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The Mechanistic Origin of Crime Hotspots

The routine activity theory of crime urges us to think of crime pattern formation in mechanistic terms. Crimes only occur where motivated offenders encounter suitable targets in the absence of effective security. Hotspots will emerge where such basic physical conditions persist and are reinforced by crime events. We develop a formal mathematical model based on the principles of routine activity theory and show that it alone is sufficient to describe when crime hotspots will form. We further explore this model by asking what happens when police attempt to suppress crime hotspots. The results provide the first mechanistic explanation for when you should see crime displacement and when you should get real crime reductions.

This work is a multidisciplinary collaborative effort with Andrea Bertozzi, Lincoln Chayes, Martin Short and George Mohler (all at UCLA Math), as well as the Los Angeles Police Department.