



Block by Block: Zeroing in on Crime Trends

by Philip Bulman

Hot spot policing drills down to the micro-level.

Police and researchers have long focused on crime at the neighborhood and precinct levels. More recently, law enforcement agencies have been finding that identifying and focusing on “hot spots” is a fruitful approach to crime prevention. A new study shows that it may be even more effective to take such approaches down to the level of individual city blocks.

Researchers studied block-by-block crime incidents in Seattle from 1989 to 2004. They identified 24,023 “street segments” (the streets at both sides of an intersection) and 1,697,212 crime reports. They found that crime rates declined in Seattle as a whole during the study period (as they did in many American cities) but that at the micro-level of city blocks, crime trends could vary from city-wide and even neighborhood trends.

The research team also assembled block-level information to answer two research questions related to social disorganization theory and opportunity theories of crime. The first was whether or not hot spots of social disorganization and crime opportunities existed and varied at the street-segment level. The second

was whether or not social disorganization and crime opportunity hot spots coincided with, and could explain, known crime hot spots.

Social disorganization theory is based on the idea that relationships among people and institutions within an ecological unit (like a neighborhood) are generally organized. When they become disorganized due to the absence or breakdown of certain communal and social characteristics (such as supervision of teenagers, physical order and engagement in community affairs), crime is more likely to occur.¹ The theory is usually applied at the neighborhood or community level. The researchers in this study were interested in seeing if it could be meaningfully applied to an even smaller unit — the street segment. In particular, they wanted to know if the characteristics of social disorder varied systematically at that level and if this variation was related to concentrations of crime.

Opportunity theories of crime suggest that when offenders want to commit a crime, they look for an opportunity or a practical target. The researchers examined, among other things, routine activity theory, which

they identified as a type of opportunity theory. Routine activity theory suggests that crime occurs when a motivated offender, a suitable target and the lack of a capable guardian converge in the same place at the same time.² Criminals choose or find their targets within the context of their routine activities, such as traveling to and from work.

Where Crime Really Happens

Concentration of Crime at Place

The study confirmed prior research showing that in urban areas crime is highly concentrated in specific places and that most places have little or no crime. Researchers found that 50 percent of the crime occurred in just 5-6 percent of the blocks. One percent of the blocks with chronically high crime rates accounted for more than 20 percent of all crime incidents in the city. Additionally, some areas that had been labeled as bad neighborhoods had high crime rates only on certain blocks — but other blocks in the same neighborhood had little or no crime.

The researchers also found that crime trends were largely stable — that is, most blocks had the same

crime rate throughout the study period. Some were free of crime for years at a stretch, while others had chronically high crime rates. However, the researchers also found evidence of changing crime rates in some places.

Distribution of Social Disorganization and Opportunity Across Places

The geographic picture that emerged showed hot spots of social disorganization and crime opportunities at the street-segment level. For example, 50 percent of truant students lived on only 2-3.5 percent of the more than 24,000 blocks included in the study. (Student truancy is a measure of social disorganization.) Similarly, more than 50 percent of the physical disorder reports occurred on 1.5-3 percent of the blocks. These blocks were spread throughout the city rather than being clustered together.

The researchers similarly found that measures of routine activity theory, such as the presence of potential offenders and potential victims (crime opportunities), were concentrated on a small percentage of street segments. For the purpose of the study, researchers defined “motivated offenders” as the high-risk juvenile population on a street segment. They found that half of the high-risk juveniles lived on 3-4 percent of the blocks. Half of all employees (used by researchers as a stand-in for suitable targets) worked on less than 1 percent of the blocks. Like the social disorder hot spots, crime opportunity hot spots were not clustered in specific neighborhoods but instead were found throughout the city.

Correlates of Crime at Place

Researchers found not only that hot spots of social disorganization and crime opportunities existed at the street-segment level but also that

these hot spots were likely to have high concentrations of crime. That is, social disorganization and crime opportunity hot spots overlapped with crime hot spots. In many cases, street-level variation in key theoretical measurements of place — such as motivated offenders, suitable targets, accessibility (opportunity theory) and truancy and physical disorder (social disorganization theory) — could explain why crime patterns developed differently among street segments within a single neighborhood. The researchers noted that perhaps the most important finding of their work was that crime at street segments is highly predictable and that the factors from social disorganization and opportunity theories can be used to develop a very strong level of crime prediction.

Preventing Crime Block by Block

The study could have important implications for crime prevention policy. The researchers pointed out that crime prevention efforts aimed at entire neighborhoods or groups of neighborhoods are not efficient uses of limited police resources, because most crime is concentrated in a small percentage of street segments. If law enforcement agencies can identify street segments with high crime rates, they can direct resources toward those places

rather than spread them across an entire neighborhood. This means that they can potentially achieve the same level of crime prevention with a smaller number of targets.

Additionally, the research findings regarding social disorganization and opportunity theories can help direct law enforcement efforts. Particular social and physical characteristics from both theories were highly correlated with crime at the street-segment level. By focusing on the characteristics that had strong predictive power for crime at street segments, law enforcement can craft carefully focused interventions targeting particular streets rather than entire neighborhoods.

The study was conducted by David Weisburd of George Mason University and Hebrew University, Elizabeth R. Groff of Temple University, and Sue-Ming Yang of Georgia State University. NIJ funded the research. The researchers will detail the complete findings in a forthcoming volume to be published by Oxford University Press.

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Notes

1. Kubrin, C., and R. Weitzer, “New Directions in Social Disorganization Theory,” *Journal of Research in Crime and Delinquency* 40 (November 2003): 374-402.
2. Sherman, L.W., P.R. Gartin, and M.E. Buerger, “Hot Spots of Predatory Crime: Routine Activities and the Criminology of Place,” *Criminology* 27 (February 1989): 27-56.



Visit NIJ’s Web topic page on hot spots: <http://www.ojp.usdoj.gov/nij/topics/law-enforcement/hot-spot-policing/welcome.htm>.



To watch an interview with David Weisburd, go to: <http://www.ojp.usdoj.gov/nij/journals/media.htm>.