

From: Danielle Menard [<mailto:menard@theiacp.org>]
Sent: Thursday, July 22, 2010 8:39 AM
Cc: Michael Fergus
Subject: IACP LPR Training - Presentation Attached

Good Morning,

As stated in my previous email attached you will find a copy of the *Implementing LPR Technology in your Community* presentation. Please let me know if you have any trouble opening this document.

Best regards,

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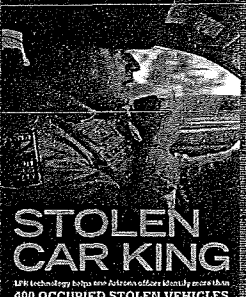
Implementing LPR Technology in Your Community

Wednesday, July 14, 2010

Why Use LPR?

Force Multiplier

- Operates in background. Officers can perform regular duties.
- Up to 5000 plates per shift vs. 100 to 150 max by standard officer query.
- Automatically checks against specified data.
- Initial interest is *usually* to find stolen cars but other very valuable uses.



STOLEN CAR KING

LPR technology helps law enforcement identify more than 400 OCCUPIED STOLEN VEHICLES

LPR Capabilities

- Today's LPR can read and check a plate in all types of lighting and at high speeds.
 - Although LPR is often obtained for stolen vehicle efforts, checks can be made against any data base including:
 - Vehicles associated w/wanted felons
 - Lost or Stolen Plates
 - AMBER Alerts
 - And any locally created databases
 - (Hit & Run Vehicles, Sex Offenders, Arsonists, Parking Scofflaws, etc.)

LPR Capabilities

- Note: Queries are not checking a "live" database.
- Since LPR captures all plates (whether wanted or not), the information can be stored for future review and query.
- Supports crime analysis and investigations
- LPR is also a very valuable Homeland Security tool



How LPR Works

- Two cameras (IR and color), in a single housing, each vehicle usually has multiple cameras
- The units capture plates in most weather, oncoming headlights, glare, bright sunlight and darkness
 - However, heavy rain and fog can challenge
- Uses OCR (Optical Character Recognition) technology and complex algorithms to read plates
- Compares the read plate to multiple databases searching for matches
- Retains captured plate info

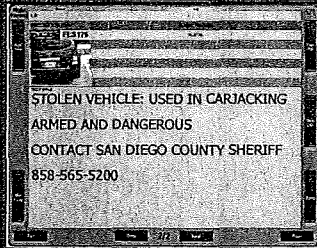


Mobile Application

- Usually integrated with current MDC in patrol car
- CAD and LPR software run at the same time.
- An alert will pop to the front with an audible tone.



"Hit" Notification Screen



- Audible & visual alert
- If minimized, screen will pop up
- Matches must be confirmed
- Database is not live (Matches may not still be in system)

Mobile LPR

- Advantages:
 - Quick to deploy
 - Unpredictable (Hard to avoid)
 - Can target problem spots or document proactively
 - Alert can be verified/confirmed by officer
 - More readily accepted by public
- Disadvantage:
 - Car must be in the field



Value of Collected Data

- All reads provide:
 - Photo
 - Time/Date
 - GPS location
- Can be used numerous ways:
 - Investigations
 - Locating suspects
 - Homeland Security
- Which vehicle was Where When



Escondido CA PD Hit & Run Case

- Pedestrian Struck and Killed by Car
 - Witness Information:
 - Gray Ford Taurus
 - Partial License Plate "5__ 611"
- Other efforts to identify or locate a suspect failed and the partial plate was entered into LPR database.



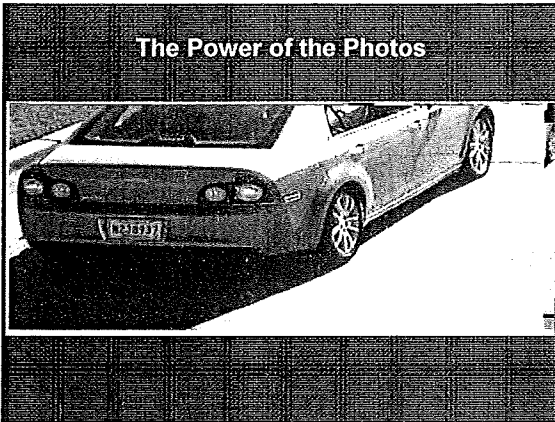
Gray Ford Taurus
Partial Plate of 5__ 611

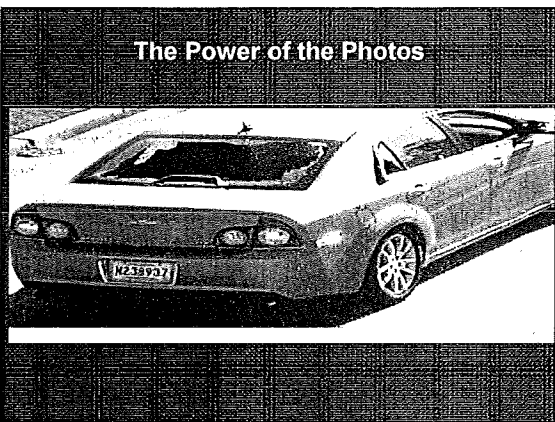
> Found LPR capture from three months prior to accident.

> Area checked, car located, suspect arrested

Florida Rape Series

- More than 30 rapes over 3 years.
- Suspect rendered victims unconscious and there was no suspect vehicle info.
- Finally, a break: A victim provided four characters of a license plate.
- Even though victim got one character wrong, use of wildcard function identified a suspect vehicle within a few minutes.
- Surveillance established and suspect arrested as he targeted another victim.





Homeland Security Applications

- ID vehicles frequenting critical infrastructure
- Locate vehicles of interest to JTTF
- Determine locations and traffic pattern of vehicles relevant to terrorism concerns
- Significant Benefit: While supporting Homeland Security, LPR has ongoing all-crime functionality for law enforcement
- Bottom line – LPR is a valuable tool for both Homeland Security and fighting crime.

Mobile Considerations

- Agency environment and mission
- Existing capability (MDC in car, touch screen, wireless ability, etc.)
- Available funding
- Other LPR agencies in your region and what they are using
- Engage IT personnel and get their input
- Number and placement of cameras on car – more is not necessarily better
- Assignment and use of vehicle

Mobile Mounting Options

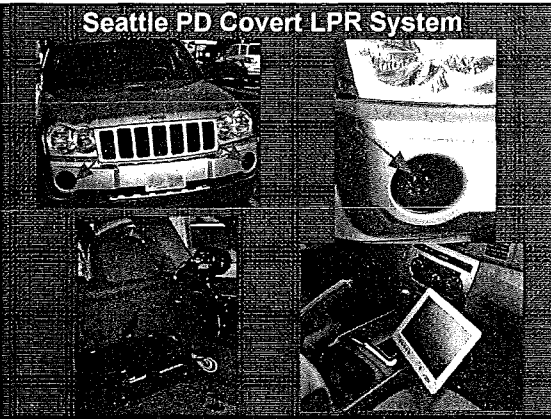
Mobile Setup Options

Covert LPR Applications

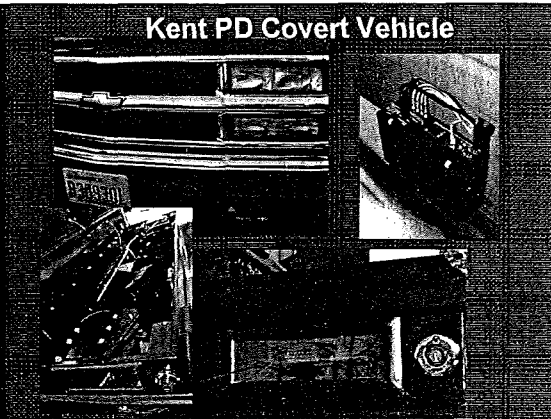
- Some agencies gather LPR data covertly
- May be of benefit in specific applications such as gathering information on a specific location or event where marked unit is problem.
- Can be left parked for a period of time to gather coming and going information.
- Downside: Specific use, usually not full-time.



Seattle PD Covert LPR System

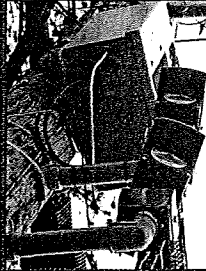


Kent PD Covert Vehicle



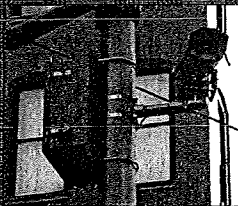
Fixed Applications

- Utilizes IR and color cameras
- Permanent or portable
- Can establish perimeter
- Geo-fencing applications
 - Schools
 - Parks
 - High crime areas



Fixed Applications

- Advantages:
 - Always operational
 - Cover ingress/egress
- Disadvantages:
 - Installation challenges
 - Public perception
 - Predictable
 - Require hardwire or wireless connection for updates and alerts
 - Large amount of data generated/repeated



Considerations in Fixed LPR

Fixed Installs Require Planning and Assessment:

- Choose location carefully - Must consider value of information but also ability to predict course of travel and interdict if desired. Look for natural travel funnels.



Considerations in Fixed LPR

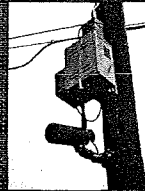
Fixed Installs Require Planning and Assessment:

- Choose location carefully - Must consider value of information but also ability to predict course of travel and interdict if desired. Look for natural travel funnels
- Data volume can be tremendous with a lot of repeat commuter traffic
- Consider tiered retention periods
- Less noticeable is generally better



Fixed Considerations - More

- Where will data alerts go, who responds, how are alerts controlled and updated?
- Buy-in from affected agencies
- Site assessments:
 - Power
 - Connectivity
 - Infrastructure
 - Access and environmental concerns
 - Continual analysis of Cost Benefit



Fixed Considerations - More

Right of Way Issues:

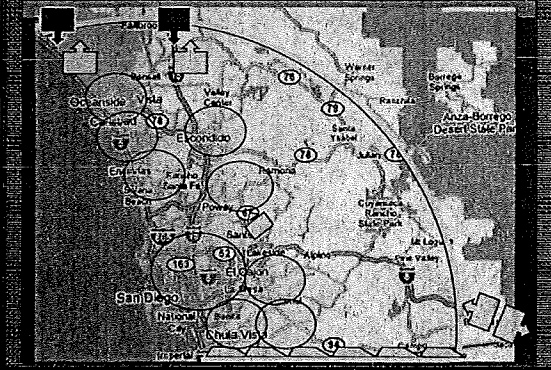
- Municipal/County/State – Makes a difference!
- Who owns the infrastructure?
- Utility partnership possibility
- Challenge of bridge mounts
- Regional projects require buy-in and someone to both sell and support the effort. *And remember it goes beyond the installation.*



Fixed Considerations - More

- Free can be very expensive
- The MOU challenge, key components:
 - Equipment
 - Information sharing
 - Alerts, Response, Data Access
 - Long-term responsibilities
- Out year maintenance is major issue with administrators, especially now.
- Law enforcement usage of LPR is new and challenging: Need policy, training, oversight.

Fixed and Mobile Potential



LPR POLICY AND PROCEDURES

Why Have Policy & Procedures?

- to protect against civil litigation
- to provide guidance to your employees
- to promote standard practices
- to regulate conduct
- to increase the likelihood of convictions

LPR Policy

You must know your business needs
before you write your policy & procedures

LPR Policy

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before you write your policy & procedures

Your policy and procedures must be
consistent with your business needs

LPR Policy

- Purpose
- System Information
- Policy Statement
- Definitions
- Procedures

Purpose

"The purpose of this policy is to provide officers with guidelines on the proper use of license plate reader (LPR) systems."

System Information

- mobile, fixed, portable
- wireless or hardware updates

Policy Statement

"The availability and use of LPR systems have provided many opportunities for enhancement of productivity, effectiveness, and officer safety. It is the policy of this agency that all members abide by the guidelines set forth herein when using LPR systems."

Definitions

- acronyms and abbreviations
- terminology (i.e., "hit" or "alert")
- technology (i.e., mobile, fixed, portable)

Procedures

General

"The use of LPR systems is restricted to public safety related missions of this agency"

Procedures

General

"Misuse of this equipment and associated databases, data, or images may result in sanctions and/or disciplinary actions"

Procedures

General

"The images and data acquired through the use of LPR are the property of this agency"

Procedures

Administration

Personnel roles and responsibilities

- oversight to establish protocols for access, control, retention, dissemination
- monitor training
- back-end management
- maintenance

Procedures

Use

- official agency use only
- only properly trained personnel
- define officer responsibilities
 - updated data
 - operational status

Procedures

Use

- LPR alerts
 - verify plate matches image
 - verify status of plate through dispatch
 - applies to fixed as well as mobile

Procedures

Use

- disposition of each alert should be documented
- manual additions to hot list
- supervisor approval of special uses
(DUI checkpoints, special operations, etc.)

Procedures

Data Access

- secure login, audit trail
- protocol for historical data searches
- protocol for input/removal of manual entries
- hot list management

Procedures

Data Sharing/Dissemination

- data should be considered FOUO
- document all dissemination outside agency
- MOU should be considered
- existing agreements may address sharing

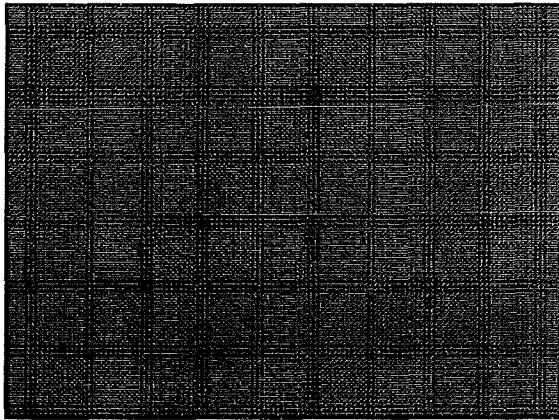
Procedures

Data Retention

- varies by jurisdiction
- public sensitivity

LPR Policy and Procedures

- build public support
- keep policies updated
- use data searches effectively
- training, training, training
- network with other agencies



Privacy Questions

- Sharing, Access, Retention, Analysis all raise questions of privacy. The concerns:
 - Not only 4th but 1st Amendment. The argument: Could dissuade lawful assembly and association
 - Also: Strips away potential privacy afforded by the sheer volume of data and traffic. Although little or no expectation of privacy in public area, technology enhances knowledge of activity.

Public Notice or Not

- The Court of Public Opinion can trump you
- There is Pro and Con to the PR question
- Consider the actual need vs. the reality
- Be ready to answer the public's concerns
- Emphasize the positive

Privacy - Continued

- LE must be careful about use/assumptions.
- Exercise caution when designating LPR data as somehow unique or different than other CJ data.
- Pros and cons on LPR announcements.

Evaluating Privacy Concerns

- Consider the tech and non-tech parallel:
 - LPR does what officers are *already doing*. Many similarities but accomplished with tech efficiency.
- Great concern over potential for abuse but -
Reality Check: Abuse potential is not unique to LPR - *Policy, training, auditing, check & balance can address and minimize problems in the same manner they have been used for other systems.*

Retention Considerations

- State law or other requirement
- Active time of investigation on targeted cases
- The demand for storage and expense
- The impact on database effectiveness
- Public perception

US vs. Wilcox

- Defendant claimed LPR invaded his privacy interest in "anonymous and free movement across the city" – claimed 4th Amend. violation.
- US District Court Magistrate, N. Georgia held:
 - No 4th amendment protection
 - Law requires plate display – no privacy
 - Check of license plate is not a search
 - Cited rulings from 5th, 6th, 8th, 9th and 10th Circuits and the US Supreme Court
 - Noted that LPR is not a technology that invades privacy like thermal imaging

Comparing Officer Initiated and LPR

Officer in Car

License Plate Reader

- | | |
|------------------------------|-------------------------------|
| • Able to observe plates | • Always observing |
| • Check any plate | • Check many plates |
| • Can pick and choose | • Captures are unbiased |
| • Can write down/record info | • Automatically captures info |

Comparing Officer Initiated and LPR

Officer in Car

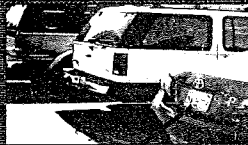
- Holds info until needed or deemed relevant
- Can provide to investigator
- Past info may be relevant to crime later discovered
- Weakness – Officer must record, remember, recover and report when info needed.

License Plate Reader

- Holds data in searchable form until needed
- Accessible 24/7 to investigator
- Retrospective data may be of great value in series crimes or those with suspect vehicle info, particularly partial plate

LPR Isn't Perfect

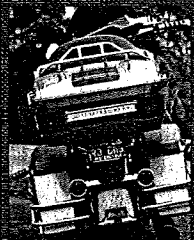
- LPR does not read all plates perfectly
 - Older non-reflective plates
 - Extremely dirty
 - Mutilated or obscured



Actual Plate: 5V16779
Read as: 5V16779

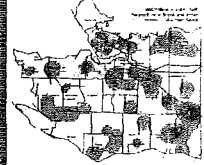
LPR Isn't Perfect

- Accuracy may be reduced
 - Out of state plates
 - Extreme angles
 - Motorcycle plates
- Approx. 90+% accuracy
 - Depending on vendor
 - Misreads will occur
 - LPR is still a very effective tool



Data Sharing is Key-Make it Happen!

- Agency efforts are underway but without coordination, value is limited. Result: Info silos
- Looking at a larger geographical area provides greater potential for finding suspect vehicles and identifying crime patterns.
- Coordinate efforts –
Link agency reps early & often

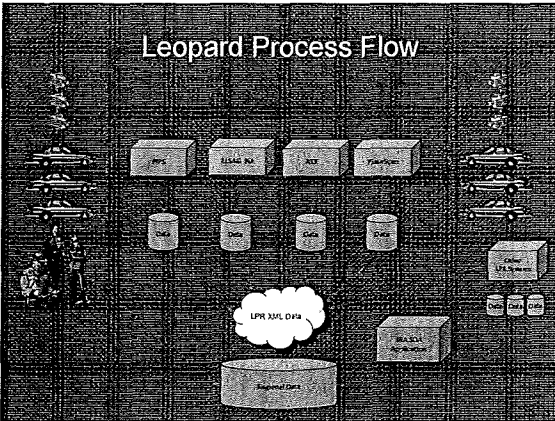


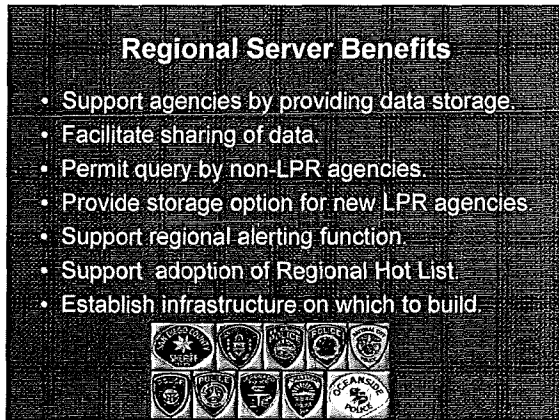
Data Sharing is Key

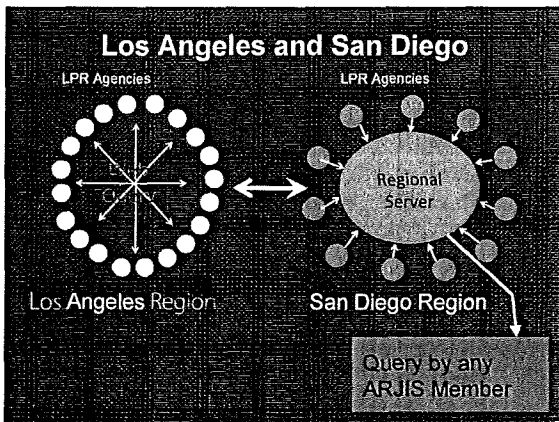
- Coordinating agency efforts and sharing data can result in extensive benefits:
 - More effective alerts and analysis of information
 - Economy of scale regarding purchases
 - Lessons learned applicable to others
 - Possible shared infrastructure (e.g. servers)

Data Sharing – The Response

- IACP LEIM – May 2008
- Vendors and practitioners met off-site
- Discussion - data standard
- NIJ underscored importance
- NIJ funded effort by SPAWAR-Atlantic
- Project LPRD (Leopard)
- *Purpose: Interconnect proprietary systems from different agencies through specialized collection & formatting procedures. Permit analysis & reporting features for consolidated LPR data*







National Sharing – Roadmap

- Develop regional sharing capability.
- As regions develop across the country, begin to link sharing/query capability.
- Utilize a trusted broker, such as NLETS to serve as a "pointer" system.
- Query could be conducted by investigator in one state with indication of potential data in multiple regions/states.
- *In the interim:* Establish and utilize email groups. Can be a very powerful tool.

National Initiatives

- Privacy Impact Assessment - IACP/LEIM – Completed Q4, 2009 – Download from www.theleim.org
- Model Policy Effort – IACP convened experienced practitioners Jan, 2010. Release is pending.
- Leading Practices Document // IACP – Survey plus extensive site visits. Report release: Q3, 2010.
- Data standardization effort (NIJ) SPAWAR SRC. Converts to Global XML format. Initial installs.
- NLETS Partnership – Interstate sharing – 2010
- FBI CJIS - Evaluating appropriate role.

Trends

- GeoBranding
- Increased private sector LPR use
- Entry of the In-Car Video vendors
- Retention - Fixed vs. Mobile
- Recognition of Fixed challenges

Trends

- Courts being exposed to LPR
- Realization that LPR requires IT support
- Homeland Security Value
- Real time vs. end of day download
- Vendors being stretched
- Data Regionalization/Support with server hub

Emerging Issues

- Proliferation of private LPR scout cars.
 - How will this info be integrated/accessed?
 - What controls, if any, over use of this data?



Emerging Issues

- New wave of LPR equipment via existing in-car video manufacturers.
 - Limited involvement with standards effort
 - Use of video based LPR is new and accuracy and effectiveness in real world use is undetermined.
 - It does have potential and bears watching.

LPRs – The Myths

- My vendor is best.
- LPRs are primarily for finding stolen cars.
- LPRs take the human element out of policing.
- LPRs target people unfairly.
- LPRs are too expensive for small agencies.
- Accuracy rate is THIS BIG!
- My cameras read all 50 states.
- HOT lists are really hot.
- Got a mobile computer, just add a camera.
- Bottom line – Do your homework!

LPR Tips

- Involve your IT people early in the process.
- Use Wildcards frequently.
- Remember Victimology 101 – Where was V?
- Hot list instructions should be clear – TRAIN!
- Hot list must be maintained and updated.
- Share/Share/Share to be effective.
- Target hot spots relentlessly – before & after.
- Move to wireless update/download. USB works but wireless is much, much better.

More LPR Tips

- Ensure accuracy of time and GPS data.
- Numbers count – keep LPR in the field to maximize effectiveness. Consider volunteers or special efforts to grid.
- Save relevant LPR data to cold case file.
- "Calibration" – Why and how to do it.
- Registration enforcement – new perspective and priority is important.
- Anticipate the counter measures.
- Car wash caution.

