EXECUTIVE SUMMARY

LICENSE PLATE RECOGNITION TECHNOLOGY PROJECT

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Full Report: http://gemini.gmu.edu/cebcp/LPR_FINAL.pdf
LPR WEB PORTAL: http://gemini.gmu.edu/cebcp/LPR/index.html

The Project

George Mason University's Center for Evidence-Based Crime Policy was tasked by SPAWAR and the National Institute of Justice to carry out three tasks to strengthen the evidence base of license plate recognition (LPR) technology. These tasks included (1) determining the extent of LPR use across the United States, (2) evaluating the deterrent effect of LPR on crime, and (3) providing an understanding of LPR's potential impact on communities. Towards these goals, we conducted three studies for this project: (1) a random-sample survey of large and small law enforcement agencies across the U.S.; (2) a two-jurisdiction randomized controlled experiment evaluating the specific and general deterrent effects of LPR patrols on crime; and (3) a random-sample community experimental survey and legal assessment of the effects of LPR on citizen perceptions and beliefs about law enforcement's use of LPR.

The Locations of Study

The locations used for this study were Alexandria City and Fairfax County, Virginia, two adjacent jurisdictions both located within the Washington DC Metropolitan area. The police agencies of each contributed their staff, expertise, and time to this project. Their collective experience and cooperation made this research project a success.

The Findings

The GMU Research Team discovered that LPR technology is rapidly diffusing into U.S. law enforcement. Over a third of large police agencies have already adopted LPR, and many are on their way to acquiring the technology. However, we also discovered this rapid adoption is occurring in a low-information environment; the evidence-base for the effectiveness and effects of LPR is weak. Indeed, only one other rigorous evaluation, conducted by colleagues at the Police Executive Research Forum has ever been conducted on LPR technology, and very few agencies have engaged in an evaluation of the use of this technology. Further, we discovered a relative dearth of empirical information about the realities of community concerns with LPR.

Our randomized controlled experiment mirrored the findings from the PERF experiments in that the use of LPR in autotheft hot spots does not appear to result in a reduction of crime generally or autotheft specifically, during the period of time measured. This may be due

to the intensity of the patrols during the experiment, which were limited by resources and shift constraints. However, the findings may provide a true indication of the crime prevention effectiveness of LPR in crime hot spots, and therefore, more testing of different applications and broader uses of data are warranted.

Finally, in our community assessment and legal analysis, we tested various perceptions and receptivity to uses of LPR by introducing a number of potential applications of the technology in searching for specific types of crime as well as collecting, storing, and sharing data. We discovered that concerns about LPR were not singular, but could vary depending upon the uses and connotations behind various uses. We suggest that exploring a *continuum of LPR use* may be a fruitful way for researchers to develop and test hypotheses about this and other police technologies.

The Products

Two major products were created from this study. The first is the Final Report, which includes four chapters that detail the process of our evaluations and assessments as well as the findings from each study. See http://gemini.gmu.edu/cebcp/LPR_FINAL.pdf .

In addition to this final report, we present to the law enforcement community the **LPR Web Portal**, located at http://gemini.gmu.edu/cebcp/LPR/index.html . The goal of the LPR Web Portal reflects the mission of the Center for Evidence-Based Crime Policy at GMU more generally: to provide law enforcement agencies and the communities they serve with information, research and analytic guidance about how LPR units can be deployed in more effective *and* legitimate ways. Various parts of this final report are deconstructed into the portal, and a variety of videos, deployment guides, and links to other evidence-based policing resources are provided. The portal is divided into sections specific to officer deployment, police leadership, community policing, crime analysis, and evaluation research.

The Team

The George Mason University LPR study was conducted by Dr. Cynthia Lum (Principal Investigator), Dr. Linda Merola (co-PI), Julie Willis and Breanne Cave (Research Assistants). Providing expertise to the team were the command and patrol staffs of the Alexandria and Fairfax County Police Departments, Matt Snyder and Joey Pomperada (SPAWAR), Dr. Bruce Taylor (National Opinion Research Center of the University of Chicago), Dr. Christopher Koper (Police Executive Research Forum), Dr. Devon Johnson and Ms. Naida Kuruvilla (George Mason University), Julie Wan (copyeditor), and Jason Lutjen (Slonky, Associates). For further information, please contact the CEBCP at cebcp@gmu.edu .

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