

ABANDONED BUILDINGS: MAGNETS FOR CRIME?

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ABSTRACT

In economically distressed neighborhoods, abandoned houses and apartments can become hangouts for thieves, drug dealers, and prostitutes. In one low-income Austin, Texas neighborhood, 41 percent of abandoned buildings could be entered without use of force; of these open buildings, 83 percent showed evidence of illegal use by prostitutes, drug dealers, property criminals, and others. Crime rates on blocks with open abandoned buildings were twice as high as rates on matched blocks without open buildings. Even if 90 percent of the crimes prevented are merely displaced to the surrounding area, securing abandoned buildings appears to be a highly cost-effective crime control tactic for distressed neighborhoods.

Distressed and decaying neighborhoods are often marked by high crime rates. For at least a century, the principal explanation has been that poverty has torn the social fabric of these neighborhoods (Mayhew, 1862; Plint, 1851; Shaw and McKay, 1942). The people who hold the community together move out when they can (Wilson, 1987); those left behind become more and more fearful as they feel less and less capable of dealing with the growing disorder (Skogan, 1986); the apparent reduction in informal social control signals to potential offenders that the neighborhood is vulnerable to criminal attack (Wilson and Kelling, 1983). Growing social deterioration is accompanied by physical deterioration, as homeowners and small businesspeople put less time and money into maintaining their buildings. Continued maintenance makes

neither economic sense (Davis and Whinston, 1961) nor psychological sense (Taub, Taylor, and Dunham, 1984). Finally, processes of social and physical decay feed on one another, setting distressed neighborhoods on a downward spiral (Schuerman and Kobrin, 1986).

Several approaches have been developed to solve this problem. Some take direct aim at the social deterioration problem. By working with social institutions such as families, churches, and schools, change agents such as the police and community organizers attempt to develop social integration, shared norms, and a sense of community (Curtis, 1987; Lavrakas and Bennett, 1988). Other approaches focus on the social effects of the physical environment. By replacing locks and installing alarms, redesigning apartment buildings, and even changing street patterns, change agents

attempt to reduce crime by making informal controls easier to apply (Jeffery, 1971; Taylor and Gottfredson, 1986). Collectively, these approaches are referred to as "opportunity reduction" or "situational crime prevention" strategies. (For a comprehensive review, see Rosenbaum, 1988.) Most such strategies focus on the scene of crime, the location where the victim and offender meet. Neighborhood watch, citizen patrols, target hardening, and street lighting all aim to increase the chances that a citizen will observe a crime in progress and stop it, either by taking direct action or by calling the police. Evidence is growing that these modifications to potential crime scenes can reduce crime rates (Clarke, 1992).

It might be helpful also to focus on places where offenders hang out. Even when parks, bars, or abandoned buildings are rarely sites of crime, they can act as staging areas or gathering places. Just as street-level drug enforcement was largely aimed at driving drug dealers inside, so might a focus on criminal hangouts help to drive individual offenders and offending groups into public areas, where the ease of surveillance and control might reduce their opportunities for criminal activity.

There are several reasons to believe such a strategy would work, at least in part. First, not surprisingly, gangs and other delinquent groups prefer to hang out where they will not be hassled by outsiders. This might mean taking over a park or other public area (Collins, 1979) or holing up in a deserted location such as an abandoned building (Moore, 1978; Vigil, 1988). The hangout provides a secure place to plan crimes, fight, do drugs, or engage in other activities that would attract too much attention if done in public view. Even delinquent groups that are not extremely criminal might become more criminal if they hang out in isolated, uncontrollable locations for very long. The lack of surveillance and social control exacerbates the lack of self-control among group members (Gottfredson and Hirschi, 1990); it might promote group cohesion, an illusion of invulnerability, and rationalization of arguments against risk-taking (Janis, 1972; Pruitt, 1971). Thus, group members might goad one another on, eventually causing the group to take actions that

any member acting alone might have seen as too risky. This is especially likely if they are drunk or high at the time.

As a result, people who live or work near criminal hangouts might run higher risks than others. Certainly, these individuals are more convenient targets for criminals, and convenience appears to be an important factor in target selection. For example, offenders commit most of their crimes within a mile or two of their homes (Baldwin and Bottoms, 1976; Rhodes and Conly, 1981). More important, offenders rarely commit crimes outside of their "awareness space," the areas in which they live, work, or entertain themselves (Brantingham and Brantingham, 1981; Porteous, 1977). There is even direct evidence that crime rates are higher for areas adjacent to public high schools and bars, in part because criminals like to spend their time there (Roncek and Bell, 1981; Roncek and Fagiani, 1985).

Previous Efforts

Several examples of successful crime prevention through hangout elimination have been produced in recent years by police departments, often as part of community and problem-oriented policing programs. In Baltimore County, Maryland, a recurring problem of disorderly youth was solved when police disassembled a homemade shed built on private land near a neighborhood park (Eck and Spelman, 1987b). In Oakland, California citizens lobbied the phone company to remove a phone in front of a convenience store, which had attracted drug dealers and prostitutes. Once the phone was removed, the users dispersed and crime went down (DeVries, 1989). Police departments in Oakland, Los Angeles, and Miami have adopted formal abatement programs to take over and even demolish crackhouses (Crawford, 1990).

The best-documented case took place in the New Briarfield Apartments in Newport News, Virginia (Eck and Spelman, 1987a). A mostly federally subsidized, low-income apartment complex, Briarfield was the cheapest (and most run-down) housing in the city. It also

had the highest crime rates: victimization surveys showed that about 25 percent of the 300 households were burglarized in 1984; robberies, petty thefts, and disorderly youths also were continual problems. In response, the Newport News Police Department instituted foot patrols and towed abandoned cars; residents were persuaded to form a neighborhood watch; the maintenance company began to clean up the trash and repair the ill-maintained apartments; and the public works department finally unclogged a sewer that had been backing up for years. None of these actions seemed to have much effect on the problems, but the burglary rate dropped by 35 percent after the management company boarded up the 100-odd apartments that were vacant and irreparable. Apparently, neighborhood youths had broken into many of the vacancies and used them as hangouts for drinking and using drugs. With a vacancy as home base, many found it easy to break into adjacent apartments by kicking in the plasterboard walls or to climb into the common attic shared by all the units in a block and come down through someone else's ceiling. By boarding up the vacant apartments, the management company removed these opportunities for crime. The reduction in property crime was permanent and almost immediate. Further, there was no evidence of an increase in property crime in the surrounding neighborhood. Neighborhood kids began hanging out at other locations (a local convenience store and a neighboring apartment complex, in particular), but no increase in crime resulted at these or other nearby locations. This suggests that the (mostly juvenile) thieves were motivated primarily by the availability of easy opportunities. Removal of these opportunities eliminated the problem.

The Briarfield example illustrates the importance of unguarded opportunities in the microenvironment of a single apartment complex. If abandoned buildings also attract criminals in the context of an entire neighborhood, with hundreds of houses and thousands of residents, then large-scale efforts to secure and ultimately eliminate abandoned buildings might be a generally effective crime

reduction strategy. To estimate the usefulness of such a strategy, this study examined an economically distressed neighborhood in a city with more than its share of abandoned buildings.

Abandoned Buildings in Austin, Texas

As in many other sunbelt cities, the economic boom of the early 1980s led to a rapid increase in demand for housing and commercial buildings in Austin, Texas. As high-rollers erected office buildings downtown and ritzy planned developments in the western hills, bargain-hunters looked to the poorer south and east sides for rental properties. The cheap land and solid (if aging) homes in these neighborhoods seemed to provide good investments for speculators with little cash. Many financed their purchases with little money down, took long-term mortgages, and rented their houses or apartments out for low rent, in hopes of flipping them quickly for big capital gains. When the bottom dropped out in the mid-1980s, prices dropped throughout the city. Demand dried up fastest in the poorer sections—where most of the buyers of the early 1980s had been absentee landlords—and these houses became almost impossible to sell. Many owners walked away from their investments, many of the savings and loans that had financed them failed, and, by 1991, eight percent of *all* residential property in the Austin area was owned by the federal government through the Resolution Trust Corporation (Renaud, 1991).

Whether they were owned by the government or a (possibly bankrupt) savings and loan or private party, the rent from these properties rarely was sufficient to cover the mortgage or even routine maintenance. Thus, more and more properties were abandoned. According to the U.S. Bureau of the Census, 11 percent of all Travis County housing units were vacant on 1 April 1990; vacancy rates were over 25 percent in some south and east side tracts. Meanwhile, the reduction in property tax revenues associated with lower home prices forced the city to cut its housing inspection budget in half. During the same time period, 1984 to 1991, property crime increased by 50

percent and robbery increased by 89 percent (Austin Police Department, 1992). Whether the growing abandonment problem was in any way responsible is anyone's guess. Nevertheless, the concentration of abandoned properties was highest in the poorest and most crime-ridden neighborhoods. If the link between abandonment of buildings and crime extends to small areas within neighborhoods—if the blocks adjacent to abandoned buildings are especially crime-ridden, for example—then it might be expected that securing or demolishing these potential criminal hangouts would be an important crime control measure.

RESEARCH DESIGN

Sampling

A case could be made for several definitions of the level of analysis. If the hypothesis presented here is correct, it would be expected that more crimes would be committed at or near the abandoned houses themselves; it seems very likely that the immediate neighbors would be victimized at higher rates too. Thus, the *block* was chosen as the proper level of aggregation. For study purposes, the block was defined as that blockface including the abandoned building and the blockface on the opposite side of the street, bounded by the cross streets on either side. The research hypothesis could then be stated explicitly:

The number of drug, property, and violent crimes is higher on blocks with abandoned residential buildings than on comparable blocks without abandoned buildings.

To test this hypothesis, a matched cohort design was used (Kupper et al., 1981). Sampling procedures for matched cohort studies differ from procedures for other observational studies:

1. Cases are selected on the basis of exposure to some risk factor.
2. Controls are chosen to match the cases on characteristics that may confound the relationship between risk and effect but are difficult to measure explicitly.

By controlling explicitly for potential confounding factors, it is possible to obtain relatively precise estimates with a small sample size.

In this study, the *cases* all were blocks with abandoned residential buildings in the low-income Austin neighborhood of Robertson Hill, a long-time trouble spot for crime and disorder.¹ Robertson Hill is located just east of Interstate Highway 35; residents are almost entirely minority group members (66 percent black, 32 percent Hispanic in 1990) and poor (1990 median contract rent of \$139, about 40 percent of the county-wide average). This is hardly an accident: Robertson Hill was the first of Austin's Jim Crow neighborhoods, developed in the 1920s when the city council decided to segregate housing. Most of the structures are single-family houses, but 70 percent of residents rent. The neighborhood also includes several public housing projects, among them the most crime-ridden and run-down in the city. The neighborhood is younger than the city average; rates for dropping out of school, teenage pregnancy, and unemployment are among the highest in the city. Crime statistics tell an even more depressing story. Property crime rates were 52 percent higher in Robertson Hill than elsewhere in Austin; nonindex crimes (mostly simple assaults and drug offenses) were more than three times as frequent, and violent crimes were over six times as frequent in Robertson Hill than elsewhere in Austin (Austin Police Department, 1992). The total felony crime rate was 583 per 1000 residents, 2.5 times the city-wide average.

Abandoned buildings proved difficult to identify. The working definition of "abandoned" was any residential building that had been vacant for three months or more or had been vacant for less time but was now uninhabitable. Sometimes such vacancies were obvious: the house was in ill repair, the yard was weedy and unkempt, doors and windows had been broken or removed. Many of these substandard houses were included on the list of substandard and dangerous housing maintained by the city's Division of Neighborhood Housing Conservation (NHC). This list

was produced in response to citizen complaints, and it is neither complete nor especially accurate. Some of the complaints were simply unfounded, and some complaints pertained to housing that was substandard but not vacant. The study team identified additional substandard houses by walking throughout every street in the neighborhood, noting the addresses of all houses that were obviously uninhabited.

Not all vacant houses are immediately broken into and trashed, however, so two methods were used to identify houses and apartments that could be occupied but had been left temporarily vacant due to the glut on the market. First, a local realtor provided a list of home foreclosures for the previous year. Second, the electric utility provided a list of structures in which little or no electricity had been used for three or more months. Like the two methods described previously, these methods did not yield a complete and accurate list. Some houses had been vacant so long that they were no longer on the utility rolls, and many houses had been vacant for months, but the owners of record continued to meet their mortgage payments. Because most of these houses would have been vacant for more than one year, however, it was expected that few would remain in good repair and that they would show up on the NHC or direct observation lists. Nevertheless, it is likely that even these four methods together failed to identify some vacant houses or apartment buildings. As a result, some of the blocks chosen to be controls might in fact have been blocks with vacant structures, which thus should have been chosen as cases. Therefore, any differences in crime rates between true cases and controls are liable to be larger than the differences found between apparent cases and controls, and the findings described below are conservative.

Vacant commercial structures were not included in the sample; neither were several vacant houses and apartment buildings on East 11th and 12th Streets, the major Robertson Hill thoroughfares. These methods yielded a list of 64 abandoned residential buildings, all fronting on residential through-streets that supported local traffic only.

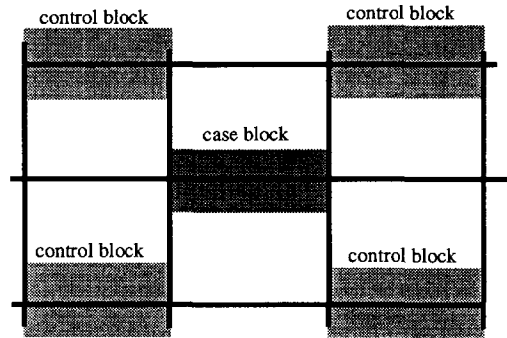


Figure 1. Candidate control blocks were two blocks away from cases in a diagonal direction.

Control blocks were chosen to be similar to case blocks in all obvious respects except that they had no abandoned residential buildings. This criterion suggested that the control blocks should be very close to the case blocks—perhaps the next block down the street or the block behind the vacant building. On the other hand, there was concern that offenders using the vacant houses in the case blocks easily could see down the street or behind the building, making residents there nearly as handy targets as those living next door to the vacancy. To eliminate the principal crime spillover effects, controls were defined to be all blocks without abandoned residential buildings that were two blocks away from the case block in a diagonal direction (see Figure 1). Like the cases, controls were drawn only from predominantly residential streets supporting local traffic; blocks were not selected as controls unless they resembled the corresponding case blocks in predominant land use (single-family house, duplex, or apartment). As in most matched cohort and case-control studies, a single block could be a control for more than one case.

Twenty-four control blocks were chosen in this way. Five vacant buildings without eligible controls were eliminated from the sample, bringing the total number of case buildings to 59. As shown in Table 1, several blocks had more than one vacant building. Thus, although 59 vacant buildings were sampled and inspected, the total number of case blocks was 35. When the 24 control

TABLE 1

DISTRIBUTION OF VACANT HOUSES AMONG BLOCKS		
<i>N</i> of vacant Buildings	<i>N</i> of Blocks	Poisson <i>E</i> (blocks)
0	24	21.70
1	23	21.70
2	5	10.85
3	5	3.62
4+	2	1.23
total	59	59.10

$$\chi^2(3) = 4.56, p = .21.$$

blocks were added to the sample, the distribution of vacant buildings among blocks was insignificantly different from a Poisson. This squared with casual observation: a spot map confirmed that abandoned houses were scattered throughout the neighborhood and not clustered in any particular section.

Data Collection

For both case and control blocks, data were collected on the physical environment of the block as well as on reported crimes. For case blocks, all vacant houses on the block were inspected for security and evidence of illegal uses. Inspections were conducted according to the *Uniform Housing Code*, 1988 edition, which had been adopted (with minor revisions) by the Austin City Council in 1988. The code distinguishes among standard, substandard, and dangerous buildings, primarily on the basis of structural condition but also in part on the basis of illegal uses. For example, a building is dangerous if it

has become (i) an attractive nuisance to children; (ii) a harbor for vagrants, criminals, or immoral persons; or as (iii) to enable persons to resort thereto for the purpose of committing unlawful or immoral acts. (*Uniform Abatement Code*, section 302 (12)).

The *Code* grants housing inspectors the right to enter unsecured buildings to assess their internal structural adequacy and to look for evidence of illegal uses. The distinction between substandard and dangerous buildings is important. The city is authorized only to levy fines against owners of substandard buildings, but it can order an owner to vacate, close,

repair, or even demolish dangerous buildings. If the owner of a dangerous structure fails to comply, the city can take action itself. So the city's options are considerably broader for dangerous buildings.

Study team members were trained to conduct *Uniform Housing Code* inspections by a team member who was a building contractor. Two-person teams conducted all the inspections during daylight hours, entering all unsecured buildings to look for evidence of illegal uses. Police were informed of the nature of the study and the location of all abandoned buildings in the study areas, and they gave tacit permission for what were technically acts of criminal trespassing. All contraband identified during building inspections was left on the premises, and the police were informed immediately upon conclusion of the inspection. In addition to inspecting the vacant buildings, the study team also coded aspects of the case and control blocks that might bear on crime rates: the adequacy of street lighting, the location of any nearby vacant properties, and the proximity of the block to schools, parks, multifamily housing, and commercial areas.

Crime data were obtained from the Austin Police Department's Police Information System (PINS) computer. All calls for service that resulted in dispatch of a patrol officer and creation of a police crime report were considered. Codes were based on the description of the incident provided in the responding officer's report rather than that provided by the victim or witness who called the police. This procedure resulted in a slight underestimation of the number of property crimes on a block since a small proportion of residential property crime reports are taken over the phone without a patrol car being dispatched. For each case and control block, all addresses on both sides of the street and both of the intersections marking the end of that block were considered to be part of the block. For study purposes, crime calls were divided into three categories:

Violent calls included homicide, rape, sexual assault, and aggravated and simple assault, but they did not include domestic assaults;

Property calls included robbery, burglary, larceny, motor vehicle theft, vandalism, and criminal trespass; and

Drug calls included the sale and use of drugs and controlled substances.

Domestic assaults were identified as those cases in which the responding officer noted that the assault was domestic in nature or in which the suspect shared either the last name or the address of the victim. Since some domestic cases might not have fit these categories, a few probably slipped through. This increases random error and biases significance tests against the working hypothesis of the study.

As described above, control blocks were required to resemble case blocks with respect to land use and traffic patterns. The case and control blocks also were nearly identical in demographic characteristics of the population and in proximity to other uses (Table 2). Only one difference was statistically significant: case blocks included more buildings that were owner-occupied in 1980. The researchers conclude that vacant houses were roughly

randomly distributed throughout the neighborhood and that the case and control blocks were equivalent except for the presence of vacancies in the case blocks.

FINDINGS

Security of Vacant Buildings

For each vacant building identified, study team members noted whether it had been fenced, boarded up, or locked so that it could not be entered without the use of force. Some attempts obviously had been made to secure 73 percent of the vacant buildings identified, usually with plywood boards (46 percent of the buildings) or locks (22 percent). Of the 43 once-secured buildings, 8 (19 percent) had been broken into. Thus, 24 vacant buildings were unsecured at the time of this study. Buildings were much more likely to be found secured if there were other vacant buildings on their blocks. Of 23 buildings that were the only vacancies on their blocks, 15 (65 percent) were open. Of 36 buildings located on

TABLE 2
DEMOGRAPHIC COMPARISON OF CASE AND CONTROL BLOCKS (1980 CENSUS)

<i>Characteristic</i>	<i>35 Cases (Standard Error)</i>	<i>24 Controls (Standard Error)</i>	<i>F(1,57) p value</i>
Population characteristics			
Total population	40.40 (5.47)	38.84 (11.35)	0.019 p = .892
Black population	31.97 (3.84)	33.71 (10.48)	0.032 p = .860
Hispanic population	6.97 (1.96)	4.26 (1.78)	0.948 p = .334
Youth population	12.56 (2.12)	14.02 (4.89)	0.093 p = .761
Elderly population	6.77 (1.15)	5.40 (1.41)	0.578 p = .450
Household characteristics			
Single families with children	3.02 (0.53)	3.91 (1.64)	0.356 p = .553
Housing characteristics			
Number of housing units	17.39 (2.38)	15.02 (3.98)	0.297 p = .588
Owner-occupied units	5.14 (0.49)	3.28 (0.67)	5.253 p = .026
Renter-occupied units	10.04 (1.79)	10.18 (3.66)	0.001 p = .971
Vacant units	2.21 (0.43)	1.56 (0.35)	1.172 p = .284

blocks with other vacant houses, 9 (25 percent) were unsecured. Thus, users of vacant houses appeared to focus on isolated vacancies. This might have occurred because the vacant properties are more visible when clustered; neighbors are more likely to notice conditions and illegal activities there and complain to the housing department. Multiple vacancies are also a more obvious problem to the city and thus a higher priority for action.

Most of the vacant buildings were below housing standards at the time of these inspections. Only 25 of the buildings were up to standard (42 percent); 14 (24 percent) were substandard but not dangerous according to the *Uniform Housing Code*; another 20 buildings (34 percent) were both substandard and dangerous to the public. Few of the lots on which the vacant buildings were situated were well kept. Only 8 of 59 (14 percent) had been mowed recently (grass less than 18" high) and had little or no trash in the front yard. Eight (14 percent) had no trash but were overgrown; seven (12 percent) had substantial trash but no overgrowth; and 36 (61 percent of all vacant buildings) both were overgrown and had substantial trash in the front yard. Most of the buildings were apparently unsupervised. Thirty-five (59 percent) had no posted signs. Of the 24 with a posted signs, nearly two-thirds (15) had signs that had been posted by a private owner, including a bank or realtor; the remaining 9 had signs that had been posted by the city or the federal government. Thus, the vast majority of the vacant buildings had been secured at one time, and most were apparently still secure at the time of this study. On the other hand, 41 percent could be entered without force, 58 percent could not be lived in, and 86 percent were on poorly maintained lots. Thus, it was reasonable to expect that many of these buildings presented attractive opportunities for illegal users.

What Happened in Abandoned Buildings

For the 59 abandoned residential buildings studied, no illegal uses were apparent in 39 (66 percent). For the 24 unsecured buildings, however, evidence of illegal activities was

found in 83 percent. There was evidence of drug use in 11 buildings (19 percent). Drug paraphernalia (foil pipes, used syringes, broken mirrors and glass, burnt scraps in sinks and on floors) were found in all of these buildings. In many, the walls were stained with blood, and the floors were littered with used condoms and human excrement. The typical crack house rarely was completely open, but it could be entered easily. From the outside there were few signs to distinguish it from other (unabandoned) houses on the block, perhaps because dealers and users hoped to avoid attracting attention. Most of the drug houses were in the east side of the neighborhood.

These buildings are safe places to deal, use, and hide drugs. Activity within the houses is rarely visible from the street. Because no one cares for these properties, interruptions are unlikely. Police and other city personnel are reluctant to enter these buildings due to legal constraints, the danger and uncertainty involved, and the minimal payoff associated with a street-level bust. Narcotics officers are after bigger fish and open street dealers.

There was evidence of sex and prostitution in 12 buildings (20 percent) although it was much less apparent than the evidence of narcotics activity. The primary indicators of prostitution used in this study were reports from neighbors and used condoms scattered throughout the houses. Houses that had been used by prostitutes usually had many empty and broken liquor bottles, trash, and old clothes scattered about. Several of the sex houses were also locations for drug use, which suggests that users may have been trading sex for drugs. Unlike drug use, however, prostitution took place in abandoned buildings throughout the neighborhood and in some buildings that were in very poor condition.

Seven of the unsecured houses had been used as youth hangouts or club houses. Youth hangouts were characterized by the presence of empty beer and wine bottles, graffiti on the walls, cigarette packs and lighters, and a few condoms. There appeared to have been no criminal activity within these houses other than trespassing and some criminal mischief.

These buildings all were in the south side of the neighborhood.

Abandoned buildings provide direct evidence of property crimes in two ways. First, the building itself might have suffered criminal damage. From almost all of the unsecured buildings things of value had been removed by trespassers. Walls had been destroyed to make it easier to take copper pipe and wire. Appliances, carpets, and furniture had been ripped out of the walls and off the floors. It appeared that thieves often had found appliances such as stoves and refrigerators too heavy to move easily; instead, they had removed parts for reuse or resale. Second, the building might have been used to hide stolen property. Empty wallets, lawn equipment, and other obviously stolen property were found in five buildings (8 percent). In one building, all or parts of some two dozen bicycles were found stashed in a back bedroom. Squatters were found to be living in four buildings (7 percent). These buildings were structurally sound, and entry could be made only through a re-opened back door or window. Furniture was present and neatly arranged; sheets were on beds. One of these buildings was also the site of stolen property.

Thus, 20 of the 59 buildings (34 percent) clearly were being used illegally or for illegal purposes. Because evidence of illegal use might have been removed by owners, neighbors, or illegal users prior to the inspections, this figure underestimates the true figure. These 20 buildings were located on 16 blocks, so 19 of the blocks had abandoned buildings that had (apparently) not been put to illegal uses.

Crime and Abandoned Buildings

Illegal activities were not limited to the abandoned buildings themselves. Table 3 compares drug, property, and violent crime rates for the case and control blocks, expressed in crimes per block. As the Table shows, the ratios of case block to control block rates were about 2.0 for drug and theft cases, about 1.3 for violent calls, and about 1.8 overall. The drug, theft, and overall ratios

were significantly different from the predicted value of 1.0; the violent ratio was not. Of course, these ratios represent data aggregated for the 19 blocks on which all abandoned buildings were boarded up, fenced, or otherwise secured and the 16 blocks on which some buildings had been put to illegal uses. Certainly, one would expect more crimes around unsecured, illegally used buildings. On the other hand, it is not hard to imagine how an abandoned building, even though secured, could lead to an increase in crime and disorder. Youths or transients still might be tempted to hang out or sleep in the yard; thieves might stash their plunder out of sight behind a wall. In addition, some of these buildings could have been open, used illegally, and then secured at some time before the inspections conducted for this study. Still, the characteristic of abandoned buildings that makes them most attractive to kids, dealers, thieves, and transients—their potential for being secure, unsupervised hangouts—was lacking in about half of the vacant buildings examined for this research. It is even possible that blocks with vacant but secured buildings have no higher calls-for-service rates than fully occupied blocks.

Table 4 compares crime rates for the 16 blocks with illegally used buildings against those of the others. Blocks with unsecured buildings had 3.2 times as many drug calls, 1.8 times as many theft calls, and over twice the number of violent calls as the others. Blocks with vacant-but-secured buildings had significantly larger numbers of calls than did control blocks, but the difference (not shown on the table) was only about 30 percent.

When security was taken into account, other abandoned building characteristics were rarely helpful for predicting calls for service rates. Table 5 shows the change in R^2 for calls-for-service prediction equations associated with adding each of four groups of variables:

Vacancy status—the number of abandoned buildings (regardless of whether they were used illegally);

Physical condition—the condition of the worst buildings on the block, considering trashy and unkempt yards, substandard and

TABLE 3
CRIME RATES PER BLOCK FOR CASES AND CONTROLS

<i>Crime Rate</i>	<i>35 Cases (Standard Error)</i>	<i>24 Controls (Standard Error)</i>	<i>Ratio (Standard Error)</i>	<i>t Statistic p Value</i>
Drugs per block	60 1.714 (0.534)	19 0.792 (0.255)	2.165 (0.695)	1.667 p = .049
Property crimes per block	157 4.486 (0.771)	54 2.250 (0.893)	1.994 (0.570)	1.743 p = .043
Violent crimes per block	63 1.800 (0.432)	33 1.375 (0.963)	1.309 (0.633)	0.489 p = .313
All crimes per block	280 8.000 (1.466)	106 4.417 (1.893)	1.811 (0.557)	1.456 p = .075

TABLE 4
CRIME RATES PER BLOCK FOR UNSECURE CASES AND ALL OTHERS

<i>Crime Rate</i>	<i>16 Blocks with Illegal Uses</i>	<i>43 Other Blocks</i>	<i>Case/Control Ratio</i>	<i>t Statistic</i>
Drugs				
Total crimes	43	36		
Crimes/block	2.688	0.837	3.210	2.469
Standard error	(1.102)	(0.176)	(0.895)	p = .008
Property crimes				
Total crimes	85	126		
Crimes/block	5.312	2.930	1.813	1.990
Standard error	(1.425)	(0.607)	(0.408)	p = .026
Violent crimes				
Total crimes	41	55		
Crimes/block	2.562	1.279	2.003	1.235
Standard error	(0.832)	(0.552)	(0.812)	p = .111
All crimes				
Total crimes	169	217		
Crimes/block	10.562	5.047	2.093	2.167
Standard error	(2.839)	(1.160)	(0.504)	p = .017

dangerous housing, the security of abandoned housing, and whether an abandoned building had been reentered; also the number of working street lights at the time of inspection;

Block location—the proximity of the block to vacant lots, commercial areas, schools, parks, and apartment buildings that could themselves be attractive nuisances;

Demographics—including the percentages of residents who were black, Hispanic, younger than 18, or older than 65; also including the percentages of households that owned and that rented and the percentage that were single-parent families.

A few differences emerged. Blocks with abandoned buildings appeared to have high

property crime rates regardless of whether or not the buildings had obviously been used. Blocks with more renters and older residents and those closer to schools tended to have slightly higher property and violent crime rates than other blocks. So, even in a small, homogeneous neighborhood, crime appeared to cluster in identifiable patterns. Still, controlling for each of these variable groups had no effect on the predictive power of the category of illegally entered buildings.

It might seem reasonable to conclude that secured abandoned buildings are neither more nor less likely to attract crime than any other residential building. Buildings that are left unsecured, on the other hand, attract illegal

TABLE 5

PREDICTIVE POWER OF DETERMINANTS OF PER-BLOCK
CRIME RATES

Category of Variables	Drugs	Property	Violent
Illegally used buildings			
ΔR^2	.103	.070	.061
$F(1,57)$	5.361	4.320	3.153
Significance	.024	.042	.081
Vacancy status			
ΔR^2	.028	.077	.034
$F(2,55)$	0.847	2.270	1.006
Significance	.434	.113	.372
Building condition			
ΔR^2	.125	.133	.113
$F(6,51)$	1.186	1.216	1.019
Significance	.329	.313	.424
Block location			
ΔR^2	.096	.134	.043
$F(5,52)$	1.118	1.494	0.480
Significance	.363	.208	.799
Demographics			
ΔR^2	.065	.134	.189
$F(7,50)$	0.518	1.028	1.441
Significance	.817	.424	.210

Notes: ΔR^2 measures the change in R^2 from either 0 (for the category, illegally used buildings) or from the R^2 associated with illegally used buildings (for all other variables).

users and lead to doubling of the number of crimes committed on the block. However, an alternative interpretation merits discussion. It is possible that residents abandoned their houses because they were forced out by crime; illegal users simply continued to use the buildings after the residents had left. Thus, crime caused abandonment, rather than vice versa. However, although such a scenario seems reasonable, it is not consistent with what else is known about abandonment in Austin during the late 1980s. Virtually all of the owners who abandoned their property were absentee landlords rather than residents; most did so when the probable sales price dropped below the mortgage value; price reductions are well explained by the drop in regional demand, and block-specific explanations are unnecessary; abandoned buildings were distributed randomly throughout the neighborhood and not clustered, as would be expected if crime caused abandonment. It is certainly possible that a few buildings were abandoned due to threats of crime, but it is unlikely that there were very many.

DISCUSSION

The only way to know what will happen if abandoned buildings are secured is to secure them, so any policy recommendations made on the basis of these findings must be taken with a modicum of caution. On the other hand, findings of this study unequivocally support a general theoretical conclusion: the location of criminal hangouts should be a consideration in situational crime prevention studies. In this case, criminal hangouts were themselves hot spots or generated hot spots in their immediate vicinity, but this might not always occur. If delinquent groups or criminal gangs choose to meet in primarily industrial areas, for example, there will be no one to complain during most hours of the day; if they hang out in a public area such as a school or park, they may intimidate potential complainants. In such cases, it might be found that the criminal hangout is the hole in a doughnut of criminal hot spots (see also Brantingham and Brantingham, 1981; Turner, 1969). Elimination of hangouts might simply move offending groups around; it might reduce their frequency of offending; it might even break them up. It probably will do *something*, and that makes it worth pursuing.

The link between criminal hangouts and crime scenes also points up a limitation of formal and informal social control. The key characteristic of the criminal hangout is that it is private, even secret. The police and the public have no more right to patrol or enter these locations than prostitutes, drug dealers, or youth gangs have to use them. Foot patrol officers and neighbors might notice when these buildings have been occupied, and they might even check the premises from time to time, but it is unlikely that they will be able to exert much control over the activities of the buildings' illegal users. Here, then, is a case in which the environmental approach to crime prevention is much more likely to be effective than the social approach.

None of the present study's findings is really surprising. Careful observers of urban conditions long have theorized a link between abandonment and crime (Wilson and Kelling, 1983; 1989); cities and states around the

U.S. have taken a variety of actions regarding abandoned housing on the assumption that such a link existed (Gurwitt, 1990). Why, then, do such conditions continue?

One answer lies in the way housing inspectors organize themselves and their work. Like police, fire, and public works departments, most housing inspection agencies are driven by individual complaints (Sherman, 1986). That is, the need to handle complaints is so great that the inspectors have no time to deal with underlying causes or even with dangerous conditions that do not generate citizen complaints. In Austin, 85 percent of housing inspections are conducted after a complaint has been filed by a citizen; only 15 percent are conducted by an inspector on his or her own initiative. Because not all abandoned houses are reported, fewer than half of the vacant housing units in Robertson Hill were known to the inspection staff at the time of this study.

Another reason is that the remedies for substandard and dangerous housing, like the remedies for crime, are time-consuming and difficult to implement. It is true that some complaints are invalid, and some can be solved easily because the owners are cooperative. Of 87 complaints filed with the Austin inspection department in January 1989, 26 (30 percent) were closed within five working days. However, many landlords are hard to find, or they put up a fight once they are found. Of the 61 cases that could not be closed within a week, 47 were closed an average of 92 working days after they were filed, and 14 were still open on 15 April 1990—fifteen months after they had been filed. The millstones of civil justice grind no more quickly than those of the criminal courts.

In response, some cities are trying to identify buildings that might deteriorate or be used illegally in advance of any problems and deal with them proactively. Seattle has developed a statistical early-warning system designed to identify deteriorated buildings before they are too far gone. Several eastern states allow the courts to appoint receivers, who have authority to repair buildings and force the owners to pay the bills. Louisville, Kentucky has

pioneered the use of eminent domain against intransigent owners (Gurwitt, 1990).

Whether such policies would be cost-effective depends upon the costs and benefits of securing each abandoned building. Buildings can be secured in any of three ways: boarding up, repair, and demolition. Demolition is relatively cheap—about \$1.25 per square foot, or \$1,250 for the typical Robertson Hill single-family home. Although demolition solves the problem permanently, obtaining permission to demolish a house or apartment often requires a time-consuming and expensive legal battle (Cervantes, 1992). Repairs (when feasible) are expensive, averaging about \$15.00 per square foot or \$15,000 for the typical home (Henneberger, 1988). In addition to being expensive, the design and construction work are time-consuming. Often houses and apartments must be secured with plywood boards before work can begin. Boarding up provides immediate relief since the city has authority to board up a dangerous house without the owner's permission. The Austin Code Enforcement Department pays its contractors \$1.88 per square foot of door and window area, and typical door and window area per house is approximately 180 square feet, for an average cost of roughly \$350 per house (Cervantes, 1992). For the time being, let the reader assume that the costs of securing these buildings would be borne equally by all residents of the neighborhood—not just those living in the case blocks, but not those living elsewhere in the city either.

The benefits of securing abandoned housing are much harder to estimate since it is unclear what effects securing such buildings might have on crimes in the immediate neighborhood. Two opposite scenarios mark the range of possibilities:

Full displacement. Illegal users move away from the abandoned buildings, so the case blocks are no longer at higher risk than the others; however, crime rates for control blocks go up to compensate, and the total number of crimes committed remains constant.

No displacement. Illegal users move away and commit no crimes elsewhere; the block's risks decrease to the average for the control blocks, which remains constant.

What really happens probably is something between these two extremes (Gabor, 1990). In fact, it is possible to calculate the extent of displacement as a proportion between 0 and 1, where 1 designates full displacement and 0 means none at all.

Let the reader assume also that case and control blocks are represented in U.S. cities at roughly the rate they appeared in the sample for the present study, that crime hurts victims but no one else, and that victims' costs can be roughly measured as a combination of direct losses (self-reported) and tort settlements and awards (which provide a measure of medical costs and pain and anguish associated with injuries) (Cohen, 1988). Then, the average cost per violent crime is about \$4,900, the average cost per property crime is about \$1,500, and the average cost for (victimless) drug crimes is zero. Some have speculated that figures based on court awards are inflated; on the other hand, crimes generate costs for victims' friends and neighbors and others besides the immediate victims, and the indirect costs of crime probably are a multiple of the direct costs (Conklin, 1975; DuBow, McCabe, and Kaplan, 1979). On balance, then, these assumptions lead to systematic understatement of both the costs and the benefits of securing abandoned buildings.

Table 6 shows the net benefits accruing to case and control blocks from boarding up all unsecured abandoned residential buildings in

the neighborhood, under each of the two scenarios. Note first that the cost of securing open buildings—\$8,400 for all buildings studied—is approximately 1 percent of the annual crime costs. So, even if the intervention is utterly useless, it is a minor risk. Second, crime costs currently are much higher in the blocks with unsecured buildings than in the others; even in the full displacement case, the gains to residents of these blocks are much greater than the losses for their neighbors. Thus, boarding up abandoned buildings would enhance equity dramatically. Finally, the total benefits under no displacement are much greater than the losses under full displacement. If γ denotes the proportion of all crimes moved that are simply displaced and not ultimately prevented (the extent to which displacement occurs), then the boarding up program yields net social benefits for all γ less than .947. Given the limited evidence favoring the displacement hypothesis, this seems a safe bet.

These results also support longer-term remedies. So long as $\gamma < .810$, a program of demolishing all unsecured buildings will provide net social benefits in the first year. Repairs are too expensive to produce net benefits within a year, but if the crime prevention benefits continue for a period of five years and a discount rate of 9 percent is applied, then a repair program will provide net benefits so long as $\gamma < .552$. Repairing substandard and dangerous abandoned buildings also puts them back into the housing stock,

TABLE 6
NET BENEFITS OF SECURING ABANDONED HOUSING

<i>Costs and Benefits</i>	<i>16 Unsecured Blocks (per block)</i>	<i>43 Secured Blocks (per block)</i>	<i>59 Total Blocks</i>
Current costs	\$20,525	\$10,663	\$786,900
Full displacement scenario			
Costs after	13,480	13,480	795,300
Net benefits	7,045	-2,817	-8,400
No displacement scenario			
Costs after	10,805	10,805	637,505
Net benefits	9,720	-142	149,395
94.7 percent displacement scenario			
Costs after	13,337	13,337	786,900
Net benefits	7,188	-2,674	0

Note: Costs and net benefits are provided per block in columns 1 and 2; totals over all blocks are provided in column 3.

so the benefits go beyond the number of crimes prevented. Alternatives to direct intervention—levying stiff fines or taxes against owners of unsecured, vacant property—might be even more effective. Since 83 percent of the unsecured buildings had been put to illegal uses and were legally “dangerous,” a tax (which may be abated under extraordinary circumstances) seems entirely appropriate.

All of this suggests that identification and securing of abandoned houses, at least in crime-ridden neighborhoods like Robertson Hill, might be an important element of a general crime prevention strategy. Nevertheless, it will be effective only if all of the abandoned buildings on a block can be secured. Depending upon the extent of displacement, it may not help the neighborhood as a whole unless all houses in the neighborhood can be secured. So the identification method needs to be proactive and comprehensive.

Several months after this study’s principal findings were provided to Austin’s Neighborhood Housing and Conservation Department, that agency began such a program. Working with Austin Interfaith, a community service organization associated with the Industrial Areas Foundation, the NHCD conducted a house-to-house survey of Robertson Hill and adjacent neighborhoods. Through records checks, visual inspections, and interviews with neighborhood residents, the agency compiled a complete list of all vacant and abandoned buildings—residential, commercial, and industrial. Austin’s new inspection agency, the Code Enforcement Department, plans to organize its efforts on a neighborhood-by-neighborhood basis in the future (Watkins, 1991). Whether this new policy will reduce crime, and whether other complaint-driven agencies will follow this lead and reorganize to meet neighborhood needs, are issues for further evaluation.

As noted above, housing inspections are by no means the only complaint-driven city service, in Austin or elsewhere. In many cities, overworked public works departments patch and repatch deteriorating streets, cut down shrubbery only when it becomes a traffic hazard rather than just an unsightly mess, and

so on. Fire, health, and even parks and recreation departments focus their attention on individual incidents and complaints rather than on the underlying conditions that generate these complaints (cf. Deming, 1986). If the “spiral of decay” metaphor is appropriate, the failure of these agencies to address such conditions might be shortsighted, leading to more disorder, deterioration, and crime in the long run.

The city of Austin’s experiment has only begun, and evaluation results are not yet available. However, there is a chance that by recognizing the link between physical conditions and crime and organizing accordingly, Austin and other cities can create new opportunities for reducing crime and improving the quality of life in these long-suffering neighborhoods.

ACKNOWLEDGEMENTS

The author wishes to thank Karen Young, John Young, Jessica Wales, Melissa Waflart, Timothy Tompkins, Merrill Shepherd King, Bobby Cortez, and Marci Bounds, who collected the data and conducted a first-cut analysis. Two anonymous reviewers provided helpful comments, and Ann Munster provided a thorough edit. Vaughn Camacho of the Austin Police Department offered helpful advice and access to police reports. Gene Watkins of the Neighborhood Housing Conservation Division provided access to housing complaints data and a happy ending. Any remaining errors are solely the responsibility of the author.

NOTES

1. A second neighborhood, Bouldin Creek, also was surveyed, and 12 abandoned buildings identified. Unfortunately, residents of the eligible control blocks proved to be systematically whiter, richer, and older than those of the case blocks. Although the results for Bouldin Creek are less persuasive as a result, they were virtually identical to those reported here.

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