TEMPLE UNIVERSITY
Center for Security and Crime Science

The Philadelphia Foot Patrol Experiment

RESEARCH SUMMARY

The Philadelphia Foot Patrol Experiment was a major research collaboration between the Philadelphia Police Department and researchers in Temple University's Department of Criminal Justice involving over 200 police officers on foot beats around some of the city's most violent corners.

Since the 1980s, it had long been the opinion of many police and criminology researchers that police foot patrols improve community perception of the police and reduce fear of crime, but they don't prevent actual crime. Results from the Philadelphia Foot Patrol Experiment suggested a more positive view of intelligence-led targeting of foot patrol officers to violent crime hot spots.

On the invitation of the Philadelphia Police Department, police and academic researchers worked together to plan the Philadelphia Foot Patrol Experiment as a randomized controlled trial, using about 250 officers to patrol 60 violent crime locations during the summer of 2009.

SELECTING TARGET AREAS

During early 2009, violent crime reports were drawn from the incident database of the Philadelphia Police Department for 2006, 2007 and 2008. Violent crime here is defined as homicide, aggravated assault, and robberies not occurring indoors. Incidents were weighted so crimes from 2008 counted 1.0, 2007 crimes counted 0.5, and 2006 crime events counted 0.25. In this way, more recent events had greater relevance in the creation of the target locations for 2009, but summary values retained a portion of the long-term hotspot component.

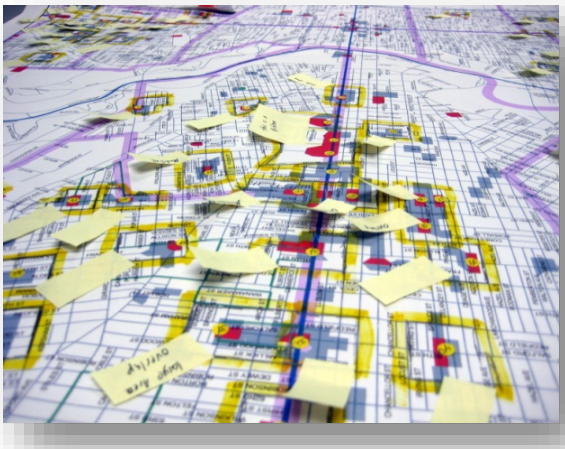
These weighted values were aggregated and summed to spatial units (called Thiessen polygons) centered on every street intersection in the city. This allowed the researchers to measure the city's crime centered on the nearest street corner to the crime incident. This resulted in a map of violent crime down to the nearest street corner.

The top 5% of corners accounted in 2008 for 39% of the city's robberies, 42% of aggravated assaults, and 33% of homicides.

Two PPD Regional Operations Commanders identified 129 potential foot beats, and from these 120 were selected for the experiment. Each area contained about 15 street intersections and 1.3 miles of roads. The foot beats were ranked by the weighted volume of violent crime and paired with a foot beat of a similar crime rate. One from each pair was randomly selected to be a target beat, while the other became a control (or comparison) area.

WHAT DID THE OFFICERS DO?

Officers generally patrolled in pairs with two pairs assigned to each foot patrol. They worked from Tuesday morning to Saturday night in two shifts (10am to 6pm, 6pm to 2am). All patrol officers were provided with an initial criminal intelligence brief on their foot patrol area by the criminal intelligence unit, as well as whatever information they gleaned from their initial orientation. Some officers engaged in considerable community-oriented work, speaking to community members and visiting child care centers and juvenile hangouts, while others were more crime oriented, stopping vehicles and conducting field interviews of pedestrians.



HOW WERE THE RESULTS ANALYZED?

We employed linear regression models with interaction terms in which the crime value of the operational period served as the dependent variable and the pre-operation crime level served as a covariate. The linear regression model outcomes were examined in phases based on percentile levels of pre-intervention violence. To examine the issue of displacement, we used Bowers and Johnson's weighted displacement quotient.

WHAT WAS THE RESULT OF THE EXPERIMENT?

We found the violent crime hotspots had a reduction in violence of 90 offenses (with a net effect of 53 offenses once displacement was considered) - outperforming equivalent control areas by 23 percent; however, the benefits were only achieved in areas with a threshold level of pre-intervention violence. When that threshold was achieved (in our study an average of 6 violent crimes in the three months pre-intervention), target areas had significantly less violent crime during the operational period, even after accounting for natural regression to the mean.

In summary, after three months and relative to the comparison areas, **violent crime in the target areas decreased 23%**.

Official records of police activities during the intervention period reveal the following in the target areas:

- Drug-related incident detections increased 15%
- Pedestrian stops increased 64%
- Vehicle stops increased 7%
- Arrests increased 13%

Pedestrian and vehicle stops increased most in the top 20 percent of areas with the highest pre-intervention violence levels. With the increased police activity, we estimate that in general, across all target areas, one violent crime was reduced for every additional four arrests, 89 pedestrian stops and 8 traffic stops. Of course, official activity by police is only part of the story and we are unable to make any causal connections. Furthermore these numbers ignore any displacement or changes in the control areas.

WHAT ABOUT DISPLACEMENT?

Studies show that sometimes crime is displaced to nearby areas, though more often nearby areas benefit from a diffusion of crime prevention. In Philadelphia, because some target areas were close to others, we combined some areas to examine the issue of displacement.

In the Philadelphia Foot Patrol Experiment, we identified some modest displacement to surrounding streets, but the displacement was

less than the direct benefits achieved in the target areas. Ninety crimes were prevented in the target area, offset by a 37 crime increase occurring in the displacement areas immediately surrounding target areas.

From this we can say that the overall reduction in violence indicates the foot patrols prevented 53 violent crimes during the summer.

WHAT ARE THE KEY POINTS TO CONSIDER?

Target areas had 90 fewer violent incidents. Even with some displacement, the experiment was a success with a net reduction of 53 violent crimes over the summer of 2009.

The lack of significant reduction in the less-violent crime hotspots suggests that foot patrols are not a silver bullet to the problem of violence. They may only be measurably effective in higher crime areas. The relative lack of violent crime in other areas may warrant a more cost-effective approach to crime reduction, such as problem-oriented policing.

Pedestrian field interviews (where the public are stopped and sometimes frisked or searched) increased by about 64% in the target areas, and vehicle stops and traffic enforcement increased by a third. Police commanders should be conscious of the potential harm to police-community relations in targeted areas, and consider other tactics if this is a concern.

FOLLOW-UP RESEARCH

The research team analyzed data from police activity logs and post-experiment interviews with patrol officers to better understand additional dynamics of the foot patrol experiment.

See the project website at bit.ly/CSCS_PFPE for details on the long-term impact of the foot patrols, the impact of foot patrol on the way police car patrols functioned, the experience of the foot patrol officers, and issues of foot patrol boundary compliance.

For further details and a summary 6 minute video, visit the project website at:

http://bit.ly/CSCS_PFPE

The source reference for the Philadelphia Foot Patrol Experiment is: *Ratcliffe, JH, Taniguchi, T, Groff, ER & Wood, JD (2011) The Philadelphia Foot Patrol Experiment: A randomized controlled trial of police patrol effectiveness in violent crime hotspots, Criminology,* 49(3): 795-831.

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