AUTOMATED LICENSE PLATE READERS (ALPRs)

PURPOSE:

The purpose of this Training Bulletin is to establish a baseline of knowledge on the Automated License Plate Readers (ALPRs).

BACKGROUND:

The ALPR technology, also known as License Plate Recognition (LPR), allows for the automated detection of license plates. It is used by the Los Angeles Port Police since 2007, to convert data associated with vehicle license plates for official law enforcement purposes, including identifying stolen or wanted vehicles, stolen license plates, and missing persons. It may also be used to gather information related to active warrants, homeland security, electronic surveillance, suspect interdiction, and stolen property recovery. Most recently, the Los Angeles Port Police has selected Vigilant Solutions as the company to provide this technology for tactical and operational use.

DEFINITIONS:

Automated License Plate Reader (ALPR): A device that uses cameras and computer technology to compare digital images of license plates to lists of known plates of interest.

Hot List: License plates associated with vehicles of interest from an associated database, including, but not limited to, NCIC, DMV, Local BOLOs, etc.

Hit: Audible and Visual Alert from the ALPR system that a scanned license plate number may be in the National Crime Information Center (NCIC) or other law enforcement database for a specific reason including, but not limited to, being related to a stolen car, wanted person, missing person, domestic violence protective order or terrorist-related activity.

POLICY:

Please refer to the Los Angeles Port Police Department, Automated License Plate Readers (ALPRs) Policy Section 462.

CAPABILITIES:

“LPR Patrol”- is intended for operational use by police officers who will be operating an ALPR system from a marked police vehicle. A profile will enable an officer to login to the in-car ALPR system through a unique user ID and password (must be reset every 90 days).
The ALPR system, when operational, will automatically:

I. Collect license plates from designated cameras installed on the police vehicle.
   a. The system incorporates two cameras, one Infra-red, one color, into a single self-contained device.
   b. The system has the ability to capture quality images in a variety of settings including darkness, oncoming headlights, bright sunlight, low sun, deep shadows and glare.

II. Query those collected plates through Vigilant’s Databases. Specially, the databases referred to as:
   a. “State Hot Lists” (stolen and wanted vehicles that is updated periodically throughout each day by Vigilant).
   b. “Local Hot Lists” (manually populated and updated by the LAPP Criminal Investigations Unit or other authorized LAPP personnel).

III. Alert the user of any “Hit”.
   a. If the vehicle receives a match and gets a hit, the system will alert the officer with both an audible and visible alert.
   b. Images of the license place and vehicle, as well as a brief explanation of what the vehicle is wanted for will be displayed.

IV. Retain the queried license plates and collected metadata including:
   a. Global Positioning System (GPS) coordinates where license plate was captured.
   b. Date of the capture.
   c. Time of the capture.

OFFICER RESPONSIBILITIES:

Officers SHALL verify any “hit” with the California Law Enforcement Telecommunications System (CLETS) and/or the LAPP Communications Unit and/or the LAPP Criminal Investigations Unit before taking any official enforcement action.

All arrest reports that result of the ALPR system should contain the following disclaimer:

- “The vehicle was initially brought to my attention via the use of an automated license plate recognition system. I visually verified the license plate of the vehicle in question and ran it through CLETS to confirm it was a wanted vehicle”.

TRAINING VIDEOS / AIDS:

- Car Detector Mobile System V.5.0 – Operator Training PowerPoint.
- 1-hour free webinar for Vigilant Plate search basic operations. Visit [https://register.gotowebinar.com/rt/775820211794144523](https://register.gotowebinar.com/rt/775820211794144523) to access the training.
- Attached training document.
LOG IN TO VIGILANT MOBILE LPR

1. Launch the Vigilant Mobile LPR icon from the MDC desktop:

2. Log in using your department email address and Vigilant password:

OBSERVE HEALTH STATUS

1. Verify all HEALTH INDICTORS turn green.

   • Cameras take about 90 seconds to turn green every time the vehicle is turned on.
   • GPS may show red while in a parking garage due to loss of signal.

VERIFY HOTLISTS ARE DOWNLOADED

1. Click on Learn from health bar.

2. Verify the date is current and Synchronization Status is Complete. While downloading new hotlists, the status is Synchronizing. There are usually over 300,000 hot plates in California.

HOTLISTS UPDATE APPROXIMATELY EVERY 4 HOURS.

CONFIRMING HITS

If a hot plate is detected, an alert with display MDC screen. Confirm that the image of the plate matches the text of the plate detection, and the plate state matches the want. Click Correct Hit or Incorrect Hit to confirm the hit then click Close to close the Alert Pop-Up window.

ONCE ALL HEALTH INDICATORS ARE GREEN, YOU CAN MINIMIZE THE VIGILANT MOBILE LPR SOFTWARE. THE SYSTEM WILL CONTINUE TO READ LICENSE PLATES.

ALWAYS VERIFY THE PLATE AND THE STATE OF AN ALPR HIT WITH A LIVE SYSTEM (RUN IN CAD OR VERIFY WITH DISPATCH) BEFORE TAKING ENFORCEMENT ACTION.
Getting Started

- Desktop Icon
- Operating Warning

Enter License Code or Run 60 Day Trial

Enter User Credentials

Faster Startup

Connect to CarDetector Database
Exploring the Main Screen

- Control Buttons
- Connection Status Lights
- Active Camera Feed
- Camera Navigation
- Hit List
- Detection List

4 Information Windows
- Active Camera Feed
- Detection Viewer
- Hit List
- Detection Plate List
Exploring the Control Buttons

- **Setup**: Launches the main setup parameters and options for CarDetector.
- **Import Hot-List**: Allows the operator to add Hot-List files to the hotlist database.
- **Start Shift**: Bookmarks a period for reporting and exporting data records.
- **Add Plate**: Allows the operator to add single plates to the hotlist database.
- **Search**: Search utility to access all LPR data in the local CDMS database.
- **Day/Night**: Switch between Day Mode Theme and Night Mode Theme.
- **Minimize**: Minimizes the CarDetector app while operating in the background.
- **Exit**: Terminates the CarDetector program.
Setup - Cameras/DSP’s (Reaper Version)

- Activate Camera
- Name Camera
- Change DSP Button
- Camera IP
- Save Settings
- DSP Configuration
Setup – DSP Configuration

Choose your DSP

Manually Add IP of DSP
Select Checked IP

Change & Review Reaper’s IP Address

View DSP Details

Network Configuration

Network Configuration [192.168.1.10]

Host name: ReaperSD
IP Address: 192.168.1.10
Subnet mask: 255.255.255.0
Default gateway: 192.168.1.10
DNS Server: 0.0.0.0
Domain Name: 2.1.111815.1500

Cam-1 Camera Name 192.168.1.10
Cam-2 Camera #2 192.168.1.11
Cam-3 Camera #3 192.168.1.12
Cam-4 Camera #4 192.168.1.13
Setup – Audio Settings

Configure Audio Alerts Tab

Assign specific sound to detection types
Setup – OCR Settings

**Reaper:**

OCR Tab

Assign appropriate region to ensure accurate detection

**Condor:**

Select LPR Camera Type

Select a regional OCR profile

Region Select: California

Select a regional OCR profile and LPR camera type

Region Select: California

LPR Camera Type: Raptor 2, Raptor 3

How do I know what type of LPR camera to select?

- Click Here -
Setup – Alert Settings

Set alert parameters and notification type for CarDetector Application

Alert Tab

Define method of matching detected plates to Hot-Lists

Notification Type
Audio, Pop-Up’s & Require Hit Confirmation

Plate 1 VS Plate 2:
Plate 1 is the first interpretation the Engine reads the plate to be and Plate 2 is the second interpretation of the same plate. They are not separate Detections.

Exact match + Plate 1 Only: make an alarm sound when any detected plate number on Plate 1 column exactly matches all characters of a plate number in the hot list.

Exact match + Plate 1 & Plate 2: make an alarm sound when any detected plate number on Plate 1 column and Plate 2 column exactly matches all characters of a plate number in the hot list.

One-Off match + Plate 1 Only: make an alarm sound when any detected plate number on Plate 1 column which has only one character difference from one of those of any plate number in the hot list (including the case if a plate with less or more than one character).

One-Off match + Plate 1 & Plate 2: make an alarm sound when any detected plate number on Plate 1 column and Plate 2 column which has only one character difference from one of those of any plate number in the hot list (including the case if a plate with less or more than one character).

Hit Alert Matrix

Exact match

One-Off match

Plate 1 Only
Plate 1 & Plate 2

Ignore Out-of-State Alerts

Notifications
Sound Audio Alert: Yes
Trigger Pop-Up Window: Yes
Force Pop-Up Priority: Yes
Require Hit Confirmation: Yes

Apply
Close
Setup – Clean Settings

Clean Tab

Indicate cleanup cycle

Delete local LPR data older than [X] Days: check to enable Archive Maintenance. Specify the maximum number of days for the archive to hold. All data older than ‘X’ days will be deleted.

Note: Detection records remain in LEARN after local data is deleted.
Setup – LEARN Settings

LEARN Tab

Connect to the LEARN Server for advanced database features

LEARN Server IP Address is created in LEARN and cannot be changed

Verify valid connection to server

Establishes data transfer: From and To LEARN Server

Website: https://learn-rvls.com/learn
Setup – Proxy Settings

Configure Proxy Settings

Proxy settings are only needed if your connection to the internet requires it.

Ask your IT Department if you are having problems connecting to the internet.
**Import Hotlist**

Easily import a custom hotlist for future alerting

This Allows you to import a Hotlist that is local to the system

This is also where you would upload your BHL file from LEARN if you are doing a Make Base hotlist to load your Hotlist. Please contact your Agency Manager for more information.

Locate hotlist

Identify hotlist format

Create expiration for hotlist period
Start Shift/End Shift

Bookmark detection period to create reports or export data for review

Ability to export detections and hits to be uploaded to LEARN. This is used if system is unable to have continuous connection to LEARN.

License plate data collection is independent of Start/End Shift function
Add Plate

Easily add an individual license plate to the Hot-List database

Add Hot Plate

Add license plate to local vehicle only or distribute to all other LPR vehicles within agency
Search Utility

Search among Detections, Hot-Lists, and Hits for CDMS LPR data
Search Utility - Detections

- **Record Detail**
- **Add Comments**
- **Find Location (Nearest Address)**

Select a Record to View
Search Utility – Hot-list Record

Select a Search Criteria

Hot-List Record Detail

Add and View Hot-List Record Comments
Search Utility – Hits

Select Record Type ‘Hit’

Hit Type

Select a Record to View

GPS, Date & Time

Comments sent to LEARN
Day/Night Modes

Toggle between Day Mode and Night Mode

Day Mode

Night Mode
Camera Navigation Bar

Each camera tab allows the operator to view the active video of corresponding

Show/Hide

Toggle between Color & IR Video

Camera Aiming

Manual LPR Capture Tool

Take a “Snapshot” of the active

Mobile Hit Hunter Tool

Warning: Live video rendering should only be used while aiming cameras. This helps to preserve computer
Camera Navigation Bar – Camera Aiming

Toggle between Color & IR Views

Aiming should always be conducted while viewing IR video

Pixel Height Box: For proper aiming the pixel height should be between 14-19 (Green)

All cameras will render simultaneously and allow user to correctly aim each camera
Camera Navigation Bar – Manual Capture

Select Camera

Aim the camera at the desired License Plate and Capture the Image

Enter Plate number and Save
Camera Navigation Bar – Snap Shot

Take a snap shot of “live” IR or Color video
Mobile Hit Hunter

Click to open full window and Zoom in/out on map
Mobile Hit Hunter – Configuration

To configure MHH

- Click on “tick mark” to get info on the ‘Hit’

On the map these are the following “tick mark”:

**Green**: the position of the user

**Blue**: the position of detected license plates

**Red**: the position of the hit license plate.
Detection View - Live

- Provides an IR image of license plate
- Verification can be made - plate number matches the OCR results
- Provides a color overview of the vehicle
Detection View – From Detection List

LPR Record Data includes: vehicle images, OCR results, GPS data, Date/Time stamp, and camera data

- Plate Image
- OCR Results
- Capture Camera

Double-click on any record to see all relevant information

Edit plate data

Scroll to view more records
Hit View – From Hit List

- Displays recent ‘Hit’ records from CarDetector activity
- Displays Hot-List alarm type of the vehicle ‘Hit’ match
- ‘Hit’ Alert
  An audible alert will sound and the alert screen will appear
- Clears the Hit List at client level only
- Clears the individual hit record at client level

Alarmed plates are also stored in LEARN
Status Lights – Overview (Reaper Model)

List the connection status of camera(s), LEARN connection, GPS, and system functions

**Green** = Good Connection

**Status**

**Red** = Bad or No Connection

Camera / DSP → PoE → MDC → LEARN Server

- Wireless Connection
- GPS Unit

**PoE**
Status Lights - Cameras

Camera 1

Camera / Connection Status [Cam-1]

<table>
<thead>
<tr>
<th>Connection (DSP)</th>
<th>Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color Video</td>
<td>Good</td>
</tr>
<tr>
<td>IR Video</td>
<td>Good</td>
</tr>
</tbody>
</table>

Camera 2

Camera / Connection Status [Cam-2]

<table>
<thead>
<tr>
<th>Connection (DSP)</th>
<th>Bad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color Video</td>
<td>Bad</td>
</tr>
<tr>
<td>IR Video</td>
<td>Bad</td>
</tr>
</tbody>
</table>

Good DSP Connection
Good Color Video Feed
Good IR Video Feed

Bad DSP Connection
Bad Color Video Feed
Bad IR Video Feed
Status Lights - LEARN

LEARN Communication Status

<table>
<thead>
<tr>
<th>LEARN Connectivity</th>
<th>Green</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPR Data Uploads</td>
<td>Green</td>
</tr>
<tr>
<td>Hot-List Downloads</td>
<td>Green</td>
</tr>
</tbody>
</table>

LPR Uploads to LEARN

<table>
<thead>
<tr>
<th>Transferred to LEARN</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currently Processing</td>
<td>0</td>
</tr>
</tbody>
</table>

Hot-List Downloads from LEARN

<table>
<thead>
<tr>
<th>Hot Plates for Current User</th>
<th>5521</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synchronization Status</td>
<td>Complete</td>
</tr>
<tr>
<td>Hot-List Synchronized as of</td>
<td>02/27/13 12:13:58</td>
</tr>
</tbody>
</table>

Red = No Connection

No Detections sent to LEARN

No Hotlist sent from LEARN to vehicles
Status Lights – GPS

GPS Location – Location button (Search) Yields Nearest Address)
Status Lights - System

System Startup Process – Check System Components

If System Light is RED, LPR System cannot function
Automated License Plate Readers (ALPRs)

462.1 PURPOSE AND SCOPE
The purpose of this policy is to provide guidance for the capture, storage, and use of digital data obtained through the use of Automated License Plate Reader (ALPR) technology.

462.2 ADMINISTRATION
The ALPR technology, also known as License Plate Recognition (LPR), allows for the automated detection of license plates. It is used by the Los Angeles Port Police to convert data associated with vehicle license plates for official law enforcement purposes, including identifying stolen or wanted vehicles, stolen license plates, and missing persons. It may also be used to gather information related to active warrants, homeland security, electronic surveillance, suspect interdiction, and stolen property recovery.

All installation and maintenance of ALPR equipment, as well as ALPR data retention and access, shall be managed by the Support Services Division Commander. The Support Services Division Commander will assign members under his/her command to administer the day-to-day operation of the ALPR equipment and data.

462.2.1 ALPR ADMINISTRATOR
The Support Services Division Commander shall be responsible for developing guidelines and procedures to comply with the requirements of Civil Code § 1798.90.5 et seq. This includes, but is not limited to (Civil Code § 1798.90.51; Civil Code § 1798.90.53):

(a) A description of the job title or other designation of the members and independent contractors who are authorized to use or access the ALPR system or to collect ALPR information.

(b) Training requirements for authorized users.

(c) A description of how the ALPR system will be monitored to ensure the security of the information and compliance with applicable privacy laws.

(d) Procedures for system operators to maintain records of access in compliance with Civil Code § 1798.90.52.

(e) The title and name of the current designee in overseeing the ALPR operation.

(f) Working with the Custodian of Records on the retention and destruction of ALPR data.

(g) Ensuring this policy and related procedures are conspicuously posted on the Department’s website.

462.3 OPERATIONS
Use of an ALPR is restricted to the purposes outlined below. Department members shall not use, or allow others to use the equipment or database records for any unauthorized purpose (Civil Code § 1798.90.51; Civil Code § 1798.90.53).

(a) An ALPR shall only be used for official law enforcement business.
Automated License Plate Readers (ALPRs)

(b) An ALPR may be used in conjunction with any routine patrol operation or criminal investigation. Reasonable suspicion or probable cause is not required before using an ALPR.

(c) While an ALPR may be used to canvass license plates around any crime scene, particular consideration should be given to using ALPR-equipped cars to canvass areas around homicides, shootings, and other major incidents. Partial license plates reported during major crimes should be entered into the ALPR system in an attempt to identify suspect vehicles.

(d) No member of this Department shall operate ALPR equipment or access ALPR data without first completing department-approved training.

(e) No ALPR operator may access department, state, or federal data unless otherwise authorized to do so.

(f) Officers shall verify an ALPR response through the California Law Enforcement Telecommunications System (CLETS) before initiating a directed traffic enforcement stop or lawful detention that is based solely on an ALPR alert.

462.4 DATA COLLECTION AND RETENTION
The Support Services Division Commander is responsible for ensuring systems and processes are in place for the proper collection and retention of ALPR data. Data will be transferred from vehicles to the designated storage in accordance with Department procedures.

All ALPR data downloaded to the server should be stored for a minimum of five years pursuant to the Los Angeles Harbor Department (LAHD) retention schedule. Thereafter, ALPR data should be purged in conformance with the LAHD document retention procedures unless it has become, or it is reasonable to believe it will become, evidence in a criminal or civil action, or is subject to a discovery request or other lawful action to produce records. In those circumstances, the applicable data should be downloaded from the server onto portable media and booked into evidence.

462.5 ACCOUNTABILITY
All data will be closely safeguarded and protected by both procedural and technological means. The Los Angeles Port Police will observe the following safeguards regarding access to and use of stored data (Civil Code § 1798.90.51; Civil Code § 1798.90.53):

(a) All ALPR data downloaded to the mobile workstation and in storage shall be accessible only through a login/password-protected system capable of documenting all access of information by name, date, and time (Civil Code § 1798.90.52).

(b) Members approved to access ALPR data under these guidelines are permitted to access the data for legitimate law enforcement purposes only, such as when the data relate to a specific criminal investigation or department-related civil or administrative action.

(c) ALPR system audits should be conducted on a regular basis.

For security or data breaches, see policy manual § 810.
462.6 POLICY
The policy of the Los Angeles Port Police is to utilize ALPR technology to capture and store digital license plate data and images while recognizing the established privacy rights of the public.

All data and images gathered by the ALPR are for the official use of this department. Since such data may contain confidential information, it is not open to public review.

462.7 RELEASING ALPR DATA
The ALPR data may be shared only with other law enforcement or prosecutorial agencies for official law enforcement purposes or as otherwise permitted by law, using the following procedures:

(a) The ALPR data may be shared only with other law enforcement or prosecutorial agencies for official law enforcement purposes or as otherwise permitted by law, who are signatories to a mutual participating agency agreement, or

(b) If the agency makes a written request for the ALPR data that includes:
   1. The name of the agency.
   2. The name of the person requesting.
   3. The intended purpose of obtaining the information.

(c) The request or participating agency agreement is reviewed by the Support Services Division Commander or their authorized designee and approved before the request is fulfilled.

(d) The approved request or participating agency agreement is retained on file.

Requests for ALPR data by non-law enforcement or non-prosecutorial agencies will be processed as provided in policy manual § 810 (Civil Code § 1798.90.55).

462.8 TRAINING
The Deputy Chief of Professional Development & Training Group should ensure that members receive department-approved training for those authorized to use or access the ALPR system (Civil Code § 1798.90.51; Civil Code § 1798.90.53).