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Environmental Barriers to Crime

As published in **Ergonomics in Design**, Oct 1994, by Randall Atlas and William G. LeBlanc

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Barricades and road closures have been used in urban planning for hundreds of years, although their recent rediscovery as crime prevention tools has stirred considerable controversy. Many single-family residential communities in the United States use dead end streets, cull-de-sacs, intersection roundabouts, and street closures. Since the mid-1980's, hundreds of neighborhoods and communities have retrofitted their streets by adding barricades to handle traffic, speeding, and crime problems. To my knowledge, the city of Miami Shores, Florida, is the only place where barricades have been used on a city planning level.



The residents of Miami Shores were getting fed up with drivers speeding through their side streets to avoid traffic lights during rush hours and with increased criminal attacks by outsiders who were "cruising" in search of easy targets to burglarize or rob. In 1986, residents voted for 67 street closures and barricades and were taxed for the construction of temporary barricades,



which would later be replaced by permanent, landscaped ones. This article evaluates the effects of those barricades and discusses whether barricades are an effective urban planning and crime prevention strategy for our cities.

TERRITORIAL SPHERE OF INFLUENCE

The need for a community to create barriers, barricades, road closures, guard gates and so on stems from the breakdown of territorial boundaries and social organization. The American dream of

homeownership is rooted in the notions of proprietorship and sense of belonging. Newman (1972) suggested that the single family house, by its very nature, makes a territorial claim based on its being positioned on a piece of land buffered from neighbors and public streets by intervening grounds.

One of the tenets of defensible space theory is that the physical environment can create perceived zones of territorial influences (Newman, 1972). Newman suggested that certain environmental features tend to encourage residents to exercise territorial control, thereby reducing the opportunity for, and fear of, crime. He referred to "real and symbolic" barriers as the means for residents to exercise territoriality. Real barriers are physical features, such as gates, fences, high walls, and barricades that restrict



access. Symbolic barriers include gardens, low railings, changes in construction materials, and landscaping.

Taylor, Gottfredson, and Brower (1980) studied the strengths and weaknesses of defensible space theory and found that the presence of real and symbolic barriers was associated with lower levels of crime and fear. Taylor (1988) reported that the degree of territorial control accounted for almost half of the explained variance in the

fear of crime. Taylor, Perkins, and Meeks (1992) found a relationship between the extent of territorial markings and levels of perceived crime and disorder. They also

suggested that indications of private territory promote residents' use of the outdoor space and deter crime and incivilities.

Physical design can create or extend a sphere of influence so that residents develop a sense of proprietorship and territorial influence that can be perceived by potential offenders. According to Crowe (1991), this can be accomplished by closing a street to through traffic, which will increase the likelihood that residents will take note of outsiders and scrutinize their behavior.

PREBARRIER CONDITIONS IN MIAMI SHORES

Since its Incorporation Miami Shores has been an upper-middle-class neighborhood where home prices range from \$50,000 on the west side to over \$1 million on Biscayne Bay. As the population and congestion grew in the rest of Dade County, the traffic coming through Miami Shores dramatically increased. Residential streets became shortcuts for those trying to avoid lights or traffic. Crime during the 1980s was a problem that was increasing on a yearly basis. The number of purse snatchings, robberies, burglaries, assaults, and auto thefts grew at a rate of 3% to 10% per year. Most of these were crimes of opportunity: The perpetrator would scout the city's grid-designed streets, looking for an open door, window, car, or purse. A former Miami Shores mayor wrote that with the increased traffic on residential streets, no one knew which cars belonged there (Canton, 1991). Those committing crimes were perceived to be coming from outside the area. Just two miles from the northwestern edge of the city is a high-crime area, and the Miami Shores Police Department believes that some of those committing illegal acts in Miami Shores come from this area.

COMMUNITY AND GOVERNMENT ACTIONS

The request for street closures was initiated by a group of residents living near Biscayne Bay. The proposal was turned down by the city council because of opposition from residents throughout the city who felt they would become "second-class" citizens compared with those "elite" who had barricades. Therefore, applying the program to the entire city seemed essential for the acceptance of the concept. City elections were held in 1986, and crime prevention was a major campaign issue. This prompted the city council to conduct a crime symposium, in which the need for street closures in the city dominated the discussions. The mayor appointed a task force to evaluate barricaded neighborhood areas in Fort Lauderdale, and a police captain from Fort Lauderdale evaluated Miami Shores for the suitability of street closures. The initial crime/environment survey revealed that the city was experiencing real estate degradation along its borders. Code enforcement for the lower-cost homes surrounding Miami Shores was nearly nonexistent, compared with the very strict code enforcement in Miami Shores. Many of the surrounding low-income homes were rental

properties, whereas nearly all of the adjacent homes within the city were occupied by owners. Garbage dumps were visible on every block in the county property, contrasted to Miami Shores, where trash was picked up every week. Several crime generators were identified, such as a 99-cent theater in the downtown area and a grocery store on the southern border of the city.

Residents were starting to confine themselves inside their homes and to install bars on all their windows and doors. Interviews with police representatives and the community watch block captain, as well as personal observation, revealed that residents stopped walking on the streets at night, stopped walking their dogs, and kept children from wandering away from the front yard. City officials recommended that barricades be



installed on the outskirts of the city to stop the creeping degradation of the borders, that some internal barriers be constructed to redirect residential traffic near main thoroughfares, and that barriers be erected in specific areas to stop opportunistic crime.

The recommendations were well received,

but many of the residents who lived on the city's main arteries began to voice their opposition. In an effort to reach an agreement, the different residential neighborhoods were given the opportunity to make comments and suggestions on the street closures. On the basis of this input, the foundation of a city-wide road closure plan was formulated.

To ensure that there was a consensus in every neighborhood, the mayor's task force conducted a petition drive. At least 51% of the residents in each neighborhood had to sign in favor of the plan in order for it to be implemented. Each petition illustrated the proposed placement of the closures in each area. Neighborhoods started to bond around a common cause, and a grassroots spirit began to emerge. The opposition also mobilized its efforts; the primary argument was that the barricades discriminated against those who lived outside the area as well as those who lived on the city's main thoroughfares.

Despite the vocal minority, the city council proceeded with the planning stage. Negotiations occurred between the village of Miami Shores and Dade County to undertake a traffic study that would evaluate the new traffic flow and determine whether road classifications would be altered as a result of the additional traffic. Meetings took place with police, fire/rescue, and public works organizations to consider their access to neighborhoods and to determine whether the barricades would reduce response time. Special care was taken to ensure free access to fire hydrants throughout the city.

Many different types of barricades were considered for the 67 intersections proposed for closure, among them railroad ties, posts, guardrails, chains, barrels, and bermed areas. The least-expensive choice was to use clusters of bright orange barrels filled with sand which would be moved to another site after the permanent, landscaped barriers were erected.

In order to finance the barricades, a proposal was put on the ballot to charge residents one-half mil per year (a mil is a unit of measure used in property tax assessment) to implement the first phase of barricading (67 closures). The funds would last five years and would be sufficient to finance the second phase of the program, in which barriers for interior streets would be considered. Close to 80% of the registered voters turned out to vote on the issue. Despite tremendous publicity, threats of litigation, and strong lobbying, the proposal passed with 57.8% of the vote. The city council then moved to implement the permanent closures. Special attention was given to the types of plants and trees chosen for the project. Flora that had some color and which needed little or no maintenance were planted throughout the city, creating a new greenbelt.

IMPLEMENTING THE BARRIER PLAN

Ultimately, 71 streets were barricaded, costing approximately \$2500 for small street closures and up to \$7500 for the larger street closings on Biscayne Boulevard. The first set of street closures and road barricades were implemented in July 1988. The last of the barrels from Phase 1 were removed and all landscaping was complete by March



1991.

Since then, transient traffic has virtually disappeared, property values had their largest increase in a decade, and real estate taxes have decreased. In 1990, real estate values increased 10%; a 2% increase occurred in 1991, a 3% increase in 1992, and a 0.5% increase for the first half of 1993. Property

taxes decreased slightly in 1992 and 1993.

In August 1992, just prior to Hurricane Andrew, the city approved a ballot referendum for 28 additional street closures as the second phase of the program, focusing on interior streets within Miami Shores. In September, each street closure was voted on separately. Of the 28 closures, only 8 were approved. For the 20 streets that were voted down, the majority of property owners voted against closing their particular block.

CRIME DATA

Crime data for this study were gathered from the 1985-1993 Uniform Crime Reports, compiled by the Florida Department of Law Enforcement. It should be noted that the data for 1988 were incomplete and thus were not included.

Crimes of interest for this study were robbery, burglary, larceny, aggravated assault, and auto theft. Rape and murder were omitted because of the low incidence of these crimes in Miami Shores. Robbery is defined as a crime in which a person is confronted by someone with or without a weapon who wants to steal something. Burglary occurs when someone breaks into a home, car, or office with the intent to commit a crime. Larceny occurs when someone steals something without breaking in, such as stealing plants or shoplifting.

In 1989, the Florida Department of Law Enforcement began including data on forcible

fondling and forcible sodomy with those on forcible rape. Previously these data were included with those for aggravated assault. In this study, forcible fondling and forcible sodomy were counted with aggravated assault after 1989. Thus comparisons of aggravated assault rates between the pre-barricade (prior to 1988) and the post barricade periods (after 1990) must be viewed with caution.

From 1986 until January 1990, there was no increase in police officers. In January 1990, the Miami Shores Police Department added four officers. The patrol patterns remained constant throughout the study period.

Statistics from Miami Shores were compared with those from Coral Gables and Miami. Coral Gables had similar socioeconomic characteristics, which allowed us to examine the effects of barricades while controlling for demographics. Miami borders Miami Shores on two sides and thus gives a true picture of the scope and ferocity of crime in the surrounding area. Because change in crime rates within communities was the focus of this study, statistical comparisons were made among the three municipalities for each type of crime. Crime trends in Miami and Coral Gables were assessed in an attempt to gauge the overall change in crime trends in south Florida. If crime rates were declining in other municipalities without barricades, it would be difficult to determine the effects of barricades in Miami Shores.

The Phase 1 barricades were introduced gradually throughout the city of Miami Shores over a 2 1/2-year period starting in July 1988. The 9-year interval from 1985 to 1993 was divided into three 3-year periods: 1985-1987 (Period 1: pre barricade); 1988-1990 (Period 2: transition period); and 1991-1993 (Period 3: post barricade). The crime rate (crime/100,000 population) for each crime category in each municipality for each period was computed by dividing the average number of offenses within each 3-year period by the average population of each 3-year period. For each crime within each city, the multiple-comparison procedure of Levy (1977) was used to compare the crime rates of each period with the other two.

The 9 years' crime data for Miami Shores were evaluated for the actual percentage of change from 1985 to 1993 and the rate change from 1985 to 1993. "Actual change" reflects the change in the number of crimes over the past decade, and "rate change" is the change in the number of crimes per 100,000 population.

THE IMPACT OF BARRICADES ON CRIME

There was no significant change in the robbery rate in Miami Shores or Coral Gables after the barricades were built. Miami experienced a significant increase in the robbery rate between Period 1 and the following two periods; the robbery rates for Period 2 and Period 3 did not differ significantly. The number of robberies in Miami

Shores was up 2.9% in 1993 from 1985; however, when controlled for population, the rate change was down -7.5% in 1993 from 1985.

There was no significant change in the burglary rate for Miami Shores between Period 1 and Period 2; however, there was a significant decrease from Period 2 to Period 3. The Period 3 rate was less than that of Period 1, but not significantly so. Both Coral Gables and Miami experienced significant increases from Period 1 to Period 2. The burglary rate in Coral Gables did not change from Period 2 to Period 3. In Miami, the burglary rate significantly decreased from Period 2 to Period 3, but the Period 3 rate was still significantly higher than the Period 1 rate.

There was a significant decrease in the larceny rate for Miami Shores from Period 1 to Period 2; Period 2 did not differ from Period 3. The actual change in larceny for Miami Shores from 1985 to 1993 was 8% and the rate change was -17.5%. In Coral Gables, there was a significant increase in larceny between Period 1 and Period 3. In Miami, there were significant increases from Period 1 to Period 2 and from Period 2 to Period 3 (Contact Randall Atlas for detailed comparisons of pre and postbarrier robbery, aggravated assault, and auto theft rates.)

There were no significant changes in the aggravated assault rate for Miami Shores over the three periods. Yet the actual change in assaults in Miami Shores increased 80.8% from 1985 to 1993, and the rate change was a 62.5% increase. Coral Gables experienced a significant decrease in the assault rate from Period 1 to Period 2 but a significant increase from Period 2 to Period 3. The Period 3 assault rate was also significantly greater than the Period 1 rate. Miami experienced a significant increase in the assault rate from Period 1 to Period 2 but no significant change from Period 2 to Period 3.

Miami Shores experienced no significant change in the auto theft rate over the three periods. In Coral Gables, there was no significant change from Period 1 to Period 2, but there was a significant increase between Period 2 and Period 3; Period 1 did not differ significantly from Period 3. In Miami, there was a significant increase between Period 1 and Period 2.

Miami showed significant increases in four of the five of the crime categories (excluding burglary from the period 1985-1987 to 1991-1993. In Coral Gables, there were significant increases in the rates for burglary and larceny. However, in Miami Shores burglary and larceny decreased and the other three categories of crime of aggravated assault, robbery, and auto theft remained steady.

WERE THE BARRIERS EFFECTIVE?

Street closures and road barricades may have changed the criminal patterns of burglary, larceny, and auto thefts in Miami Shores. These crimes are fear-producing, predatory, stranger-to-stranger crimes. The ease with which a perpetrator can "scope" a neighborhood for an "easy" target has been decreased by the change in vehicular traffic patterns. Robbery and aggravated assaults have been steadily increasing in the surrounding municipalities. However, the rate of these crimes in Miami Shores did not change over the nine years of this study, whereas the surrounding municipalities have experienced increases.

Some crime rates in the surrounding municipalities went down without the use of barricades. Miami, for example, experienced a significant decrease in burglary from Period 2 to Period 3. This pattern suggests that the type of crime shifted or that burglary was not the crime of choice during this period. The absence of street closures does not preclude that certain crimes will decrease.

Not all crimes are related to vehicular traffic. Larceny may have little to do with vehicular movement in barricaded areas, especially if neighborhood juveniles are conducting the activity. Assault arrests may be partly attributable to domestic disputes, which also are not influenced by vehicular traffic patterns. An important point, however, is that although some crimes appear to be unrelated to environmental road devices, overall crime in the barricaded areas is growing at a slower rate than it is in the surrounding municipalities, with all factors remaining equal.

It has been suggested that the answer to crime prevention is not walls but more Neighborhood Watch programs. However, crime watches require people to know one another and thereby create a sense of neighborhood and community. Regardless of whether the physical alteration of the streets directly reduced crime in Miami Shores, the mobilization of pro and con forces resulted in a social organization that has increased awareness of crime, participation, and cooperation with law enforcement and government agencies, and a sense of community (even if it is polarized). The barricades may serve as a vehicle by which the community may be mobilized, as well as a means to change criminal behavior patterns and thereby allow residents to reclaim the streets for lawful, legitimate uses.

The evidence so far suggests that the success of neighborhood street closures may also depend on the process used to initiate them. The process of social organization should require that neighborhood residents themselves initiate the request for closures, as opposed to city planners or the police. Demanding changes in a neighborhood helps to build a sense of community. Jordan (1993) stated that the concept of defensible space has proven effective in maintaining a sense of community where residents fear it may be lost; however, it may be asking too much for a collection of physical barriers to create a sense of community where it has ceased to exist. Street closures, guarded gates, and environmental barriers are all elements of a collective

crime prevention effort.

(from Ergonomics in Design, October 1994)