



A STUDY OF TRAFFIC PATTERN MODIFICATIONS IN AN URBAN CRIME PREVENTION PROGRAM

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ABSTRACT

A review of the defensible space crime prevention literature suggests that residential street closings or traffic modifications, while not likely to reduce the crime rate, may account for a reduction in the perception (fear) of crime. This article examines two adjacent neighborhoods in St. Louis, Missouri, one in which traffic modifications were made five years prior to this study. Part I crime data for both neighborhoods are compared over time and the results of a random survey of residents regarding their perceptions of crime is presented. The findings reveal that crime in the neighborhood where traffic flow was modified had a lower rate of increase in the crime rate than the control neighborhood. In addition, while respondents in the experimental neighborhood considered crime in their neighborhood more serious, their fear of crime was lower than in the control neighborhood. Copyright © 1997 Elsevier Science Ltd

INTRODUCTION

Lewis and Salem (1981:406) observe that, after three-quarters of a century of attempting to change the perpetrators of crime, a new crime prevention orientation arose in the 1970s, one that “shifted the locus of attention from potential offenders and their motivations to potential victims and their environment.” Crime prevention is to be accomplished, they maintain, not by changing criminals, but by *educating potential victims* and by *reducing the opportunities for crime*.

Jane Jacobs (1961), whose work was to influence others in the following years, was an earlier advocate of this approach. Jacobs offers constructive criticism about city planning and

rebuilding; it is an eloquent, yet simple, approach to “saving” American cities. She notes that, “When people say that a city, or a part of it, is dangerous or is a jungle what they mean primarily is that they do not feel safe on the sidewalks” (Jacobs, 1961:29–30).

Newman (1973) acknowledges the work of Jacobs and others in his study. City residents, he argues, are in need of “defensible space,” which he defines as “a living residential environment which can be employed by inhabitants for the enhancement of their lives, while providing security for their families, neighbors, and friends.” (Newman, 1973:3)

Jacobs (1961) and Newman (1973) were the front-runners in a new era in crime prevention: an approach that sought to alter the physical en-

vironment to reduce the opportunities for crime. It became the theme for a major experiment.

THE ENVIRONMENTAL APPROACH TO CRIME PREVENTION

The first significant test of the environmental approach began in 1973 in Hartford, Connecticut. The Hartford Experiment, which was in effect for five years, was based on the premise that criminal opportunities could be reduced by:

- (a) Altering the physical aspects of buildings and streets to increase surveillance capabilities and lessen target/victim vulnerability, to increase the neighborhood's attractiveness to residents, and to decrease its fear-producing features;
- (b) Increasing citizen concerns about and involvement in crime prevention and the neighborhood in general; and
- (c) Utilizing the police to support the above. (Lewis and Salem, 1981:406)

The Hartford study showed a clear and significant reduction in burglary, and a reversal of the trend in the street crimes of robbery and purse snatching in its first year, as well as a reduction in the fear of crime. The experiment was more successful in maintaining a reduced fear of crime, however, than in crime reduction; the crime rate slowly rose to previous levels after the first year. Murray (1983) notes that both burglary and robbery, which had decreased significantly after the first year, rose to expected levels over the next two years.

These earlier studies obviously became the catalyst for a community crime prevention program in St. Louis, Missouri—Operation SafeStreet.

OPERATION SAFESTREET

Operation Safestreet was the name given the St. Louis program that began on January 1, 1984. It consists of five projects designed to involve neighborhood residents in the community crime prevention effort: (1) *Project Porchlight*—which asks residents to keep their porchlight on from dusk to dawn as a deterrent and as

a show of support for the crime prevention effort; (2) *Project Quiet Street*—the modification of vehicular traffic patterns through street closings and/or diversions to discourage nonresident traffic, to increase the sense of community and security in the neighborhoods, and to help residents identify strangers and suspicious occurrences; (3) *Project Home Security*—the installation, by Operation SafeStreet employees, of target-hardening devices such as double cylinder deadbolt locks, window pins, peep holes for doors, and basement door barricades and window bars at a cost of \$150.00 for the entire package (with all materials and labor provided free of charge to senior citizens and those persons living on disability incomes); (4) *Neighborhood Watch*—a nationwide crime prevention program, sponsored in cooperation with the St. Louis Police Department, which trains citizens how to accurately observe and report critical information to the police department; and (5) *Operation SafeStreet Newsletter*—a regularly published newsletter, distributed free to residents of target neighborhoods, designed to keep the residents apprised of the current crime situation in their neighborhoods and to offer crime prevention tips and advice. Operation SafeStreet was designed to be phased-in, in eight six-month increments over a four-year period. The entire City of St. Louis came under the aegis of Operation SafeStreet in 1989.

This article is not an evaluation of the Operation SafeStreet program. It will instead focus on one aspect: Project Quiet Street. Project Quiet Street was chosen for study because results of previous studies of street closing and/or traffic diverters have indicated that they have a greater rate of success in reducing the *fear* of crime than the actual crime rate. The results of previous studies could be supported or refuted by the findings in St. Louis.

PROJECT QUIET STREET

The effect of altering neighborhood traffic patterns has been a focus of several studies. These studies of street-closures/traffic diversions have generally addressed two areas: (1) the effect on the reduction of crime; and (2) the

effect on the people of a neighborhood regarding their perceptions of crime (the fear of crime) and what could be termed the "quality of life."

Effects on Crime

Murray (1983:113) observes that the Hartford Experiment was one good test of the merits of the street alteration approach. Creating cul-de-sacs, using one-way streets, and so forth, reduces outside traffic, increases pedestrian traffic, and gives the neighborhood physical boundaries. These types of changes are "in accord with defensible space theory about how to encourage territoriality, natural surveillance, and a safer image and milieu" (Murray, 1983:113).

Bevis and Nutter (1977) compared the residential burglary rates of various street layouts in Minneapolis. They concluded that, "inaccessible street layouts are associated with low residential burglary rates" (Bevis and Nutter, 1977:22). They found this to be true of cul-de-sac, dead end, and L-type blocks, but not true of T-type blocks.

Rubenstein et al. (1980) reviewed dozens of studies in their National Institute of Justice report on the environmental approach to crime prevention. From their review of the studies, the authors conclude that both too little *and* too much traffic increases vulnerability to crime.

Overall, previous studies indicate that street closings and traffic diverters have *some* effect on crime, but crime reduction does not seem to be the major benefit.

Effects on Quality of Life

Research dealing with street closures/diversions has demonstrated that the greatest benefit to be derived by these actions fall into a category one might refer to as "quality of life."

Heinzelmann (1981) says that the street closings and diversions in the Hartford experiment reduced commuter traffic, permitting residents to more easily recognize strangers. Local residents began to make greater use of their streets and parks. In addition, the residents' fear of crime and their perceptions of crime as a serious problem decreased significantly.

Appleyard (cited in Titus, 1984) studied streets that were similar socially and architecturally but differed considerably in levels of vehicular traffic. He found that streets with less traffic had more resident use of sidewalks by children playing, adults socializing, and more acquaintanceships on the same side of the street and across the street (Titus, 1984:8).

Titus (1984:9) concludes that, "In general, it does seem to be true that the task of neighborhood-building is made easier where there are less outsiders and through traffic to contend with."

Yet, of all segments of Operation SafeStreet, Project Quiet Street produced the greatest amount of discord among politicians and citizens alike. Between the mayor's announcement of the crime prevention program in November 1983, and the completion of permanent street closures/diversions in the first neighborhood one year later, two lawsuits against the city were filed, on unsuccessful recall election of an alderman was held, and attempts were made to recall three other aldermen. The street closings were either the main issue or one of the issues in each of the recall efforts.¹

The series of events that occurred as a result of Project Quiet Street may or may not have been avoidable. The Hartford Neighborhood Crime Prevention Program had run into some of the same obstacles. Most of the opposition in Hartford, however, came from businessmen in North Asylum Hill who were concerned that restricted traffic would negatively affect their business. The area businessmen sued the City Council but the suit was settled out of court after agreement was reached over some physical changes. Public meetings were held, modifications made, and the temporary barriers installed (Fowler, McCalla, and Mangione, 1979).

City officials in St. Louis took a cue from Hartford while Operation SafeStreet was on the drawing board. First, the street barriers were to be installed only if a majority of the residents and business people wanted them in the neighborhood; these were subject to review after the barriers had been in place for six months. As a result, four of the nine neighborhoods in Phase I had no barriers. One of the four neighborhoods dropped "Project Quiet Street" during the six-

month trial. Second, a number of residents from each of the neighborhoods that eventually kept their barricades were appointed to work with city officials to devise a plan that was acceptable to a majority of residents and business people in each neighborhood.

Third, the mayor and other city officials held town hall meetings where the residents could voice their opinions and concerns. Some modifications were made as a result of neighborhood meetings. At the conclusion of the four-year period in 1988, only two target areas in the city had permanent street closures or diverters throughout the neighborhood. One of these, known as the West neighborhood, is one of the two neighborhoods in this study.

THE TWO NEIGHBORHOODS

The Operation SafeStreet staff attempted, as closely as possible, to align the crime prevention program with existing and identifiable neighborhoods. The two neighborhoods in this study, the experimental (West neighborhood) and the control (East neighborhood), are contiguous; a major north-south arterial street separates them. In addition, the north boundary for both neighborhoods is the same interstate highway. Each has a long history as an identifiable neighborhood and each has active neighborhood associations.

The West Neighborhood

The West neighborhood was among nine selected for the first six-month phase of Operation SafeStreet. It encompasses approximately 55 square blocks. The 1990 census lists 3,841 housing units; 25.5 percent are single family units, 50.1 percent are two to four family units, and the remaining 24.4 percent range from five to fifty-plus units. Retail stores are found on major thoroughfares. The census lists 7,579 residents in 3,152 households or 2.40 residents per household. The West neighborhood is racially integrated: 59.2 percent Caucasian and 38.2 percent African American. The remaining 2.6 percent are mostly those of Asian origin.

This neighborhood is bordered by an interstate highway on the north, a major arterial street on the east, and two heavily traveled thoroughfares on the south and west. The distance between the east and west border streets is six blocks; between the north and south border streets, ten blocks. The traffic diverters, stone blockades containing flower boxes, prohibits any through traffic between the east and west border streets. Anyone wishing to drive into the heart of the neighborhood must enter from one of the north or south border streets and then turn east or west. The West neighborhood is not "sealed off," but access from one border street to the other is either not possible or is severely limited.

The East Neighborhood

The East neighborhood began participating in Phase II of Operation SafeStreet. Phase II began in July 1984. The East neighborhood is geographically larger than West, encompassing some 94 city blocks. It is also an area of single- and multiple-family residences with retail stores on major thoroughfares. The 1990 census counted 7,600 residents in 3,124 households or 2.43 residents per household. The East neighborhood is less racially integrated than the West. The 1990 census listed 71.3 percent of the residents as Caucasian and 22.7 percent African American.

These two neighborhoods were selected for this study because: (1) they are adjacent to one another; (2) they are demographically similar in many respects; (3) they were put "on-line" by Operation SafeStreet within the same calendar year; and (4) both neighborhoods have strong neighborhood associations that include active block units and crime prevention efforts. Table 1 permits comparisons of several demographic characteristics of the two neighborhoods.

METHODOLOGY

This study seeks the answers to two questions: (1) Is there a reduction of crime in a neighborhood with physical traffic modifica-

TABLE 1
SELECTED DEMOGRAPHIC INFORMATION, WEST AND EAST NEIGHBORHOODS

	<i>West Neighborhood</i>	<i>East Neighborhood</i>
Size (square blocks)	55	94
Population (%)		
African American	2,899 (38.2)	1,725 (22.7)
Caucasian	4,484 (59.2)	5,416 (71.3)
Other	196 (2.6)	459 (6.0)
Median household income	\$21,428	\$21,175
Education		
Less than high school	25.3%	33.3%
High school	22.3%	25.9%
Associate degree	4.2%	2.3%
Bachelor's degree	18.2%	11.0%
Graduate degree	10.8%	10.9%
Age distribution		
0-4	8.4%	9.3%
5-17	18.3%	18.2%
18-24	11.0%	9.9%
25-34	24.8%	22.0%
35-44	16.0%	15.1%
45-54	7.1%	7.1%
55-64	5.5%	6.7%
65+	8.9%	11.7%
Unemployed	7.4%	11.3%
Renters	63.8%	63.6%
Vacant houses	17.9%	14.0%

Note: United States Department of the Census (1990).

tions compared to one that has no modifications and, if so, over what period of time; and (2) Does it reduce the *fear* of crime and thus contribute to the quality of life?

The amount of reported crime in both neighborhoods was obtained from the office of Operation SafeStreet. That office obtains the Uniform Crime Reports figures, on a daily basis, from the St. Louis Metropolitan Police Department.

A questionnaire was mailed to households in both neighborhoods. Those selected came from a city directory that includes all residents in St. Louis who have a published telephone number.² All of the addresses listing a telephone number in both neighborhoods were obtained. (Individual apartments and condominiums were counted as individual addresses.) A computerized random number generator was used to select one-third of the addresses in West and East. A questionnaire was mailed to each selected address. Six hundred and thirty questionnaires were mailed to West residents and 730 were mailed to residents of the East neighborhood. All streets in both neighborhoods were represented. A letter explaining the purpose of the survey

was enclosed with a copy of the questionnaire, and a business reply envelope was included.

A total of 356 questionnaires was returned: 171 from West; 185 from East. This represents a 27 percent return from the West and a 25 percent return from the East. Based upon the 1990 census, the returns constitute 5.9 percent of the households in the West neighborhood, and 5.4 percent of those in the East. Except for returns from large apartment complexes, the returns did not show any evidence of clustering.

What one might expect to find comprises the hypotheses of this study. First, previous research indicates that the West neighborhood should initially, because of the street diverters, show a lower rate of certain reported crimes, particularly residential burglary (and, to a lesser extent, street crimes) than either the East neighborhood or the overall city rates. One would then, after approximately one year, expect the actual rate of these crimes in the West neighborhood to return to previous levels.

Second, one might also hypothesize that the residents of the West neighborhood (with the street diverters) would be less fearful of becom-

ing a crime victim than residents of the East. The feeling that one is now less likely to be a victim of crime than in the past is not necessarily tied to the actual rate of crimes, but is a perception that one is less likely to become a victim of crime. This perception, if expressed by the residents of the West neighborhood and not those in East, might be attributed to the traffic flow diversions in the West neighborhood.

The survey instrument sought to determine not only what differences exist between the residents of West and East, but also between the residents within each of the two neighborhoods.

FINDINGS

Two sample biases must be given recognition. First, as previously noted, the universe from which the sample was selected came from a city directory that listed only those addresses that had telephone numbers published in the local telephone company directory. The second bias is common to all mail surveys: included are only those persons who complete and return mail questionnaires.

West

The respondents were asked if they thought crime in their neighborhood was: (1) not very serious, (2) somewhat serious, (3) serious, or (4) very serious. As Table 2 indicates, most of the responding West residents (59 percent) considered crime in the neighborhood to be a "serious" or "very serious" problem. These respondents tended to be clustered in the 25-34 age range. One-third considered crime to be "somewhat serious."

The West respondents felt that the greatest crime problem in their neighborhood was residential burglary (48 percent), 23 percent felt that drug sales were the biggest problem. The remaining 29 percent chose one of six other crimes. Of those who didn't choose burglary as the greatest problem, 18 percent picked it as the "second biggest" problem; motor-vehicle theft was selected as the second biggest crime problem (21 percent); 15 percent chose drug use. Thus, two-thirds of the West respondents indicated that burglary was their first or second crime fear. Only 11 percent of the respondents felt that homicide, robbery, and assaults constituted the biggest problem; while 16 percent felt that they were the second greatest concern.

Since a property crime (burglary) is a greater concern of West residents than crimes of violence, one might expect that they would not be particularly concerned about being out and about in the neighborhood. As Table 3 shows, this expectation was realized in the daytime, when 81 percent of the respondents indicated that they were not afraid to walk in their neighborhood. Thirty-one persons, predominantly female, and ranging from the youngest age group to the oldest, were even afraid to walk in the neighborhood in the daytime.

The numbers were essentially reversed at night, with three-quarters of all respondents having some fear of walking in the neighborhood in the dark. Of these, 38 percent said that they were "very afraid," and 19 percent were "extremely afraid."

Almost half (47 percent) of the West respondents had household members who had been victims of crime in the past 12 months. They were mostly victims of burglary (28 percent) and stealing (27 percent) reflecting, to some de-

TABLE 2
PERCEPTION OF CRIME IN WEST NEIGHBORHOOD ($N = 163$) BY AGE AND SEX

	18-24		25-34		35-44		45-54		55-64		65+		Total
	M	F	M	F	M	F	M	F	M	F	M	F	
Very serious	0	2	5	6	3	4	0	5	0	0	0	2	27 (17%)
Serious	0	4	11	14	7	12	3	6	1	0	6	5	69 (42%)
Somewhat serious	1	2	3	15	8	9	1	2	3	3	2	5	54 (33%)
Not very serious	0	2	1	2	0	3	2	0	2	0	0	1	13 (8%)
Total	1	10	20	37	18	28	6	13	6	3	8	13	163

TABLE 3
FEAR OF WALKING IN WEST NEIGHBORHOOD (N = 160) BY AGE AND SEX

	18-24		25-34		35-44		45-54		55-64		65+		Total
	M	F	M	F	M	F	M	F	M	F	M	F	
Afraid—day	0	3	2	7	4	4	0	2	1	0	2	6	31 (19%)
Not Afraid—day	1	6	20	29	15	22	6	11	7	0	5	7	129 (81%)
Afraid—night	1	7	15	31	13	20	2	11	3	0	7	12	122 (76%)
Not Afraid—night	0	2	7	5	6	6	4	2	5	0	0	1	38 (24%)

gree, their choices of the greatest crime problems in the neighborhood.

Virtually all the respondents had target-hardened their residences at some time. The most popular was the installation of deadbolt locks (37 percent), window pins (21 percent), and window grilles (12 percent); 11 percent of the respondents indicated that they had installed burglar alarms. (Although the deadbolt locks, window pins, and window grilles were those measures advocated by Operation SafeStreet, it is unknown whether those devices had been installed independently or as a response to Operation SafeStreet.)

Who were the respondents? They were predominantly Caucasian females in the forty to forty-four age range.

East

Respondents from the East neighborhood also considered crime to be a serious problem in their neighborhood (see Table 4). Unlike their neighbors in the West neighborhood, fewer than half of the East respondents (42 percent) felt that crime was a “very serious” or a “serious” problem. A greater number (44 percent) found

crime to be only “somewhat serious.” These perceptions were shared by both male and female respondents in the twenty-five to thirty-four and thirty-five to forty-four age ranges.

As in the West, East neighborhood respondents cited burglary as the biggest problem (50 percent); 17 percent viewed vehicle theft as the greatest problem. The remaining answers were mostly spread over several other property crimes; violent crimes were cited as the greatest crime problem by only 9 percent of the respondents. The second greatest crime concern in East, as in the West neighborhood, was vehicle theft (30 percent). As in West, those who did not consider burglary their first concern, chose it as their second (18 percent). Drug use (14 percent) and stealing (11 percent) were the only other double-digit concerns. Also, as in West, the great concern with being the victim of a property crime might be expected to soften any fear of walking in the neighborhood. As seen in Table 5, eighty-eight percent of the respondents said that they were not afraid to walk in the neighborhood in the daytime. East neighborhood residents were, however, not quite as afraid to walk in their neighborhood in the dark as West respondents.

TABLE 4
PERCEPTION OF CRIME IN EAST NEIGHBORHOOD (N = 176) BY AGE AND SEX

	18-24		25-34		35-44		45-54		55-64		65+		Total
	M	F	M	F	M	F	M	F	M	F	M	F	
Very serious	1	1	2	4	1	0	3	0	1	2	1	2	18 (10%)
Serious	2	1	5	11	9	8	4	2	2	3	4	5	56 (32%)
Somewhat serious	2	0	10	13	13	13	8	3	1	1	4	9	77 (44%)
Not very serious	1	3	2	4	2	2	1	0	0	1	2	7	25 (14%)
Total	6	5	19	32	25	23	16	5	4	7	11	23	176

TABLE 5
FEAR OF WALKING IN EAST NEIGHBORHOOD (*N* = 170) BY AGE AND SEX

	18-24		25-34		35-44		45-54		55-64		65+		Total
	M	F	M	F	M	F	M	F	M	F	M	F	
Afraid—day	1	1	0	2	2	3	2	0	0	2	3	5	21 (12%)
Not Afraid—day	6	5	18	28	23	19	13	5	3	3	7	19	149 (88%)
Afraid—night	4	4	9	26	13	19	8	4	2	5	9	20	123 (72%)
Not Afraid—night	3	2	9	4	12	3	7	1	1	0	1	4	47 (28%)

Like West, almost half (48 percent) of the East respondents had members of their households who had been victims of crime in the past twelve months, principally burglaries (28 percent) and stealing (21 percent). Unlike those in the West neighborhood, however, East respondents reported almost three times as many motor vehicle thefts as West respondents.

As in West, most of the residents had done some target-hardening at their residences. The most popular in East (as was true in West) was the installation of deadbolt locks (35 percent) and window pins (19 percent); but a slightly greater number of East than West neighborhood respondents (14 percent) indicated that they had installed burglar alarms. These devices were obviously installed to prevent burglaries, but to what extent they predated Operation SafeStreet was not determined.

The East neighborhood respondents were similar to those in West: predominantly Caucasian females in the forty to forty-four age range.

Crime

Do the resident's perceptions of crime fit the reality? Are residence burglaries so numerous

that approximately half of the respondents in both neighborhoods see them as the greatest crime problem? Are motor-vehicle thefts in the two neighborhoods so great a problem as to warrant the listing, by 21 percent of the respondents in West and 30 percent of those in the East, as the second greatest crime problem in their neighborhoods? Table 6 reports the city-wide crime rates for the five-year period to the conduct of the survey.³ The first year (1985) is also the first full year that both neighborhoods were under the umbrella of Operation SafeStreet.

The city-wide crime rate continued a steady increase in all areas but residential burglaries. This was generally the case until 1988, when residential burglaries also showed an increase. Only residential burglaries, however, showed a decrease over the entire period. Motor-vehicle thefts increased by two-thirds over the period. Both crimes, however, showed increases in 1989, the year prior to the survey.

When one looks at the crime rates in the police district in which both neighborhoods are located (the Hilltop Police District), residential burglaries and motor-vehicle theft increased and decreased in a seemingly random manner

TABLE 6
COMPARISON OF CITY-WIDE CRIME RATES, 1985-1989

	1985	1986	1987	1988	1989	Total	Change
Homicide	169	195	153	141	158	1,096	-6.5
Forcible rape	384	373	332	305	330	2,396	-14.1
Robbery	3,136	3,326	3,296	3,327	4,220	24,257	34.6
Agg assault	4,953	5,995	5,997	6,709	7,936	39,876	60.2
Res burglary	9,593	8,968	8,302	8,703	9,261	64,797	-3.5
Larceny/Theft	21,390	21,641	25,157	26,735	26,669	165,617	24.6
Mtr veh theft	5,583	7,135	7,677	7,458	8,932	47,334	59.6
Total	45,208	47,633	50,914	53,378	57,506	345,373	26.5

TABLE 7
HILLTOP POLICE DISTRICT CRIME RATES, 1985-1989

	1985	1986	1987	1988	1989	Total	Change
Homicide	21	30	29	18	26	157	23.8
Forcible rape	59	65	57	72	59	422	00.0
Robbery	515	530	572	533	795	3,927	54.4
Agg assault	967	1,151	1,222	1,327	1,626	7,743	68.1
Res burglary	2,723	2,535	2,359	2,426	2,739	16,902	0.5
Larceny/Theft	4,110	4,558	5,079	4,732	5,295	32,945	28.8
Mtr veh theft	868	1,112	1,309	1,262	1,587	8,111	82.8
Total	9,263	9,981	10,627	10,370	12,127	70,207	30.9

(see Table 7). There too, 1989 ended with increases.

The picture is unchanged at the neighborhood level. In the West neighborhood (Table 8) residential burglaries rose and declined in alternate years until 1989, when the rates jumped to almost 400 residential burglaries.

In the East neighborhood, residential burglaries were down for the three-year period following 1985, but rose to a five-year high in 1989. As demonstrated in Table 9, motor-vehicle theft rates went up and down until 1988, when there was a 48.7 percent increase.

CONCLUSIONS

Modern crime prevention is more than preventing crime. Lab (1988:9) says that, "Crime prevention entails any action designed to reduce the actual level of crime and/or the perceived fear of crime." The two parts of Lab's (1988) definition formed the basis for this study. Did the physical street modifications in the West neighborhood reduce the "actual level" of

crime? Did those modifications reduce the "perceived fear" of crime?

Previous studies suggest that altering the physical aspects of streets in certain ways might reduce residential burglary rates and, perhaps, street crime such as robbery and purse snatchings. The defensible space crime prevention position reasons that the decreased vehicular traffic flow will result in additional usage by residents. More residents on the streets results in additional "eyes" with which to recognize strangers. In combination with a strong Neighborhood Watch effort, the increased pedestrian traffic is expected to have a deterrent effect on potential violators or result in the arrest of someone committing a crime. This was the expectation, but not the long-term reality, in the Hartford experiment.

The rate of reported crime in the focus of this study, the West neighborhood, annually rose or declined without apparent reason. In 1984, the year the street modifications were completed, the overall crime rate had declined by 13.9 percent from the previous year.⁴ In 1985, the first full year after street modifications, Part I crime increased by 20 percent over 1984.

TABLE 8
WEST NEIGHBORHOOD CRIME RATES, 1985-1989

	1985	1986	1987	1988	1989	Total	Change
Homicide	1	2	2	3	1	9	0
Forcible rape	8	7	0	7	3	25	-62.5
Robbery	66	62	52	57	63	300	-4.5
Agg assault	53	52	40	50	48	243	-9.4
Res burglary	374	287	301	280	385	1,627	2.9
Larceny/Theft	283	348	417	331	323	1,702	14.1
Mtr veh theft	105	126	172	153	163	719	55.2
Total	890	884	984	881	986	4,625	10.8

TABLE 9
EAST NEIGHBORHOOD CRIME RATES, 1985-1989

	1985	1986	1987	1988	1989	Total	Change
Homicide	1	1	1	2	0	6	-100.0
Forcible rape	4	5	4	1	3	21	-25.0
Robbery	43	55	54	48	72	342	67.4
Agg assault	100	73	49	50	63	582	-37.0
Res burglary	319	272	228	294	386	2,131	21.0
Larceny/Theft	391	573	491	428	536	3,280	37.1
Mtr veh theft	100	91	125	119	177	821	77.0
Total	958	1,070	952	942	1,237	7,182	29.1

One of the prime targets of Operation SafeStreet, residential burglaries, increased by 27 percent the year following street modifications. In 1986, however, residential burglaries had declined to a preinstallation level. Over the five-year period subsequent to street modifications, residential burglaries increased by 2.9 percent. During that same time, the city-wide residential burglary rate dropped by 3.5 percent.

The East neighborhood saw a decrease in the crime rate in 1985, the first full year that the Operation SafeStreet program was in effect. In 1986, crime increased by 11.7 percent (see Table 10). Residential burglaries decreased for three years following the implementation of Operation SafeStreet, but then rose to a five-year high in 1989, surpassing even the West neighborhood rate. The East neighborhood residential burglary rate increased 21 percent over the five-year period.

The significantly lower rate of residential burglaries in the West neighborhood from 1985 through 1989 lends some support to earlier street modification studies. One could argue that the street modifications were, at least in part, responsible for a lower rate of increase

over the five years after installation. Because a crime that is *not* committed cannot be counted, there is no way to support such an argument. On the other hand, how can it be refuted? The impact of street modifications on the reduction of crime, by themselves, has still to be documented.

The second question concerns the fear of crime among the residents of the two neighborhoods. Brantingham, Brantingham, and Butcher (1986:140) prefer the term "fear of victimization": "Fear of victimization . . . measures individuals' estimates of crime trends in the nation, in the city, and in their own neighborhood, as well as the probability that they, personally, will be victimized."

The perceptions of the respondents about crime, in the short term, is accurate. The principal concern of respondents in both neighborhoods was residential burglary. The survey questionnaire was (coincidentally) mailed the year following a 37 percent increase in residential burglaries in the West neighborhood and a 31 percent increase in the East. That accounts for much of the respondents' concern.

Are they afraid of becoming victims of crime? Almost half of the respondents in both

TABLE 10
COMPARISON OF CRIME CITY-WIDE IN HILLTOP POLICE DISTRICT, AND WEST AND EAST NEIGHBORHOODS, 1985-1989

	1985	1986	1987	1988	1989	Total
City-wide	49,536	51,721	54,971	57,873	62,683	276,784
% change		4.4	6.3	5.3	8.3	6.1
Hilltop	17,658	18,850	19,945	19,478	22,667	98,598
% change		6.8	5.8	-2.3	16.4	6.6
West	890	884	984	881	986	4,625
% change		-0.7	11.3	-10.5	11.9	3.0
East	958	1,070	952	942	1,237	5,159
% change		11.7	-11.0	-1.1	31.3	7.7

TABLE 11
LEVEL OF CONCERN OF VICTIMS AND NONVICTIMS ABOUT WALKING IN NEIGHBORHOOD, BY NEIGHBORHOOD

	<i>Afraid (Day)</i>	<i>Not Afraid (Day)</i>	<i>Afraid (Night)</i>	<i>Not Afraid (Night)</i>
East				
Victims	10 (6%)	75 (42%)	65 (37%)	19 (11%)
Nonvictims	13 (7%)	80 (45%)	65 (37%)	26 (15%)
West				
Victims	22 (13%)	58 (34%)	65 (39%)	14 (8%)
Nonvictims	11 (7%)	78 (46%)	63 (38%)	26 (15%)

neighborhoods were victims of crime the previous year or lived in the victim's household. Three-quarters of those who feel that crime in the West neighborhood is a "very serious" problem were victims the previous year. In the East, most of the victim-respondents feel that crime is a "serious" problem. Those not victimized the previous year feel that crime is a less serious concern than those from victim-households. East neighborhood residents feel less concerned about crime than West residents.

Questioning residents about how they feel about walking in their neighborhood at different times yields another measure of the fear of crime victimization. Table 11 shows a divided response. Those who were victims of crime in the previous year, or who resided in the household of a victim, skewed the results, especially in the West neighborhood. West neighborhood victims were twice as afraid as nonvictims to walk in the neighborhood in the daytime and almost twice as afraid at night. This phenomenon does not occur in the East neighborhood nor is it explainable. If the responses of the crime victims are removed, the responses are almost identical.

The respondents from the West neighborhood perceive crime to be a more serious problem than those in the East neighborhood. When the "victim" respondents from the two neighborhoods are excluded, however, the remaining respondents from both neighborhoods are equally likely to be afraid (or not) to walk in their neighborhoods. This suggests that the traffic modifications may, indeed, have a positive effect on the quality of life of respondents in the West neighborhood. They believe the crime situation in their neighborhood is serious, but they refuse to adopt a "bunker" mentality.

Additional research on traffic modifications as part of a crime prevention package will be necessary before the modifications can be positively identified as a factor in either the actual prevention of crime or the reduction of the fear of victimization. But, as this study demonstrates, traffic modifications may have a place in a comprehensive crime prevention program.

NOTES

1. Opponents throughout the city voiced a variety of objections: (1) they caused unnecessary aggravation and delay; (2) they would prevent school buses from picking up disabled students at their homes; (3) they would hurt local businesses; (4) the plan (in one neighborhood) was racially motivated to reduce the flow of traffic between a predominantly African American neighborhood and an integrated neighborhood; (5) criminals didn't use cars, they were on foot, so street closings and diversions would not be effective; (6) the proposal made the neighborhood too confining; (7) the street closings would delay emergency services; (8) they were not likely to stop crime; (9) the project cost too much; and (10) they diminished property values.

2. The publication that was used was the 1989 edition of the *Haines/St. Louis City and County Directory*. The Haines Directory, however, lists only those persons and addresses with published telephone numbers. Sixty percent of occupied dwellings in the West neighborhood had telephone listings. The directory listed 70 percent of the occupied dwellings in the East neighborhood.

3. All crime statistics were taken from data supplied by St. Louis Metropolitan Police Dept.

4. The modifications were begun in the Fall of 1984 and would not have been a factor in the amount of crime for that year.

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