Utilizing License Plate Readers for Violence Reduction

JUNE 15, 2016
Welcome

Kristie Brackens
VRN Co-Director
Bureau of Justice Assistance
Mr. Mike Sena,
Director, Northern California Regional Intelligence Center (NCIRC)/
Northern California High Intensity Drug Trafficking Area (HIDTA)
Speakers

Mike Sena
Northern CA HIDTA/NCRIC

Pam Scanlon
ARJIS

Heather Whitton
Cincinnati Police Department

Mark Greene, NIJ
Overview

- This Webinar will give an overview of the best practices in developing and executing a License Plate Reader (LPR) Program
- Developing policies and addressing privacy concerns
- Implementation of an LPR Program/Plan
- Strategies and metrics for sharing the positive perceived and real benefits of LPR
- Procurement and standards
What Is License Plate Reader (LPR) Technology?

- LPR assists law enforcement by automating previously manual processes to improve efficiency and effectiveness.

- LPR helps to identify vehicles, not people.
How Does LPR Technology Work?

- **Captures** images of the license plates
- **Transforms** images into alphanumeric characters
- **Compares** the characters to “hot lists” of vehicles of interest to law enforcement
- **Alerts** when a vehicle of interest has been read and there is a match against the hot lists
LPR—
Two Primary Use Cases, the Dual Benefit of LPR

- Proactive patrols/monitoring
  - Instant gratification—arrests, recoveries
  - Identify vehicles of interest in the field

- Reactive investigations
  - Canvass of crime scene
  - Where vehicles frequent may lead to “where they lay their head”
  - Complete partial/incomplete suspect vehicle descriptions
  - Patterns and long-term analytics
  - Access to reactive data, remotely, cross-jurisdictional

Efficient reactive investigations can lead to more effective, proactive monitoring
Planning for the Use of LPR

- Technology deployed without a plan will only undermine success.

- To be successful with LPR technology, we must have the trust of the public and lawmakers.

- In order to develop that trust, we must be forward-leaning with our education; efforts to protect privacy, civil rights, and civil liberties; and the appropriate deployment of the tools and our personnel.
Establish the Business Case

- Technology deployed without a plan will only undermine success
- By first understanding and stating “why” and “how” technology is used, the policy and retention can be defined to meet use objectives

"Know what you are doing and why you are doing it”

—Vernon Keenan, Director, Georgia Bureau of Investigation
Privacy Concerns Regarding LPR

- Without policies that safeguard privacy, civil rights, and civil liberties, we can lose a valuable law enforcement resource.
- Privacy Impact Assessments and LPR policies should be developed as soon as possible before deploying the technology.
Privacy Concerns Regarding LPR

- Who has access to data?
  - Only law enforcement personnel that agree to use and are trained in the policies that protect privacy, civil rights, and civil liberties
  - No data is given or access provided to private sector

- What is it being used for and why?
  - Approved law enforcement purposes only (e.g., locate stolen vehicles, AMBER Alerts)
  - All use logged and audited

- How long is it retained?
The Big Policy Questions

- For what purposes should LPR be used?
  - Toll and traffic enforcement
  - Mobile use and situational awareness
  - Ongoing investigations
- How should LPR data be shared?
- How long should LPR data be retained?
- Is LPR data public record information?
- How can LPR policies be enforced to prevent misuse of data by LE and support personnel?
Pam Scanlon

Ms. Pam Scanlon, Executive Director, Automated Regional Justice Information System (ARJIS)
Implementing LPR Technology—Fixed LPR
Implementing LPR Technology—Mobile LPR
Implementing LPR Technology—Challenges

• Deploying mobile and fixed assets
  • Concerns/challenges
  • Vehicle considerations, radio runs
  • Fixed LPRs—who is watching?

• Alert lists
  • Type of alerts
  • Source of alert data
  • Alert concerns
## LPR Daily Counts Report

<table>
<thead>
<tr>
<th>ORIID</th>
<th>CameraID</th>
<th>Last 24Hrs Load</th>
<th>Counts</th>
<th>From Date</th>
<th>To Date</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA0130000</td>
<td>34</td>
<td>935</td>
<td>137990</td>
<td>10/15/15</td>
<td>05/30/16</td>
<td>2016-05-30T04:08:35.883</td>
</tr>
<tr>
<td>CA0130000</td>
<td>37</td>
<td>1782</td>
<td>789044</td>
<td>10/25/15</td>
<td>05/30/16</td>
<td>2016-05-30T04:13:16.413</td>
</tr>
<tr>
<td>CA0130000</td>
<td>38</td>
<td>1222</td>
<td>521811</td>
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<td>05/30/16</td>
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<td>05/30/16</td>
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<td>11/30/15</td>
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<td>CA0370000</td>
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<td>680</td>
<td>207390</td>
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<td>CA0370000</td>
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<td>134883</td>
<td>10/22/15</td>
<td>05/30/16</td>
<td>2016-05-30T03:05:01.037</td>
</tr>
<tr>
<td>CA0370000</td>
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<td>1394</td>
<td>2110703</td>
<td>10/25/15</td>
<td>05/29/16</td>
<td>2016-05-29T21:46:42.690</td>
</tr>
</tbody>
</table>
Monthly Individual Agency Reports

- LPR monitored for performance, reliability, and functionality
- Staff provide system-generated management reports
  - Agency use
  - Number of license plate reads on file
  - Technical issues identified during the reporting period

<table>
<thead>
<tr>
<th>Agency</th>
<th>Camera Name</th>
<th>LPR Reads This Month</th>
<th># of Days Reads Sent</th>
<th>Number of Alerts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>One</td>
<td>31080</td>
<td>27</td>
<td>13</td>
</tr>
<tr>
<td>Sample</td>
<td>Two</td>
<td>12841</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>Sample</td>
<td>Three</td>
<td>21025</td>
<td>17</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alert List Name</th>
<th>Number of Alerts</th>
</tr>
</thead>
<tbody>
<tr>
<td>STOLEN VEHICLES</td>
<td>15</td>
</tr>
<tr>
<td>LOST OR STOLEN PLATES</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
</tr>
</tbody>
</table>

Duration: 2014/12/02 - 2015/01/01
ARJIS Regional LPR System

- Connects 13 separate efforts—accessible by all 82 ARJIS members—20+ million records
- Strong governance and oversight—policies and privacy assessments
- Accessed via SRFERS (State, Regional, Federal Enterprise Retrieval System) and mapping dashboard
- Sends alert to investigator when target vehicle plate is captured—Officer Notification System (ONS)
- Checks LPR from border
  - National Insurance Crime Bureau (NICB) and Nlets—The International Justice and Public Safety Network
Developing Unified Interfaces for LPR

- One system to query all law enforcement LPR data
- Available to all law enforcement with a need and right to know
- Search for full or partial plates
- Search by geographic region
- Create e-mail or SMS alerts for future hits
Architecture of Regional LPR System

Standard Interfaces

Stand-alone Server
## ARJIS Query Tool for LPR Reads

### Vehicle Result

<table>
<thead>
<tr>
<th>License</th>
<th>Date</th>
<th>Agency</th>
<th>Type</th>
<th>LPR Image</th>
<th>Action</th>
<th>LPR Capture Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>6MAV016</td>
<td></td>
<td>NLETS-NVLS</td>
<td>LPR</td>
<td></td>
<td>View</td>
<td>Plate Number:</td>
</tr>
<tr>
<td>6MAV016</td>
<td></td>
<td>NLETS-NICB</td>
<td>LPR</td>
<td></td>
<td>View</td>
<td>Date and Time:Feb 22, 2011</td>
</tr>
<tr>
<td>6MAV016</td>
<td>6/4/11 7:56 PM</td>
<td>CVPD</td>
<td>LPR</td>
<td></td>
<td>View</td>
<td>Agency: ARJIS</td>
</tr>
<tr>
<td>6MAV016</td>
<td></td>
<td>CLETS</td>
<td>REGISTRATION</td>
<td></td>
<td></td>
<td>Location Information:</td>
</tr>
<tr>
<td>6MAV016</td>
<td>2/22/11 10:55 AM</td>
<td>ARJIS</td>
<td>LPR</td>
<td></td>
<td>View</td>
<td>Latitude/Longitude:32.715755/-117.14785</td>
</tr>
<tr>
<td>6MAV016</td>
<td></td>
<td>NLETS-NICB</td>
<td>LPR</td>
<td></td>
<td>View</td>
<td>Beat:</td>
</tr>
</tbody>
</table>

### Location Information

- **Latitude/Longitude:** 32.715755/-117.14785
- **Beat:**

### Camera Info

- **LPR Type:**
- **LPR ID:** AFR55476
- **LPR Description:**

![Map](image.png)
## Monthly Regional Metrics

### LPR Status Jan - March 2016

<table>
<thead>
<tr>
<th>Agency</th>
<th>Camera Reads</th>
<th>Lost Or Stolen plate</th>
<th>Stolen Vehicle</th>
<th>Felony Wants</th>
<th>Custom</th>
<th>Manual Reports</th>
<th>Manual Intel</th>
<th>Covert Plates</th>
<th>BP Hotlist</th>
<th>Total</th>
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<tbody>
<tr>
<td>#1</td>
<td>3</td>
<td>189,100</td>
<td>40</td>
<td>27</td>
<td>9</td>
<td>7</td>
<td>6</td>
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<td>7</td>
<td>76</td>
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<td>2</td>
<td>25,889</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>#2</td>
<td>1</td>
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<td>36</td>
<td>37</td>
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<td>3</td>
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<td>24</td>
<td>752,299</td>
<td>177</td>
<td>171</td>
<td>7</td>
<td>3</td>
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<td>2</td>
<td>1</td>
<td>358</td>
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<td>#5</td>
<td>2</td>
<td>109,455</td>
<td>26</td>
<td>14</td>
<td>4</td>
<td>3</td>
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<td>2</td>
<td>1</td>
<td>40</td>
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<td>3</td>
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<td>1</td>
<td>39</td>
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<td>109,034</td>
<td>19</td>
<td>9</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>28</td>
</tr>
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<td>11,315,314</td>
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<td>1</td>
<td>1</td>
<td>143</td>
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<td></td>
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<td>871,046</td>
<td>71</td>
<td>46</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#12</td>
<td>20</td>
<td>1,712,038</td>
<td>163</td>
<td>146</td>
<td>1</td>
<td>12</td>
<td>20</td>
<td>1</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>75</strong></td>
<td><strong>16,153,920</strong></td>
<td><strong>561</strong></td>
<td><strong>614</strong></td>
<td><strong>10</strong></td>
<td><strong>12</strong></td>
<td><strong>33</strong></td>
<td><strong>1</strong></td>
<td><strong>6</strong></td>
<td><strong>2</strong></td>
</tr>
</tbody>
</table>

*Table showing alerts for different agencies with various details such as camera reads, lost or stolen plate, stolen vehicle, felony wants, custom, manual reports, manual intel, covert plates, BP hotlist, and total.*
### Increase in Percentage of Recovery to Stolen

<table>
<thead>
<tr>
<th>Year</th>
<th>Stolen</th>
<th>Recovered</th>
<th>Percent Recovered</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>15,260</td>
<td>8,632</td>
<td>57%</td>
</tr>
<tr>
<td>2010</td>
<td>14,054</td>
<td>9,375</td>
<td>67%</td>
</tr>
<tr>
<td>2011</td>
<td>12,438</td>
<td>8,784</td>
<td>71%</td>
</tr>
<tr>
<td>2012</td>
<td>13,257</td>
<td>10,814</td>
<td>82%</td>
</tr>
<tr>
<td>2013</td>
<td>12,277</td>
<td>10,531</td>
<td>86%</td>
</tr>
<tr>
<td>2014</td>
<td>10,146</td>
<td>8,329</td>
<td>82%</td>
</tr>
</tbody>
</table>
Success Story—High-Profile Homicide

- **Amber Dubois Homicide:** John Gardner was arrested for the murder of 17-year-old Chelsea King in February 2010 as she was jogging through a park. Follow-up investigation used LPR to show he used the same car to kidnap, rape, and murder 14-year-old Amber Dubois more than one year before. The LPR data proved invaluable in linking Gardner to the Dubois case. He was convicted of the double rape and murder.
More Successes

- **District Attorney Fraud Case:** A fraud detective working complex cases involving automobiles reported that the use of LPR information obtained through SRFERS has been instrumental in closing several large fraud cases. He noted that relevant data was often 9 to 12 months old.

- **Carlsbad Homicide:** Investigators used LPR data to place the victim’s vehicle on the roadway after the time of her death. This helped detectives confirm that the suspect had used the victim’s own vehicle to transport her body away from her home.
Heather Whitton

Ms. Heather Whitton,
License Plate Recognition Program Manager,
Cincinnati Police Department
Getting the Business Case

Operational Value and Investigative Value

Use metrics to lead you to your best sources

Poll Top Users Regularly
  How Often, For What, Feedback

What gets recognized, gets repeated

There is always..... Chipotle
Getting the Business Case—
Typical Operational Value

- Decrease in reportable crimes, including burglary, through the use of LPR as a tool to develop investigative leads and criminal intelligence

- Increase in vehicle recovery, especially “rolling recovery”—leading to arrests or additional crime reduction
Getting the Business Case—Investigative Value
From: Blackwell, Carl
Sent: Friday, September 19, 2014 12:54 PM
To: #CIN.POLICE.All
Subject: INVESTIGATION

ON 9/17/14 @ 0115 A SHOOTING OCCURRED AT 7142 READING RD, BEHIND GOOD YEAR TIRE CENTER. THE SHOOTER’S FIRST NAME IS ROBERT, UNKNOWN LAST NAME. HE IS A PUERTO RICAN AND BLACK WITH A LIGHT COMPLEXION, LONG CURLY HAIR DOWN HIS NECK. HE IS BETWEEN 40-50 YEARS OLD. HE FREQUENTS THE PARK AT 13TH AND SYCAMORE. HE HAS A KNOWN ASSOCIATE NAMED MARCHELLO CLARK OR KELOW. HE WAS LAST SCENE OPERATING A BLACK NISSAN ALTIMA. ACCORDING TO WITNESSES, THE SHOOTER HAS AN APARTMENT IN DISTRICT 1 ON YORK ST BETWEEN FREEMAN AND COLERAIN AVE. IF LOCATED PLEASE STOP, FIR AND CONTACT DET. BLACKWELL CONSIDER THE PERSON ARMED AND DANGEROUS.
The True Value of LPR: Identification, Photo Evidence, Location

Serial Rapist

Suspect was identified and extensive investigation took place over a few months.

LPR lead map led investigators to vehicle to place GPS tracker.

Photos show suspect attempted to disguise vehicle.

Arrested January 2013.
The use of LPR information can lessen the exposure of individuals’ personal data

Reduced PII Access by 96.75%
The True Value of LPR: Current and Historical Data
The True Value of LPR: Current and Historical Data

6/27/2013  7:33:46 PM

6 Months Earlier
The True Value of LPR: Success

Power of the Photo

**WANTED**

Summary: CAMRON VICTOR WOHL has warrants entered on him for Agg. Robbery/Burglary, Kidnapping, and Rape with a nationwide pickup radius reference the below captioned sexual assault. During the early morning hours of 6/3/16, CAMRON VICTOR WOHL sexually assaulted a female victim at an address located in the city of West Chester. The victim was transported to an area hospital for medical treatment. It is believed that a third party was involved in assisting CAMRON VICTOR WOHL in the commission of the above sex assault.

CAMRON VICTOR WOHL
M/W/6'0/200-225/BR/BlU
2004 silver Chevrolet 2500 Duramax P/U
KY 595MFS

Original Suspect Sketch

“Notice the missing hubcap and the dent in the back”
The True Value of LPR: Success Power of the Photo
THE TRUE VALUE OF LPR: SUCCESS VIDEO CAMERAS + LPR
Share the Benefits – In the Media

Technology helped find Virginia killer

BY HANNAH G. JONES | THURSDAY, AUGUST 27TH 2015

Reporter Allison Parker and photographer Adam Ward were attacked during a live broadcast.

License plate recognition scanners on Tri-State police cruisers help stop crimes before they happen

BY Brendan Keefe, Maxim Alter
POSTED: 8:35 PM, Nov 11, 2013
UPDATED: 4:14 PM, Nov 12, 2013

An automated LPR -- or license plate recognition -- camera attached to a Fort Thomas police cruiser had already detected and recorded the man’s car prowling different schools over several days.

Because of this technology, police say they were able to arrest the man before a more serious crime was committed.
Mr. Mark Greene,
Director, Policy and Standards Division
Office of Science and Technology
National Institute of Justice (NIJ)
Keys to Acceptance of an LPR Program

- HAVE a policy
- USE the policy (abide by it and audit)
- HAVE and USE metrics
- Get the word out about the benefits of LPR use by law enforcement
- Engage before there is a problem
Questions

Go to www.IACP.org/ALPR
Question-and-Answer Session

MODERATED BY: MIKE SENA
- International Association of Chiefs of Police Automated License Plate Recognition (ALPR)  http://www.theiacp.org/alpr

- The Northern California Regional Intelligence Center’s Automated License Plate Reader Policy:  https://ncric.org/html/NCRIC%20ALPR%20POLICY.pdf


- Los Angeles Sheriff’s Department’s ALPR Privacy Policy:  http://shq.lasdnews.net/content/uoa/EPC/ALPRPrivacyPolicy.pdf

- George Mason University Center for Evidence-Based Crime Policy  http://cebcp.org/lpr/
Utilizing License Plate Readers for Violence Reduction

Closing Remarks: Kristie Brackens
License Plate Readers: A Primer

Available on the VRN Website
https://www.vrnnetwork.org/
THANK YOU