**Study Reference:**

Santos, R. G., and Santos, R. B. (2015). An Ex Post Facto Evaluation of Tactical Police Response in Residential Theft from Vehicle Micro-time Hot Spots. *Journal of Quantitative Criminology, 31*(4), p. 679 – 698.

**Location in the Matrix; Methodological Rigor; Outcome:**

[Micro places](https://cebcp.org/evidence-based-policing/the-matrix/micro-places/), Focused, Reactive; Rigorous; Effective

**What police practice or strategy was examined?**

Micro-time hot spots are short-term clusters of near-repeat crimes often committed by the same offender(s). Whereas macro-time hot spots remain popular areas of crime over time, micro-time hot spots temporarily host a cluster of crimes over several weeks or months before the crime wave subsides. The crimes typically share certain characteristics. Thefts from vehicles, in particular, tend to cluster in micro-time hot spots.

In this study, micro-time hot spots were defined as the occurrence of at least two residential thefts from vehicles within 14 days of one another and within a radius of 0.5 miles or 0.79 square miles. Crime analysts in the Port St. Lucie, Florida Police Department used daily crime statistics to identify micro-time hot spots and published notice of those hot spots in a bulletin throughout the agency for officers to be deployed accordingly. For 14 days after the identified crime, officers would respond with directed patrol, contact with potential victims, and/or contact with known offenders. Crime analysts tracked activity at the micro-time hot spots and updated the bulletins accordingly until the hot spot was crime-free for 21 days.

**How was the intervention evaluated?**

This quasi-experiment used an ex post facto (retrospective) design. There were 323 micro-time hot spots identified between 2008 and 2012. Each micro-time hot spot was coded for what type of response(s) it received, if any (micro-time hot spots that did not receive intervention were used as control cases). Then, researchers calculated propensity scores for each hot spot, matching control and treatment cases based on year, season, district, radius, number of residential homes, number of crimes when initially identified as a micro-time hot spot, time span of the initial identification, and number of known offenders living with the hot spot. This resulted in 86 cases with sufficient response activity (having a minimum of 1.25 responses per day) in the treatment group, and 86 cases without response in the control group. Outcome measures included the number of thefts from vehicles in the hot spot within 21 days of its identification as a micro time hot spot, as well as the number of thefts from vehicles within a 0.2-mile butter zone around the hot spot (to measure displacement).

**What were the key findings?**

Response to micro-time hot spots reduced subsequent crime. An average of 2.08 crimes occurred in the micro-time hot spots after the bulletin was published and officers responded, while an average of 3.44 crimes occurred in the comparison group of micro-time hot spots without response. This difference was statistically significant and in the expected direction. More specifically, seven responses per day for 2-3 weeks resulted in approximately a 20% reduction in theft from vehicles on average. There was also no evidence of displacement to surrounding areas. Thus, a targeted and short-term response to micro-time hot spots seems to have reduced crime.

**What were the implications for law enforcement?**

Micro-time hot spots sometimes occurred within longer-term hot spots, but often they did not. Thus, micro-time hot spots should be addressed independently and in addition to proactive response to long-term hot spots. Further, micro-time hot spots cool off quickly after response, so resources should be directed to those hot spots as soon as possible (within days or weeks) before backing off. This study also demonstrates the utility of precise crime analysis and regular coordination between crime analysts and patrol officers at preventing subsequent crime.

**Where can I find more information about this intervention, similar types of intervention, or related studies?**

[The Matrix: Research on Micro-Places](https://cebcp.org/evidence-based-policing/the-matrix/micro-places/)

[Hot Spots Policing](https://cebcp.org/evidence-based-policing/what-works-in-policing/research-evidence-review/hot-spots-policing/)

[Systematic Review: The effects of hot spots policing on crime](https://www.campbellcollaboration.org/library/effects-of-hot-spots-policing-on-crime.html)

[Systematic Review: Spatial displacement and diffusion of benefits among geographically-focused policing initiatives](https://www.campbellcollaboration.org/library/geographically-focused-policing.html)