investment in crime analysis, it must hold with even greater force elsewhere. This means that, if problem-oriented policing is to be properly implemented, ways will have to be found to provide a greater pool of those who can furnish the necessary analytic support. This will require two questions to be addressed:

(1) How can enough people with the appropriate blend of interests and basic research skills, and the appropriate computer skills, be recruited for these positions, when — especially with regard to the computer skills — they are in such great demand in the more highly-paid, private sector?

(2) How can crime analysts be given a form of specialized training, designed to expand their capacities, that would draw heavily on what is known about problem-oriented policing, situational crime prevention, and the relatively new specialty of environmental criminology?

The first question lies outside our competence and might require a national plan to be formulated. As for the second, narrower question, we should note that the U.S. National Institute of Justice and the COPS Office have both played a useful role in drawing police attention to the capacities of the new mapping software and in providing training to analysts and officers in crime mapping.[25] However, neither agency has invested in training designed to provide crime analysts with the skills and knowledge needed if they are to provide support for problem-oriented policing. Attempting to do so would expose a shortage of expertise and a lack of training materials, which is a situation that needs to be urgently addressed.

SUMMARY AND CONCLUSIONS

The purpose of the project was threefold: (1) to illustrate, within the context of the CMPD, what is involved in a full implementation of problem-oriented policing by taking on a comprehensive, in-depth effort to address a specific piece of police business; (2) having focused on the problem of theft from vehicles, to develop specific strategies designed to increase the effectiveness of the CMPD in dealing with that problem; and (3) more broadly, to gain new insights into the complexities of introducing problem-oriented policing into a police agency.

It is difficult to measure the degree to which the first objective has been achieved. The project has touched many members of the CMPD. Descriptions of it have been incorporated in some of the agency's training. Presentations have been made to management. And perhaps most importantly, those in a position to encourage new ways of thinking about policing now have, by virtue of their familiarity with this and a companion project on theft from constructions sites (Clarke and Goldstein, 2002), a better understanding of what problem-oriented policing entails.

With regard to the problem of theft from vehicles, the project has produced several specific strategies, grounded in detailed study, that are targeted at reducing such thefts in the uptown area of Charlotte. The most promising proposals have yet to be implemented, but work is proceeding on putting them in place. In the interim, an unexpected decline has occurred in LFAs. No hard evidence is available to explain the decline, but the police involved feel that the project may have indirectly contributed to the decline through the attention focused on the problem. Police regularly assigned to the area appear to have intensified surveillance of the surface parking lots in Uptown. It is anticipated that full implementation of the newly devised strategies will contribute to a long-term, permanent reduction in LFAs.

A major benefit of the project (apart from an anticipated long-term reduction in LFAs) has been the deeper understanding acquired of the administrative and technical difficulties encountered by police in implementing problem-oriented policing. The project abundantly illustrated just how complex it is to examine a large problem that, though commonly confronted by the police throughout this nation and abroad, has rarely been put under such an intensive microscope. And this is just one of the many problems routinely handled by police which have not been similarly examined. The project confirmed that, in its most ambitious form, problem-oriented policing is indeed, contrary to the frequent claim, a complex process that requires much patience at its beginning, and much persistence in blasting through

to the end. It is an iterative process, not lockstep, in which the gradual acquisition of data and information informs the project, leading to more questions, to redefinition, and even to changes in focus as it moves along. And the cycle repeats itself several times as more knowledge is acquired and possible strategies are explored and ideally tested. It cannot simply be introduced alongside other activities without an allocation of sufficient staff time, without special training, and without other adjustments in the management and organization of a police agency. It requires that police have improved access to information about prior experience dealing with the problems being addressed. And if it is to be adopted more widely by police agencies, it requires a substantially expanded and better-trained cadre of crime analysts to support the initiatives and efforts of career police. Ways of meeting these needs must be found if problem-oriented policing is to achieve its prime objective, which is to enable police agencies to engage in-house in the kind of analysis that helps them to improve their effectiveness in dealing with the problems that the public expects them to handle, and to share the results of their efforts with police elsewhere.

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Because the integration, analysis, and mapping of data constituted such an important part of this exploration, the project leaned heavily on the crime analyst assigned to the David One district, Matthew White. He also prepared the maps included in this report. In the data collection stage, crime analysts Monica Nguyen and Michael Humphrey lent a hand and, later, Kristin Knight, assisted in some of the statistical analysis.

It was the captain of David One, Jerry Sennett, who initially proposed the project as a case study in problem-oriented policing. He subsequently participated in the various meetings at which the data were analyzed and possible solutions discussed, made the connections to the various groups that would be important in carrying out new strategies, and also took the lead in the several presentations of the study's findings. Captain Sennett

assigned a member of his staff to monitor the project and to acquire some needed information — first Sergeant Craig "Pete" Davis and, more recently, Sergeant Harold Medlock. A team of two police officers, Anthony Crawford and Veronica Foster, carried out the enormous task of acquiring, through on-site inspections, the detailed information on existing parking facilities, including the counting of the number of parking spaces in each facility. Subsequently, Officers Crawford and Robert Vandergrift conducted CPTED analyses of selected parking facilities used in the PowerPoint presentation.

Steve Ward, a senior district attorney who is (in a unique arrangement in American policing) assigned full time to working as an adviser within the CMPD, participated in all of the meetings held over the life of the project, and in formulating the recommendations for earlier intervention.

Dennis Nowicki, the former chief of the CMPD, initially suggested taking on several case studies in problem-oriented policing as a way of illustrating what was involved in a comprehensive carrying out of the concept. From the time of his appointment, shortly after the project got underway, the project has received strong support from the current chief, Darrel Stephens. The former Director of Research and Planning, Dr. Richard Lumb, was generous in his arrangements for the allocation and scheduling of his staffs time, as was current Acting Director, John Couchell. This report on the project was greatly facilitated by detailed notes taken on early project meetings by Officer Lisa Carriker. Finally, James LeBeau of Southern Illinois University provided us with valuable statistical advice.

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NOTES

1. This is particularly true when situational prevention projects are included in the count. When practiced by police, situational prevention is indistinguishable from problem-oriented policing (Clarke, 1997).

2. The David One District (one of 12 CMPD districts) is split roughly into two parts — the northern part consisting of Charlotte's Uptown, and a larger inner city area to the west and south consisting of mixed residential and industrial development.

3. At the same time, Clarke and Goldstein also served as consultants to problem-oriented projects in other units of the CMPD.

4. The center-city businesses have provided funds that enable the CMPD to assign 10 officers to foot and bike patrol that are in addition to the number that would otherwise have been assigned based on the county-wide standards for allocating police personnel.

5. For the purposes of this study, decks are either freestanding multilevel parking structures or parking garages/parking floors belonging to multi-level office buildings. Lots are open, surface-level parking facilities.

6. We were supported in this latter argument by Steve Ward.

7. For example: Clarke, 2002; Clarke and Harris, 1992; Clarke and Mayhew, 1998; Eck and Spelman, 1987; Frank, 2000; Geason and Wilson, 1990; Laycock and Austin, 1992; Mancini and Jain, 1987; Meredith and Paquette, 1992; Poyner, 1991; Phillips, 1999; Sallybanks and Brown, 1999; Sandby-Thomas, 1992; Smith, 1996; Tilley, 1993; and VCRAT, 1999.

8. Definitions were as follows: weak means more than half the facility is dark or shadowed; moderate means less than half the facility is dark or shadowed; strong means none of the facility is dark/shadowed.

9. More refined statistical analyses of these relationships would not have been justified given the limitations of the data-gathering methods.

10. Three reasons permit this to be confidently asserted: (1) the relationship in Table 2 between attendants in lots and LFAs was nearly significant, even though so few lots had attendants; (2) the primary factor in the reduced risks in decks was the presence of attendants; and (3) the previous research consistently indicates that the presence of attendants reduces theft.

11. A plan to undertake such a study, together with a study of the amount of surveillance given lots from surrounding buildings, was abandoned because of lack of time and resources.

12. Section 12.303 of the City Code.

13. While not entirely defensible on scientific grounds, it was an effective way of showing these relationships.

14. Tim Crowe is author of the principal text on CPTED (Crowe, 1991) and had been engaged by Chief Stephens to provide CPTED training for the department.

15. Bank of America has maintained foot patrols since 1996 and bike patrols since 1998. These operate from 6 am to midnight, with 2-6 security officers on duty at any one time.

16. There is a significant difference in LFA locations across the years (observed Chi-Square 17.49; degrees of freedom 4; Critical Value 13.27; Alpha=0.01).

17. There is significant drop in LFAs across the years as shown by a one-way Goodness of Fit test (observed Chi- Square 86.64; degrees of freedom 3; Critical Value 16.26; Alpha 0.001).

18. In the four months until the end of April, only 4 LFA arrests were made in Uptown and it is not known in how many of these the cameras played a role.

19. There is a significant difference in LFAs in David One across the years (observed Chi-Square 33.037; degrees of freedom 2; Critical Value 9.21; Alpha 0.01).

20. These changes are spelled out in detail in chapter 9 (pp. 148-175) in Goldstein (1990).

21. At its beginning, some of the officers were anxious to "get-going" and expressed some frustration when initial efforts were made to extend the analysis and the search for proposed solutions. Without the periodic deadlines imposed by the regularly scheduled meetings between ourselves and team members, it is likely that progress on the project would have been even more delayed by the press of other business. Likewise, our involvement as consultants helped to ensure that problem analysis and the search for alternative responses were pursued further than might otherwise have been the case.

22. This observation may conjure up an impossible burden for police administrators who are so often strapped for resources. But it is not contemplated that any one police agency would invest, at any one time, in an in-depth analysis of a large number of problems. Rather, precisely because resources and staff are so scarce, a single police agency such as the CMPD might not be able to examine more than two or three such problems in a year. Ideally, the development of a department-wide commitment to creating an atmosphere in which all members of the department think in terms of identifying and addressing problems at all levels of the agency — a process that should not be abandoned — will not only increase police effectiveness regarding more discrete beat-level problems. It would also serve as the means for nominating problems that are potentially good candidates for more in-depth inquiry. Moreover, if police departments that can afford the minimum staff commitment conducted

even one such study and shared the results with others, the police field in general would enormously benefit.

23. This same conclusion has been reached by others in reviewing efforts to implement situational crime prevention (e.g., Gladstone, 1980; Laycock and Tilley, 1995).

24. These guides can be downloaded from the COPS web site: http: / / www.usdoj.gov/cops.

25. For example, the Crime Mapping Research Center at the NIJ (http://www.ojp.usdoj.government/crmc/) holds an annual mapping conference and has published an important text on crime mapping (Harries, 1999), while COPS has sponsored training in mapping by the Regional Community Policing Institutes. (The Carolina Institute for Community Policing, in which the CMPD is heavily involved, has Geographic Information Systems as its major focus area. The Institute has provided much training over the course of its existence.)