

# Study examines use of GIS in policing

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Police agencies are using Geographic Information Systems (GIS) for mapping crime, identifying crime "hot spots," assigning officers, and profiling offenders, but little research has been done about the effectiveness of the technology in curbing crime, according to a study at Sam Houston State University (SHSU).

"This review provides a reality check on the current status of GIS assessment in [policing](#) and the findings are not positive," said Yan Zhang, a SHSU professor and co-author of "Geographic Information System Effects on Policing Efficacy: An Evaluation of Empirical Assessments." "Published accounts of applications in policing suggest a significant role in crime analysis and strategic deployment. Nonetheless, there is a total lack of independent evaluation of GIS effect in policing organizations."

According to a 2001 survey by the National Institute of Justice, 62 percent of police departments with over 100 officers use GIS systems. Collectively, the technology has been credited with reducing crime, decreasing residential burglaries, tracking parolees and serious habitual offenders, and identifying "hot spots" with high concentrations of crime.

There are four major uses for GIS in policing, the study found. Crime mapping identifies the geographical distribution of crime to deploy officers to ["hot spots"](#) of activity and to develop other intervention plans.

Many departments have developed computerized statistics or CompStat systems to help manage the decision-making process. The system assists

with instant [crime](#) analysis, deployment techniques, active enforcement of trivial crimes, monitoring of emerging patterns, and accountability programs for law enforcement managers.

GIS also is used to create geographical profiling of offenders, an investigative method that allows police to identify locations of connected crimes to help determine where an offender may live, particularly in serial cases.

While these practices are widespread, especially in larger departments, little research is available to measure their effectiveness in policing. Current studies indicates that GIS is used mainly to aid in the design of policing strategies and/or to evaluate the decision-making processes at [law enforcement agencies](#).

"There is a near total lack of independent evaluations of GIS effects in police organizations," said Zhang. "Since GIS represents a significant element of both strategic and tactical decision making for law enforcement agencies, purposeful, focused and relevant evaluations would contribute to maximizing GIS efficacy."

**More information:** *International Journal of Applied Geospatial Research*, [www.igi-global.com/article/geo ... cing-efficacy/111099](http://www.igi-global.com/article/geo...cing-efficacy/111099)

Provided by Sam Houston State University

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