ATTACHMENT

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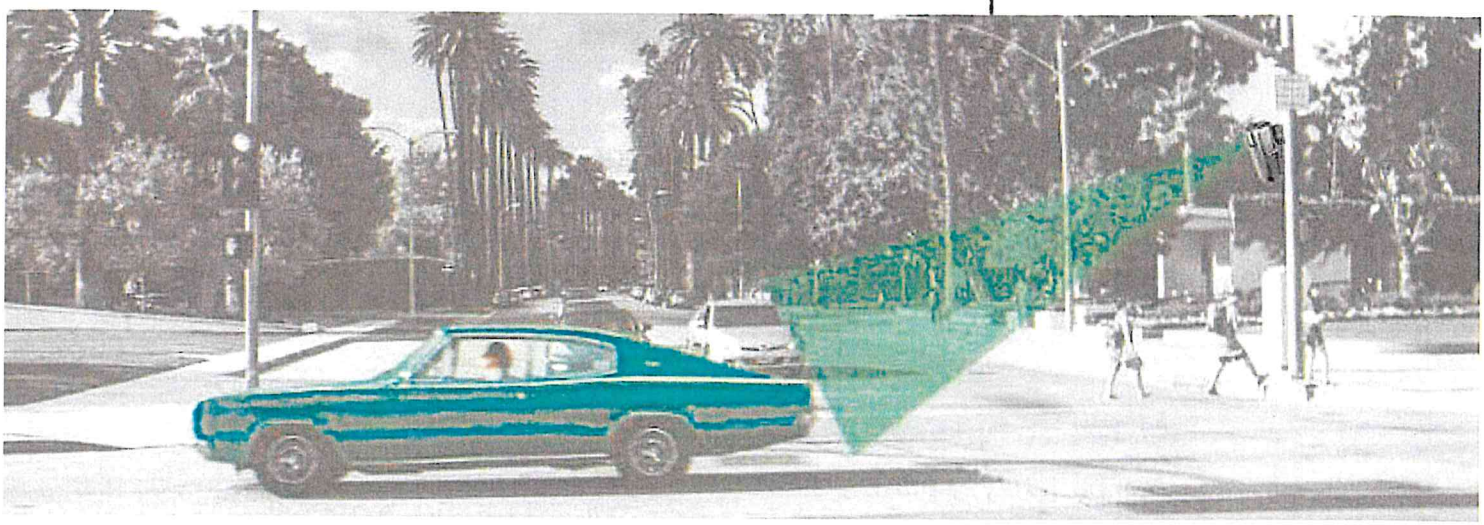
EXAMINING THE PUBLIC SAFETY BENEFITS OF FIXED POSITION LICENSE PLATE READERS (LPRS)

NATIONAL POLICE FOUNDATION



What We Know

Existing research suggests that LPRs can benefit law enforcement, but that the technology's impact depends on its implementation. To date, research has found that LPRs can be an effective tool for improving stolen vehicle recovery and arrests for auto thefts (Koper et al., 2013, 2019, 2021; Ohio State Highway Patrol, 2005; Ozer, 2010; Taylor et al., 2012) and may improve clearance rates for auto theft and robbery cases when used properly (Koper and Lum, 2019).

However, several studies exploring the crime prevention value of LPRs have found effectiveness varied based on a number of factors, including: volume and concentration of LPR deployment, the type of LPR deployed (fixed vs. mobile, general patrol versus specialized unit), location of use, the types of databases connected to LPR and how often they are updated, how officers use LPRs in the field, and agency pursuit and response policies for officers informed about suspects by LPR technology.

Recent technological changes to LPRs may have implications for LPR use and effectiveness. Much of the previous literature is limited to evaluation of mobile LPR units, often mounted in patrol vehicles. The effectiveness of this approach may vary considerably based on how often, and where, the vehicle is driven. Moreover, prior studies have evaluated LPR system that relied on older technology (optical character recognition and infrared technology), limiting license plate capture to reflective metal plates. Modern LPR cameras utilize machine learning to capture a variety of license plates (e.g., temporary paper tags, covered plates), additional license plate information and vehicle characteristics (such as license plate state, vehicle type, manufacturer, and color), and distinguishing vehicle marks (e.g., roof racks, aftermarket wheels, bumper stickers) that could not be captured previously. This additional information may provide investigators with new avenues to investigate and close crimes.

Considering recent developments surrounding LPR technology, the current study seeks to expand understanding of the public safety benefits of LPRs through a multi-site data collection and analysis effort, focusing on fixed-location LPR cameras implemented in several large law enforcement agencies across the United States. Fixed-location cameras can capture license plates and vehicle information from addressed traffic at all hours of the day, providing added investigative benefits.

What We Expect To Learn

Does the implementation of modern LPRs...

- increase arrests for (a) vehicle related offenses or (b) other offenses?
- improve the (a) quality, (b) speed, and (c) close rate of investigations?
- Create a pathway for transparency, open discussion, and engagement with the community? System metrics can be used to answer the following questions: How is the system being used? What data were captured? What searches were being performed? How were the data used?

What Agencies Expect to Gain

- 25 Flock LPR units for a one-year trial
- Opportunity to contribute to the advancement of police research nationally
- A custom report on your agency detailing:
- Effect of LPR on crime, arrest, and clearance
- Guidance on more efficacious ways of deploying LPRs
- Being cited in publications as a participant in the research if desired.
- Best practices for development of implementation and operations.

What's Needed From Partner Agencies

Agencies will have an opportunity to participate in a variety of evaluation efforts based on LPR use and staff and data availability (see the Table below). Research activities include:

1. **Provide Preliminary Information** – A survey to understand your use of LPRs, including the number of units, time and locations of when and where LPRs units were installed and expanded, the type of use (e.g., patrol or fixed location), features of the units, and data availability for measuring the intensity and effect of LPR activities.
2. **Provide Existing Fixed-Position LPR Policy (if available)** – Agency should share policy for how LPR is implemented, who has access, pursuit policy, etc.
3. **Provide Agency Data** – Provide agency administrative data, including calls for service, incidents, arrests, and LPR-related activities. Data should cover at least six years.
4. **Evaluation** – Participate in evaluation efforts including interviews, focus groups, and data collection efforts.

Type of Agency	Number of Agencies	Expected Role
Tier 1	4 - 6	• Provide dispatch, incident, and arrest data • Provide vehicle location data • Provide LPR data (number of scans and alerts) • Access to information about investigative use of ALPR data • Interviews/focus groups with LPR users • Involvement in LPR placement
Tier 2	40 to 50	• Provide dispatch, incident, and arrest data • Provide LPR data (number of scans and alerts)
Tier 3[1]	40+	• Provide LPR data (number of scans and alerts)

1 For tier 3 involvement, agencies will have the option to participate in the study anonymously.

Research Team

The research will be led by Drs. Travis Taniguchi (Research Director) and Hannah Wu (Senior Research Associate) from the National Police Foundation, an independent, non-profit, non-partisan research organization

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