

## The Philadelphia Foot Patrol Experiment

### RESEARCH BRIEF

A major research collaboration between the Philadelphia Police Department and researchers in the Department of Criminal Justice at Temple University involving over 200 police officers on foot beats around some of the city's most violent corners may spark a revision of a long-held view of police patrol.

Since the 1980s, it has long been the opinion of many police and criminology researchers that police foot patrols can 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 suggest that a more positive view of intelligence-led targeting of foot patrol officers may be warranted.

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 areas values could still retain 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 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 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 both an analysis of change scores and a linear regression model in which the crime value of the operational period serves as the dependent variable and the pre-operation crime level serves 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 also 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 85 offenses (with a net

effect of 50 offenses once displacement is considered) - outperforming equivalent control areas by 22 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 5 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 twelve weeks and relative to the comparison areas:

- Violent crime in the target areas decreased 22%
- Vehicle-related crime decreased 12% in the target areas
- Drug-related incident detections increased 28% in the target areas
- Pedestrian stops conducted by police increased 51% in the target areas
- Vehicle stops and traffic enforcement increased 33% in the target areas
- Arrests increased 13% in the target areas

With the increased police activity, we estimate that in the target areas, one violent crime was reduced for every additional four arrests, 63 pedestrian stops and 25 traffic stops.

### WHAT ABOUT DISPLACEMENT?

Studies show that sometimes crime is displaced to nearby areas, though more often it appears that 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 did discover some modest displacement to surrounding streets, but that the displacement was less than the direct benefits achieved in the target areas. 85 crimes were prevented in the target area, offset by a 35 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 50 violent crimes during the summer.

### WHAT ARE THE KEY POINTS TO CONSIDER?

**Target areas had 85 fewer violent incidents. Even with some displacement, the experiment was a success with a net reduction of 50 violent crimes over the summer of 2009.**

Some displacement did occur, but the amount of crime displaced to areas around the foot beats was less than the total amount of violence prevented in the target areas.

The lack of a significant reduction in the less-violent crime hotspots suggests that foot patrols are not a silver bullet to the problem of violence prevention. They may only be measurably effective in the highest 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 often searched) increased by about 50% 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.



### WHAT'S NEXT?

The research team is currently interviewing patrol officers to better understand what contributed to the crime reduction, the strategies officers employed, and how they patrolled their areas. The aim of this is to design better police interventions that officers engage with, and improve police effectiveness in preventing violent crime. We are also studying dosage, policing style and the management of large police operations to inform police executive practice and patrol management.

*For more details, press releases and updates, visit the project website at*  
**[www.temple.edu/cj/FootPatrolProject](http://www.temple.edu/cj/FootPatrolProject)**

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Aspects of this project were supported by the Public Health Law Research Program, Robert Wood Johnson Foundation and the Temple University College of Liberal Arts Research Award (CLARA) program.

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