MSP & ALPR

June 2022

U//LES - Do Not Disseminate

Discussion Points

- State of ALPR technology & industry
- Overview of MSP ALPR program
- Policy, practice, and law

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State of the Industry

- Automatic License Plate Recognition
- Automated License Plate Reader
- Technology growth and accessibility

Rekor





Flock

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LPR Technology: Old vs. New

Old OCR





New AI



U//LES - Do Not Disseminate

LPR Technology: Old vs. New

Night Footage



vs.



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MSP ALPR Software

- Current software: **Neology Boss4**
- Web-based; legacy system decommissioned



boss4

U//LES - Do Not Disseminate

In our Region

- Motorola/Vigilant, Flock, Rekor, Neology
- Neighboring states – VT, NH, RI, CT, NY
- Turnpike

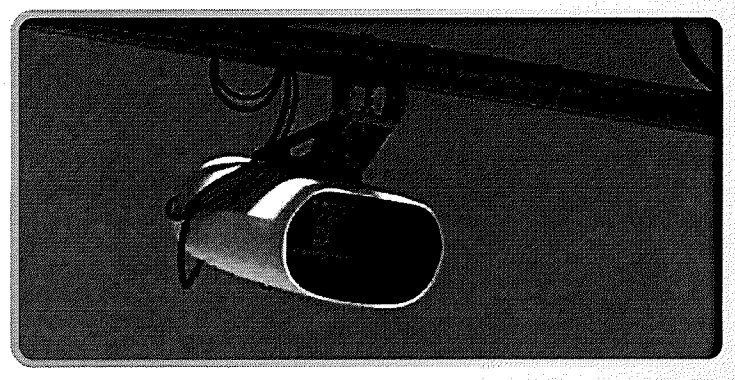
Motorola/
Vigilant

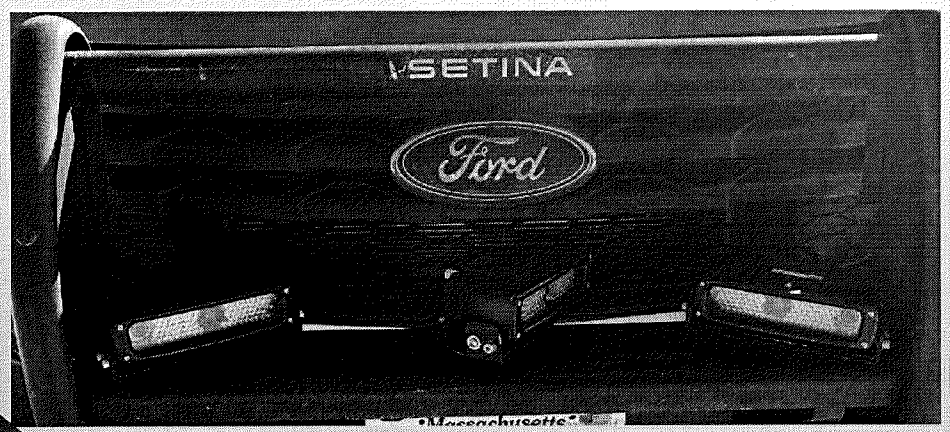


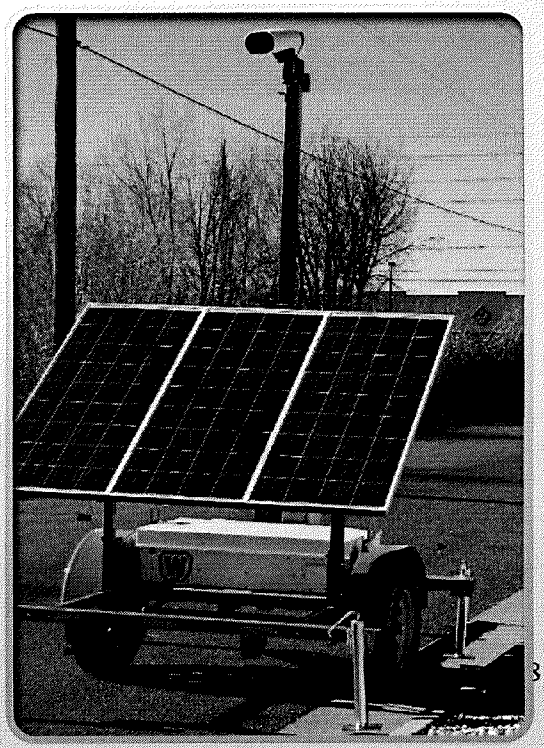
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Configurations

- **Overt**
- **Covert**
- **Trailer**
- **Cruiser**







T p8, 22, 127

What Are We Working On?

- Transition to new system
- Modernize equipment
- Policy/practice updates



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ALPR Use in 2022

- Comm. v. McCarthy (2020)
- Judicial/legislative trends
- Exigent vs. investigative
- Active vs. passive



U//LES - Do Not Disseminate

ALPR in 2022

- Public safety vs. privacy
- Retention and access
- Search best practices
- Reasonableness
- Documentation



U//LES - Do Not Disseminate

Effective Date:	Number:
November 10, 2021	**TRF-11**
Subject: **Automatic License Plate Recognition**	

Policy
Review & Modernization

- Department has ALPR policy
- Policy updates are under review
- Points to be discussed during Boss4 demo

U//LES - Do Not Disseminate

System Assistance



- Searches and hotlists:
  - Commonwealth Watch/Fusion Center
  - Investigative unit commanders or supervisors
- Equipment deployment:
  - ALPR Administrator

U//LES - Do Not Disseminate

Sergeant Noah Pack

noah.pack@mass.gov

Cell: [redacted]

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MSP & ALPR

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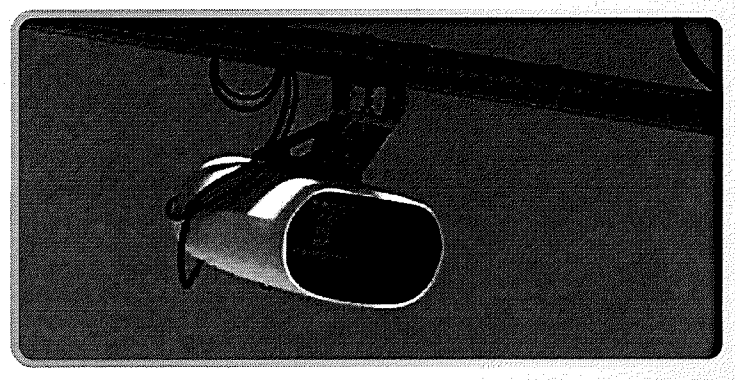
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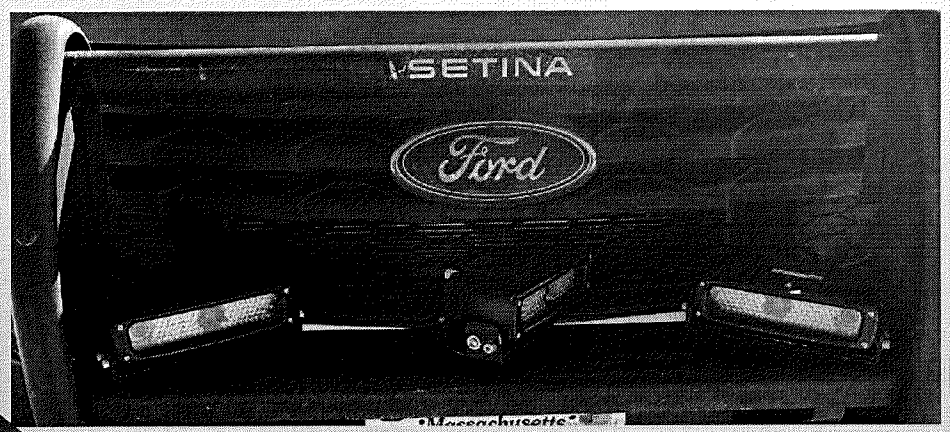


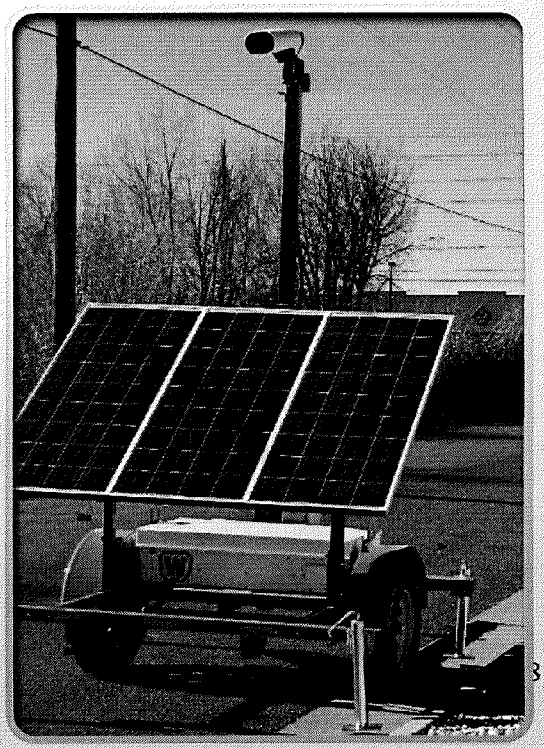
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noah.pack@mass.gov

Cell: [redacted]

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ALPR

Overview for Troop F

U//LES - Do Not Disseminate

Discussion Points

- Overview of ALPR program
- Overview of policy and law
- System use guidelines

U//LES - Do Not Disseminate

Section 1:
Introduction

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Terminology

- *Automatic License Plate Recognition (ALPR)*: AKA Automated License Plate Reader; cameras capture images of license plates and computer algorithms such as Optical Character Recognition (OCR) to convert the images to readable text data.

- *Hit*: A match between a license plate observed by an ALPR camera and a record maintained on a Hot List.

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- *Read:* A scan of a license plate observed by an ALPR camera.

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MSP ALPR Software

- Current software: **Neology Boss4**
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- Legacy system decommissioned



boss4

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ALPR in 2023

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- System access
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Policy
Review & Modernization

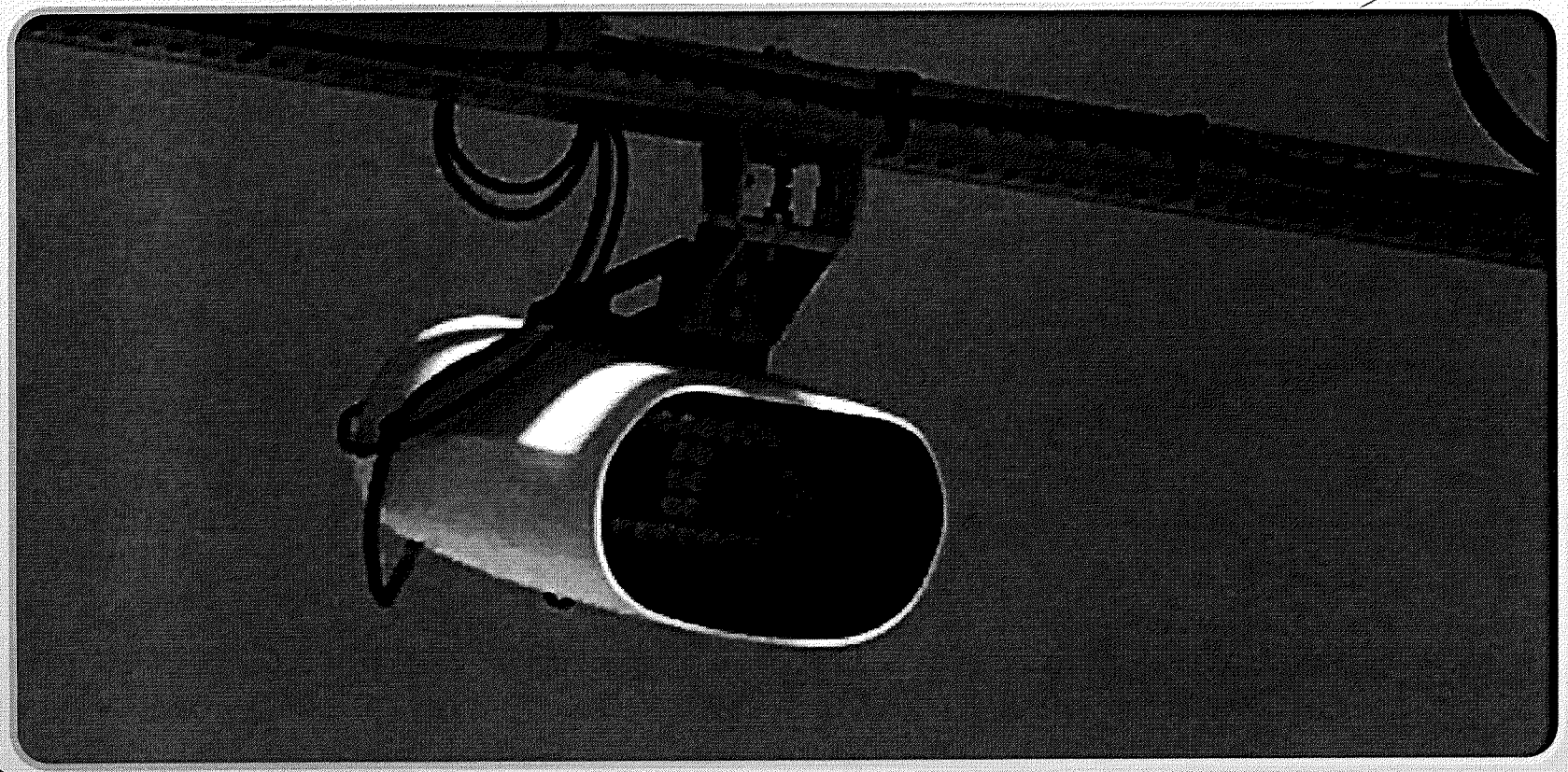
- Applies to sworn and civilian members
- Must review and be familiar with policy

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Section 2:
ALPR at Logan Airport

U//LES - Do Not Disse

ALPR Configuration



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- VIDEO CLIP CONTAINING SENSITIVE SECURITY INFORMATION REMOVED

Section 3:
ALPR for F Dispatchers

U//LES - Do Not Disse

Purpose

- To identify and broadcast real time public safety information
- Exigent or urgent situations
- Not for investigative historical queries
- Refer all non-urgent outside search requests to Watch Center

U//LES - Do Not Disseminate

Guidelines for Searches

- **Authorized** uses *(not exhaustive):*
  - Missing persons, kidnapping, endangered elderly, etc.
  - Public safety matters, such as Q5 subject
  - Vehicle associated with safety BOLO
  - Vehicle involved in a crime or pursuit

U//LES - Do Not Disseminate

Guidelines for Searches

- **Unauthorized** uses *(not exhaustive):*
  - Historical investigative queries
  - Vehicles not associated with active public safety matter
  - Personal use or non-official matters
  - To violate any constitutional or civil rights

U//LES - Do Not Disseminate

Guidelines for Searches

- Dispatch historical data limited to **24 hours**
- Searches may have legal implications
- Users must be prepared to explain and justify
- All searches are recorded and subject to audit

U//LES - Do Not Disseminate

Hotlists & Alerts

- Email alert when a plate is read by an LPR
- Requests only for public safety matters affecting F
- Send requests to Watch Center via email, include:
  - Vehicle plate and description
  - Reason for request (criminal or public safety predicate)
  - Authorizing supervisor (if you are not)
- Refer all outside requests to Watch Center

U//LES - Do Not Disseminate

Hotlists

- Hotlist plates will expire after **24 hours***
- Watch Center has authority to approve or deny
- Extensions/removals are <u>your</u> responsibility
- If you ask to put it in, you ask to take it out

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Missing Persons

- Plates associated with NCIC missing or endangered
- F dispatch email will receive these alert for Logan
- Review and broadcast the alert
  - Run the plate in CJIS
  - Review the record to see if it appears active
  - Broadcast the BOLO to patrols
  - Contact the ORI to advise them of the hit

U//LES - Do Not Disseminate

Radio Guidelines

- Avoid radio broadcasts of LES information
- Do not broadcast hits on stale BOLOS

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Radio Guidelines

- *Example of preferred radio traffic:*

"Station F to area cruisers, we've received information that the grey Cadillac 123ABC associated with the Silver Alert just entered the airport from Route 1A South about a minute ago."

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T p99

Radio Guidelines

- *Example of unacceptable radio traffic:*

"Station F to F area cruisers, that stolen grey Cadillac hit on an LPR at 123 Main Street in Brockton last Thursday at 6:20 PM."

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Missing Persons

- *Example radio traffic:*

"Station F to area cruisers, we've received information that NY 123ABC, a black Chevy Malibu, which is associated with a missing person from NY, entered the airport about 1 minute ago from the TWT. The NCIC entry appears valid."

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T P 51

Section 4:
ALPR for Investigators

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Investigators:
Searches

- Investigative supervisors limited to **90 days**
- Older searches through Watch Center up to **1 year**
- Searches may have legal implications
- Searches likely to pull excessive data may be denied
- Users must be prepared to explain and justify
- All searches are recorded and subject to audit

U//LES - Do Not Disseminate

Hotlists

- Email alert when plate is read
- Authorized purposes per TRF-11
- Send requests to Watch Center via email, include:
  - Vehicle plate and description
  - Reason for request (criminal or public safety predicate)
  - Authorizing supervisor (if you are not)
- Refer all outside requests to Watch Center

U//LES - Do Not Disseminate

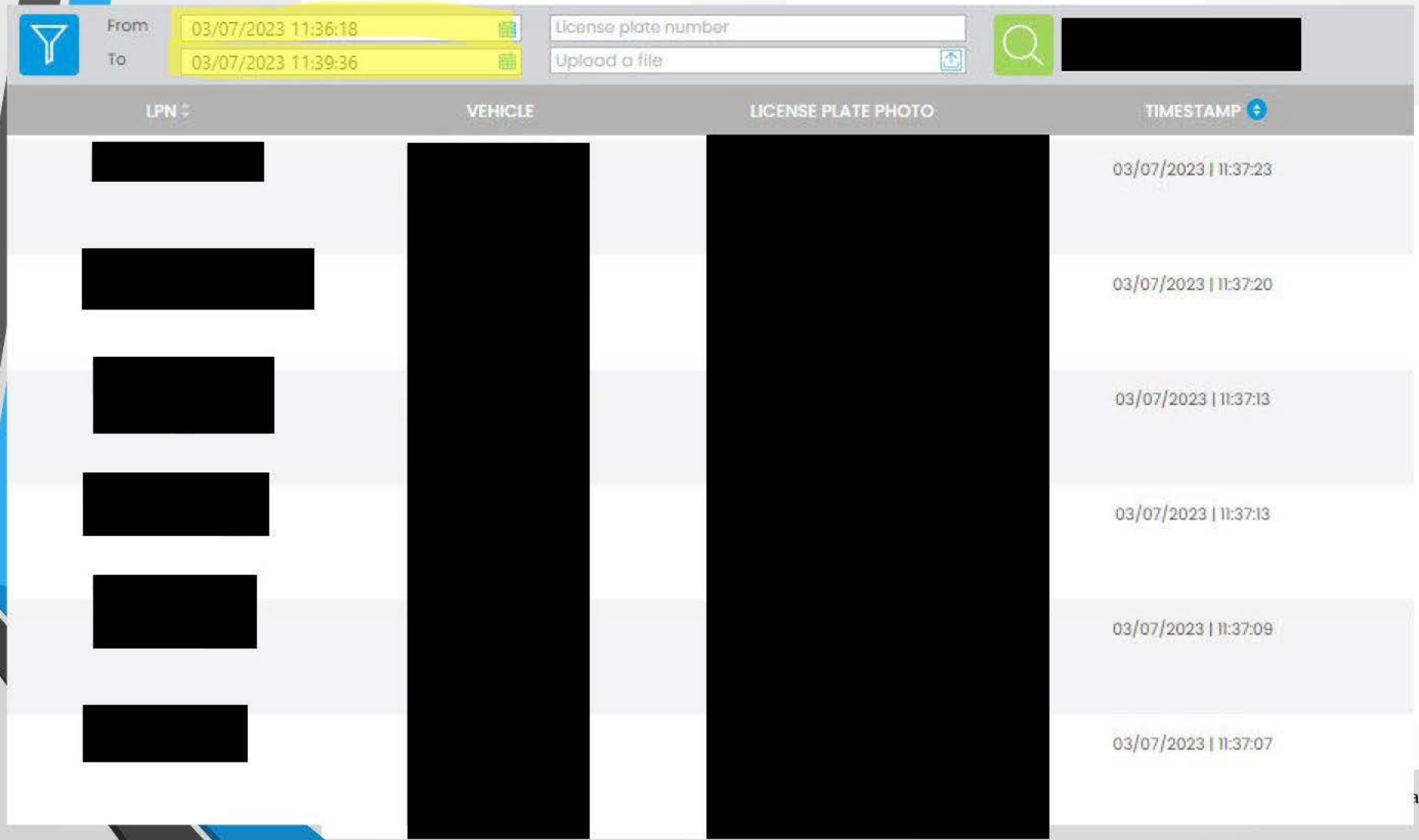
Hotlists

- Hot plates set to expire in **30 days or less**
- *Geographic* and *temporal* considerations
- Watch Center has authority to approve or deny
- Extensions/removals are <u>your</u> responsibility
- When no longer needed/valid, must be taken out
- Special attention to rentals and short-term use
- If you ask to put it in, you ask to take it out!

U//LES - Do Not Disseminate

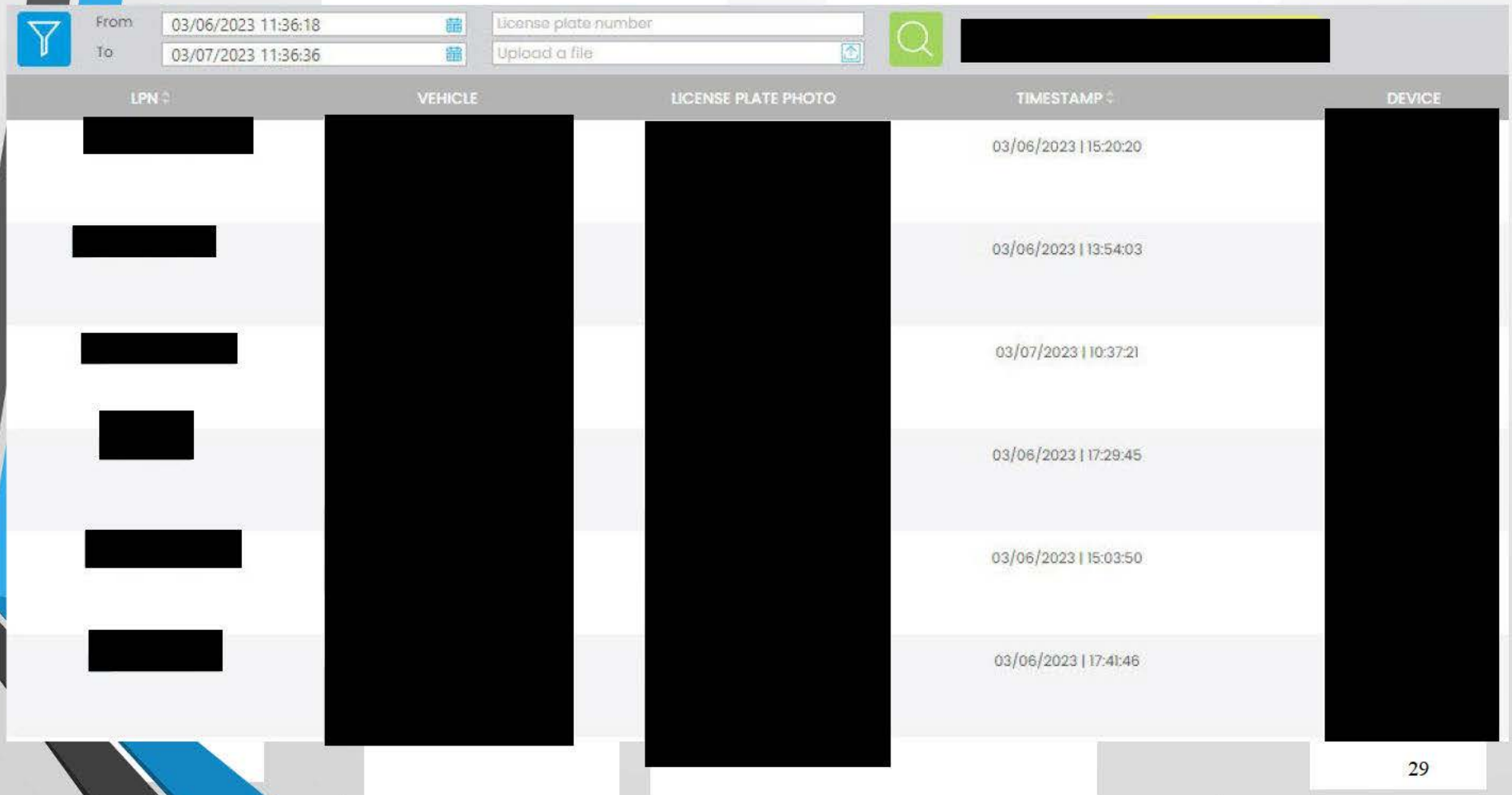
Search Tools

- Device and time specific for unknown plates



Search Tools

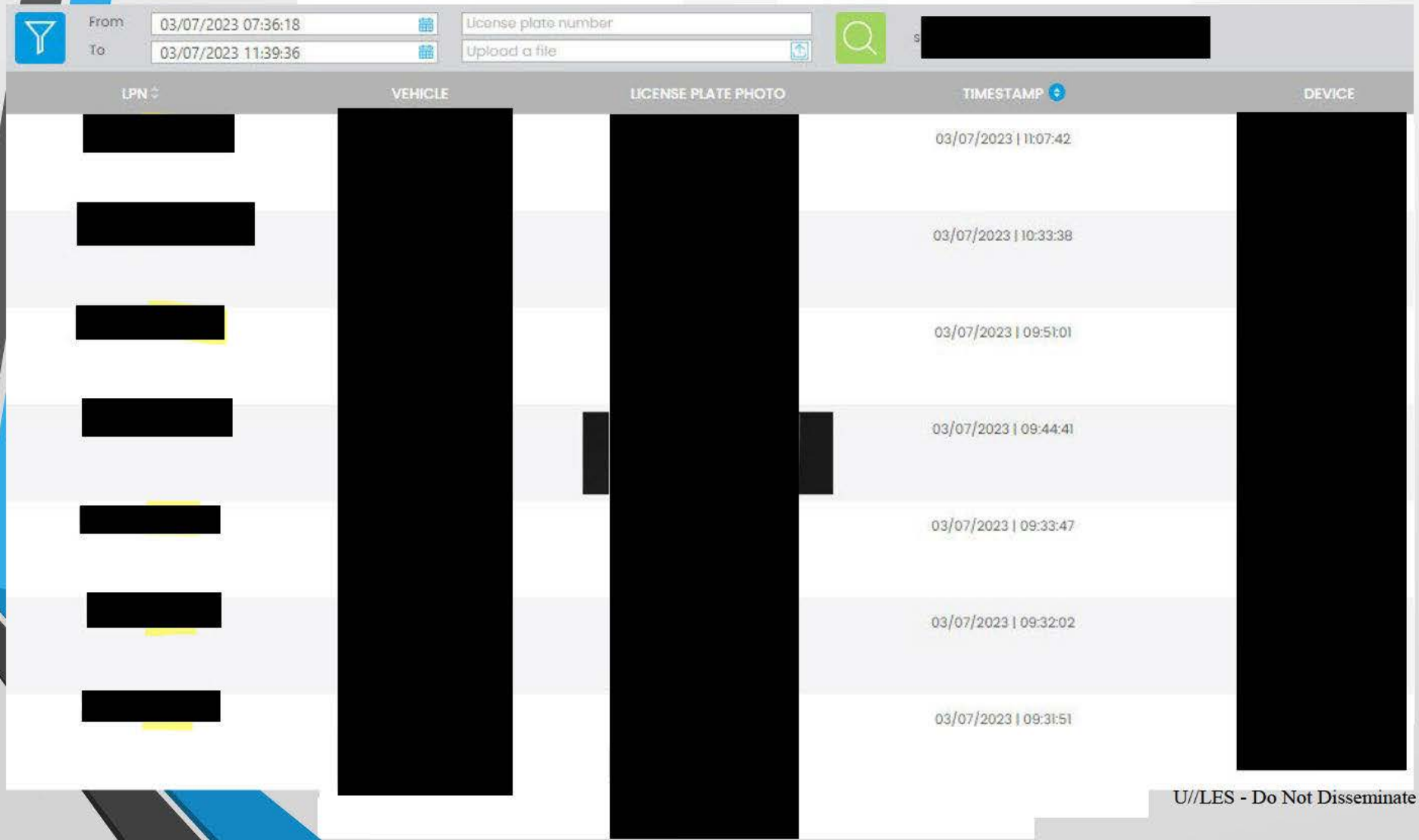
- Vehicle characteristics: color, type, make



U//LES - Do Not Disseminate

Search Tools

- Registration state: *caution* with this



U//LES - Do Not Disseminate

Email Alert Examples

U//LES - Do Not Disse

Hit notification

Priority:500

NCIC WANTED PERSON (WEST)





[redacted]

Read Time: 2022-10-12 06:46:44
NTP Status: Locked
Device [redacted]

Address: [redacted]

HIT INFORMATION

Hotplate#: [redacted]
Field1: [redacted]
Field2: [redacted]
Field3: 2021CHEVSLVPK
Field4: BLK
Field5: W
PNCID:
Information: [redacted]

S - Do Not Disseminate

Hit notification

Priority:500

STOLEN VEHICLE - AZ (WEST)







Read Time: 2022-10-12 05:50:42
NTP Status: Locked
Device:

Address:

HIT INFORMATION

Hotplate#:
Field1:
Field2:
Field3: 2018KIA 0PT4D
Field4: BLK
Field5: V
PNCID:
Information:

- Do Not Disseminate

Alert/Hit Verification

Before taking any action from and LPR alert:

Verify the plate:

- Visually verify that the vehicle plate matches the ALPR system's OCR interpretation;

Verify the state:

- Visually verify that the state of the vehicle plate matches the state of the plate in the Hot List information; and

Verify the status:

- Verify the current status of the plate (e.g., is the subject still wanted?).

U//LES - Do Not Disseminate

Non-MSP LPRs

- Technology has grown rapidly
- Accounts in outside LPR systems are not authorized*
- Contact outside agency or CWC

Rekor





Flock

U//LES - Do Not Disseminate

System Assistance



For questions or assistance:

- Commonwealth Watch Center

  fusion@pol.state.ma.us

U//LES - Do Not Disseminate

Sergeant Noah Pack

noah.pack@mass.gov

Cell: [redacted]

U//LES - Do Not Disseminate


1103

Discussion Points

Overview of ALPR program

Overview of policy and law

System use guidelines

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boss4

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LPR Configurations

- **Overt**
- **Covert**
- **Trailer**
- **Cruiser**







U//LES - Do Not Disseminate

ALPR in 2023

- Comm. v. McCarthy (2020)
- Judicial/legislative trends
- Exigent vs. investigative use
- Active vs. passive use



Chicago Police Adding 200 Plate Reader Vehicles to Help Combat Carjackings

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- Must review and be familiar with policy
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- Consequences for improper use

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ALPR for Investigators

ALPR for Investigators

Purpose:

- Investigative access to ALPR data for:
  - Exigent or urgent situations
  - Investigations, as compliant with policy
  - For MSP units/groups; refer partners to Watch

U//LES - Do Not Disseminate

TRF-11

- **Authorized** uses *(not exhaustive):*
  - Missing persons, kidnapping, endangered elderly, etc.
  - Public safety matters, such as Q5 subject or other BOLO
  - Vehicle involved in a crime or pursuit
  - Terrorism or criminal investigation

U//LES - Do Not Disseminate

TRF-11

- **Unauthorized** uses *(not exhaustive):*
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  - Harassing individual or group
  - Based solely on classification protected by law
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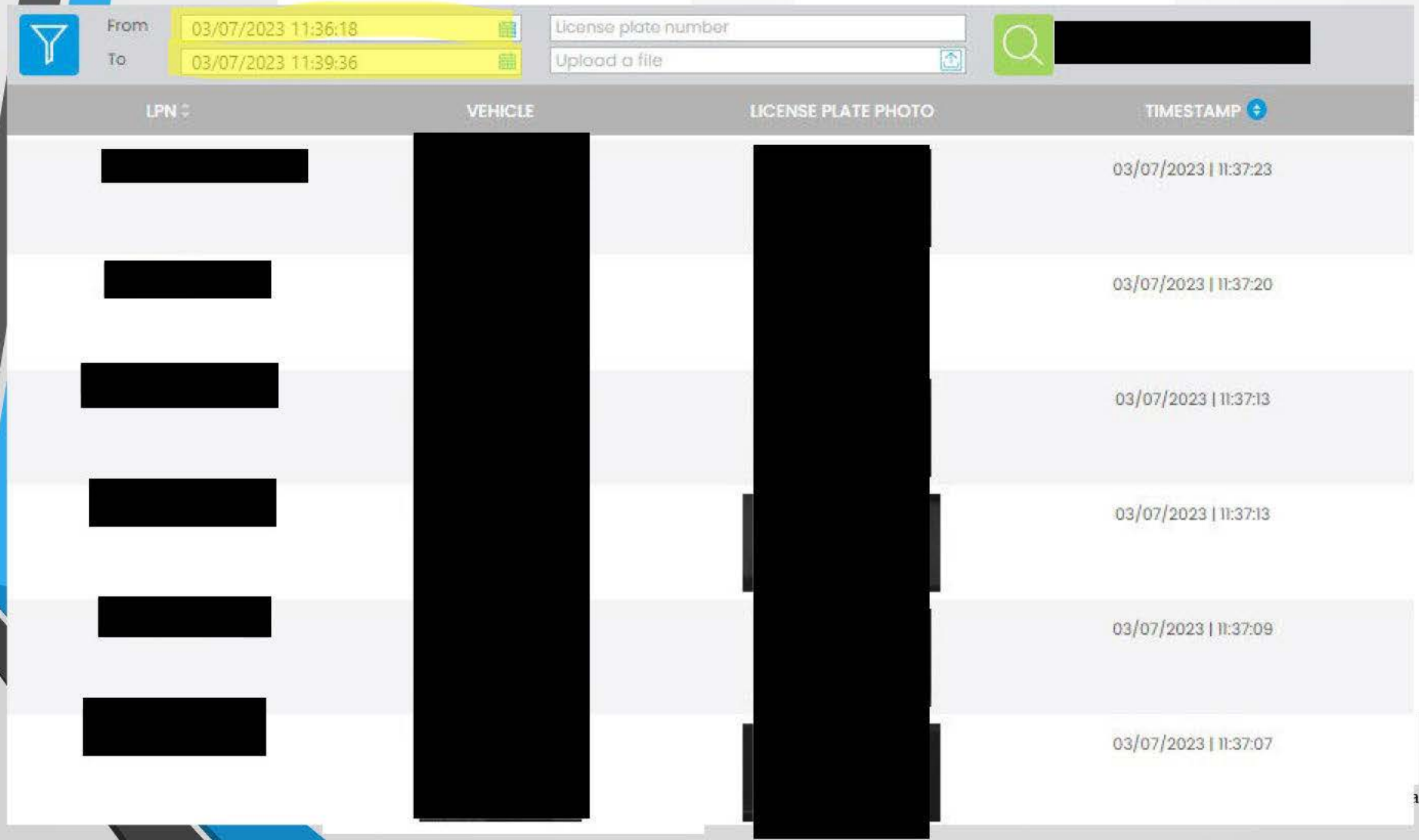
Searches

- A search returns reads for a plate or device/time
- Historical data visible to users for **90 days**
- Data retained up to **1 year** (contact Watch)
- Searches may have legal implications
- Geographic and temporal parameters
- Minimization & privacy considerations

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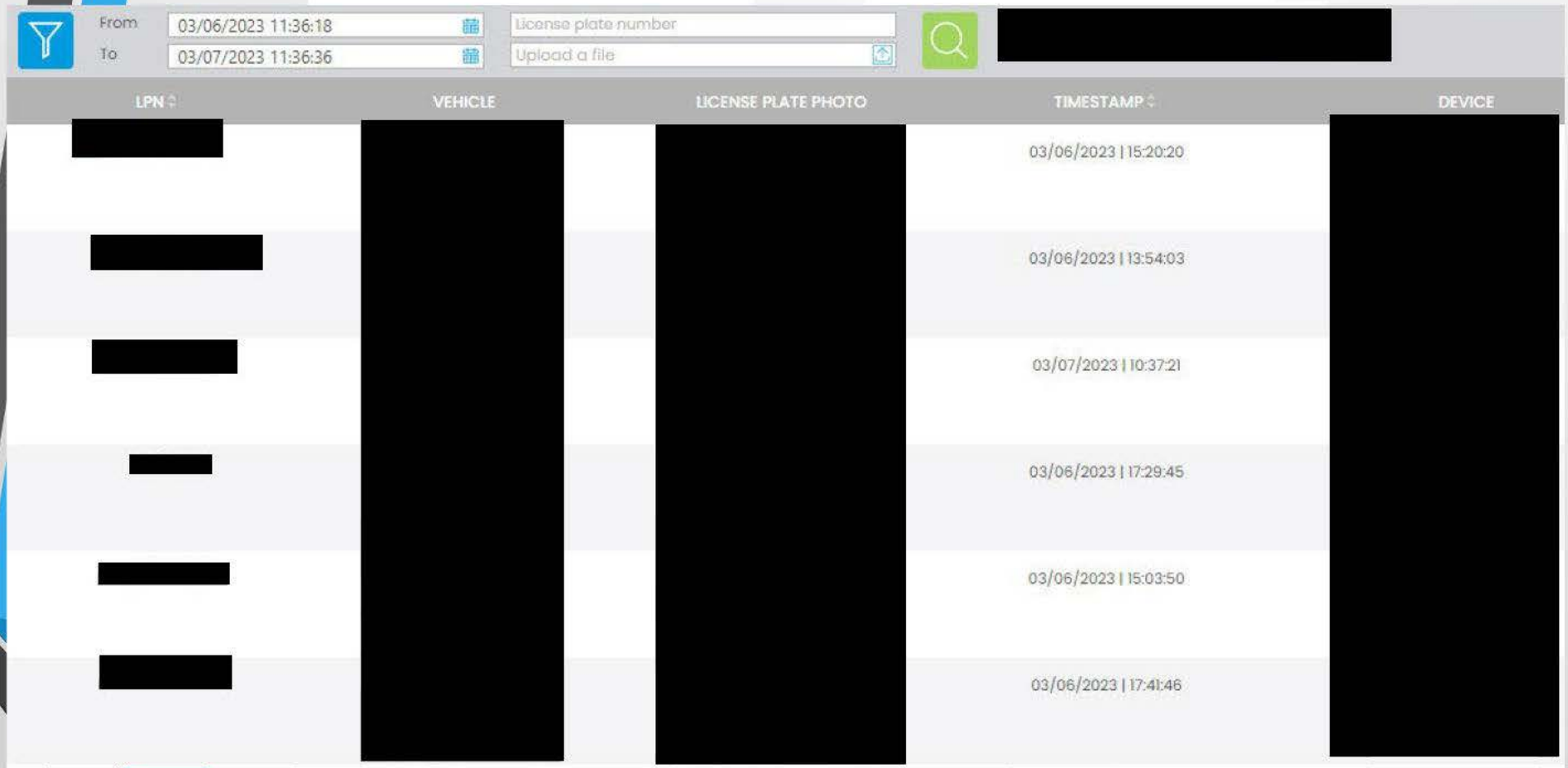
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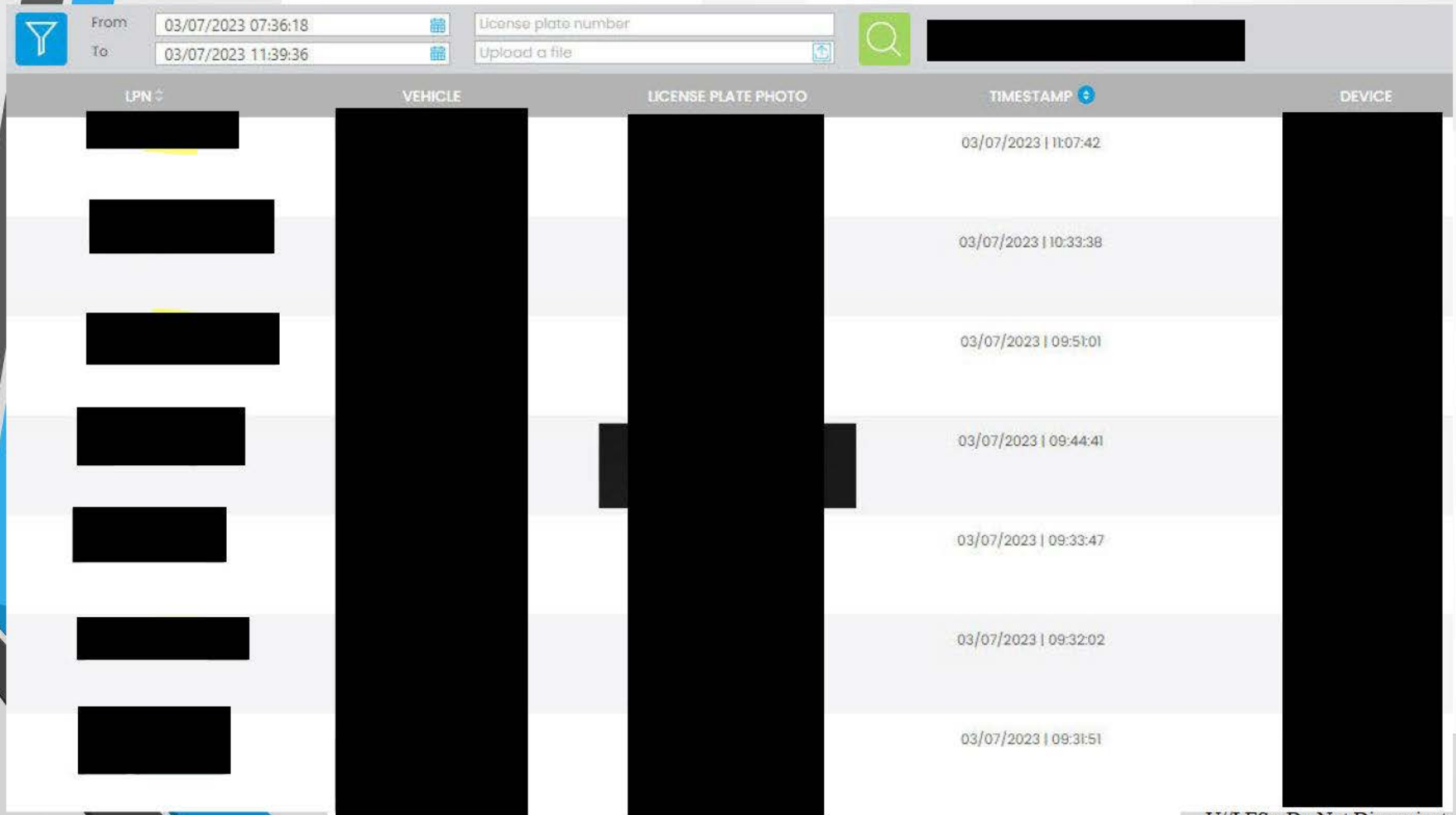
- Vehicle characteristics: color, type, make



U//LES - Do Not Disseminate

Search Tools

- Registration state: *caution* with this



U//LES - Do Not Disseminate

Hotlists

- A hotlist generates an alert when plate is read
- Authorized purposes per TRF-11
- Entries must include:
  - Vehicle plate and description
  - Case number or reference
  - Date of entry and person entering
- Hot plates set to auto expire in **30 days or less**

U//LES - Do Not Disseminate

Hotlists

- *Geographic* and *temporal* considerations
- Extensions/removals are <u>your</u> responsibility
- When no longer needed/valid, must be taken out
- Special attention to rentals and short-term use
- Watch Center can assist via email
- Refer all outside requests to Watch Center

U//LES - Do Not Disseminate

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U//LES - Do Not Disseminate

Reports

- Generate LPR read reports from Boss4
- Single read and multiple read reports
- Original full-size image also available
- NTP status & watermark
- Documentation

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Radio Guidelines

- Avoid radio broadcasts of LES information
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Commonwealth Watch Center

fusion@pol.state.ma.us

Main: 508-820-2233

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Cell: [redacted]

U//LES - Do Not Disseminate



ALPR

Overview for Users

URL: [redacted]

UN: [redacted]

PW: [redacted]

U//LES - Do Not Disseminate

Discussion Points

Overview of ALPR program

Overview of policy and law

System use guidelines

Why ALPR:

- AMBER alert and reported child abduction in Fall River
- Recovery of a missing & endangered elderly male from C.T.
- Human trafficking investigation involving juveniles from Berkshires
- Catalytic convertor theft ring investigation
- Arrest in fatal hit & run of bicyclist in Holyoke
- Identification and arrest re shooting of female in New Bedford
- Arrest of suspect for attempted murder, sexual assault in S.C.
- Arson of a business with injuries in Holyoke
- Bank robbery pattern in the metro Boston area
- Arrests for armed home invasion in Attleboro

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T p93, 124

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TRF-11

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TRF-11

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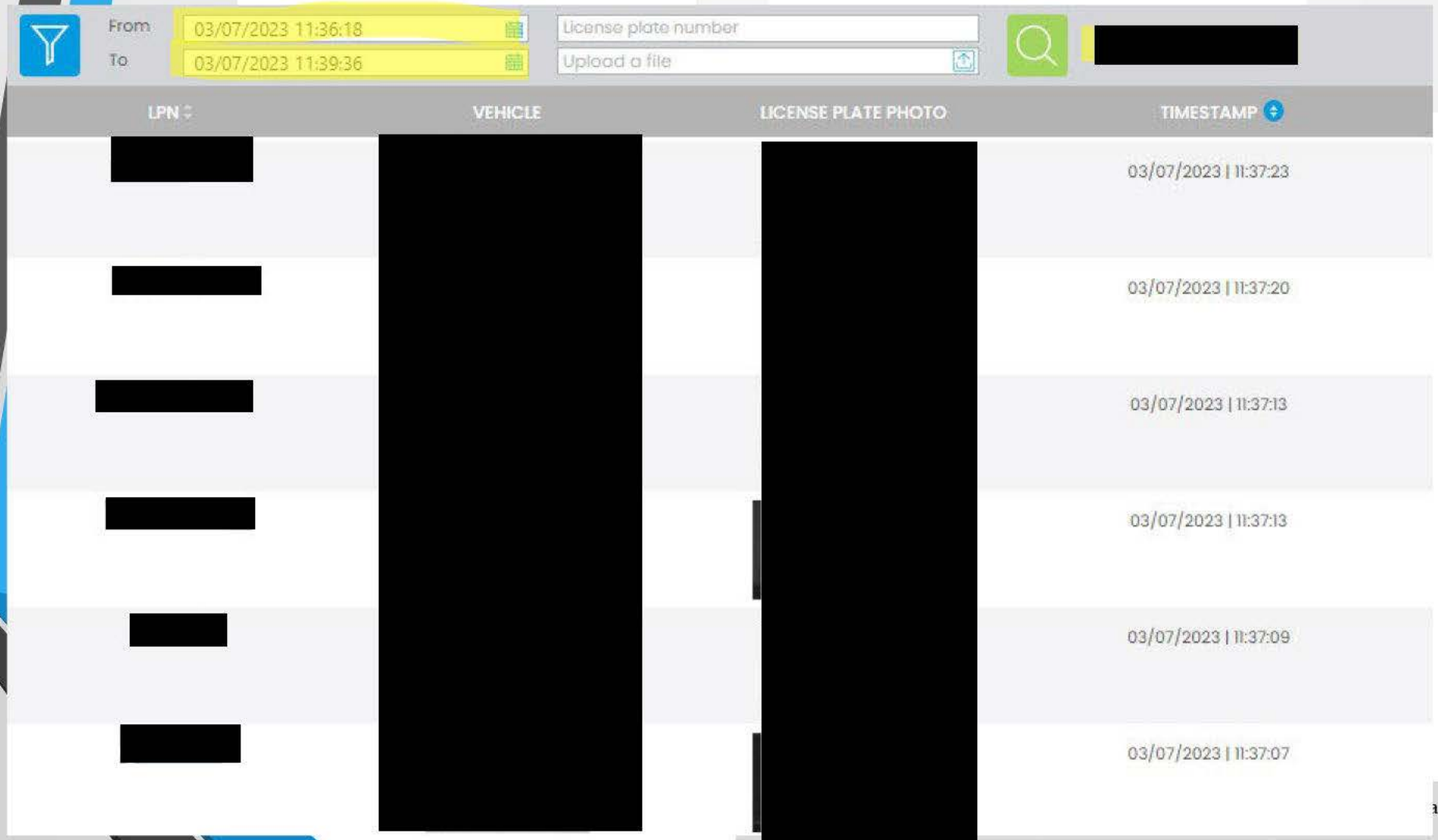
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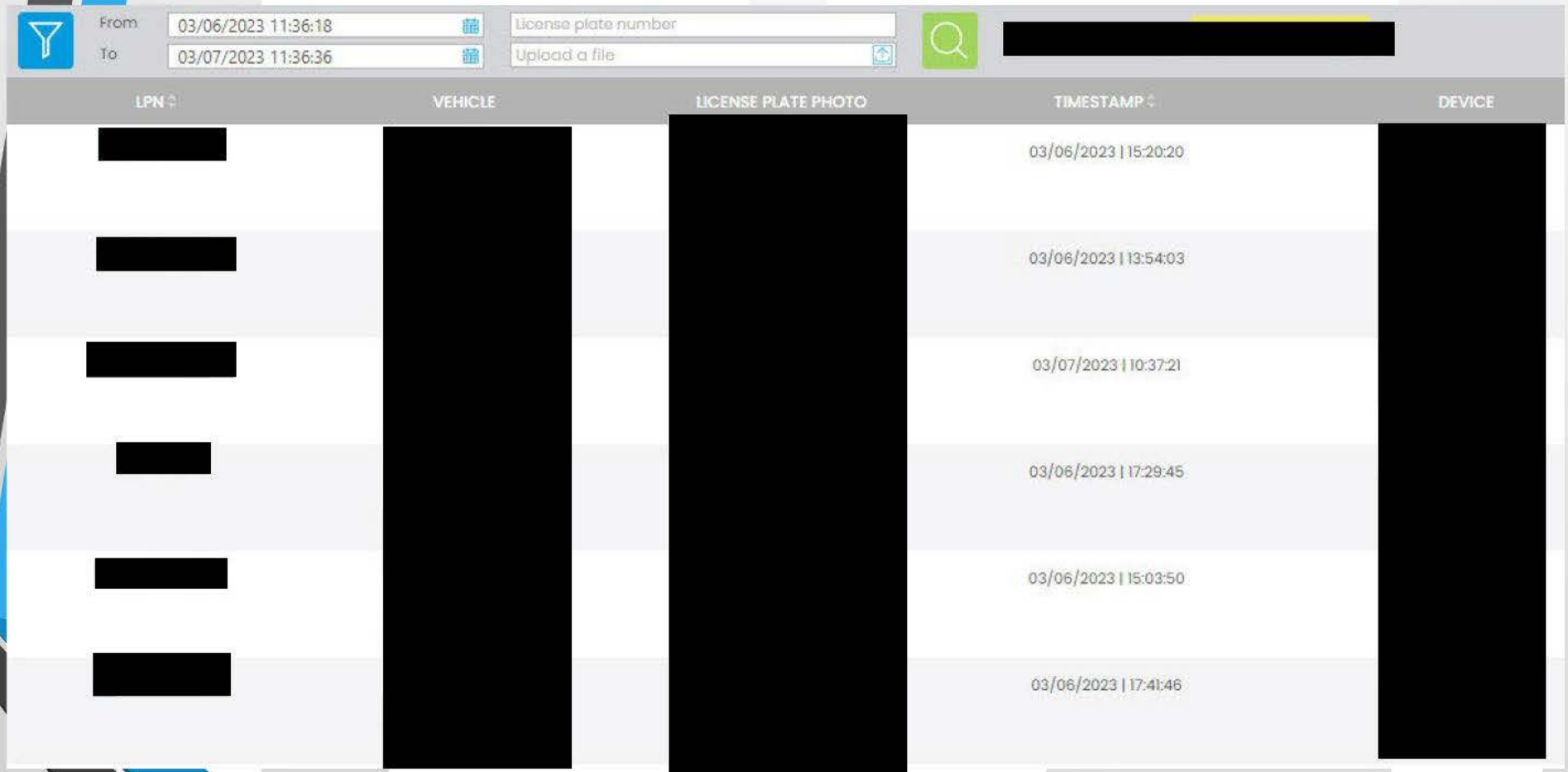
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- Device and time specific for unknown plates



Search Tools

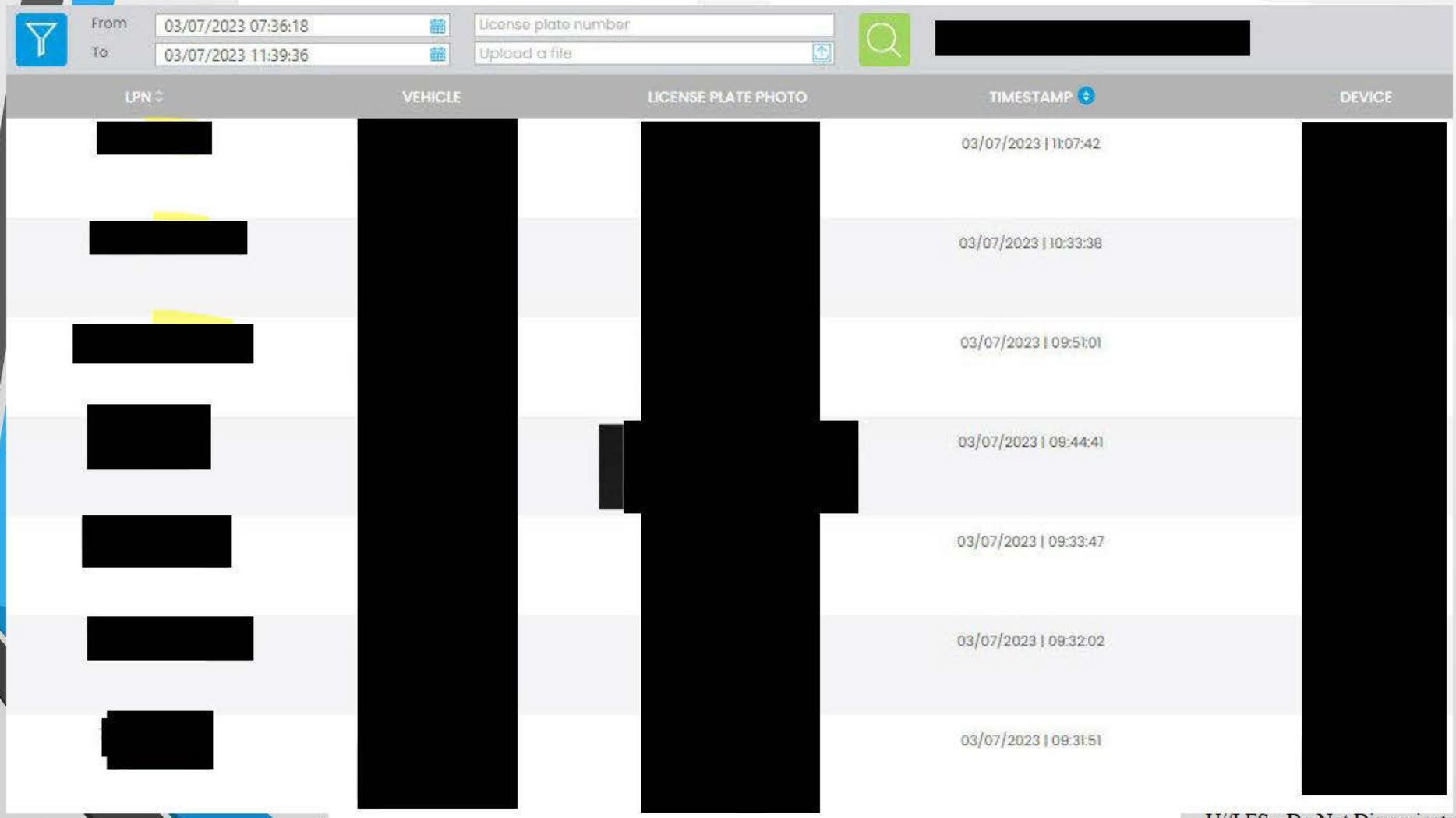
- Vehicle characteristics: color, type, make



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Search Tools

- Registration state: *caution* with this



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Hotlists

- Generates an alert when plate is read
- Authorized purposes per TRF-11
- Entries must include:
  - Vehicle plate and description
  - Case number or reference
  - Date of entry and person entering
- Hot plates set to auto expire in **30 days or less**

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Hotlists

- *Geographic* and *temporal* considerations
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- Watch Center can assist via email
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Alert Examples and Verification Procedures

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Alert/Hit Verification

Before taking action from an LPR alert:

Verify the plate:

- Visually verify that the vehicle plate matches the ALPR system's OCR interpretation;

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- Visually verify that the state of the vehicle plate matches the state of the plate in the Hot List information; and

Verify the status:

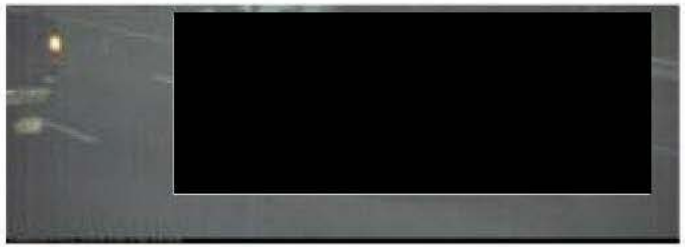
- Verify the current status of the plate (e.g., is the subject still wanted?).

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Hit notification

Priority:500

NCIC WANTED PERSON (WEST)







Read Time: 2022-10-12 06:46:44
NTP Status: Locked
Device
Address:

HIT INFORMATION

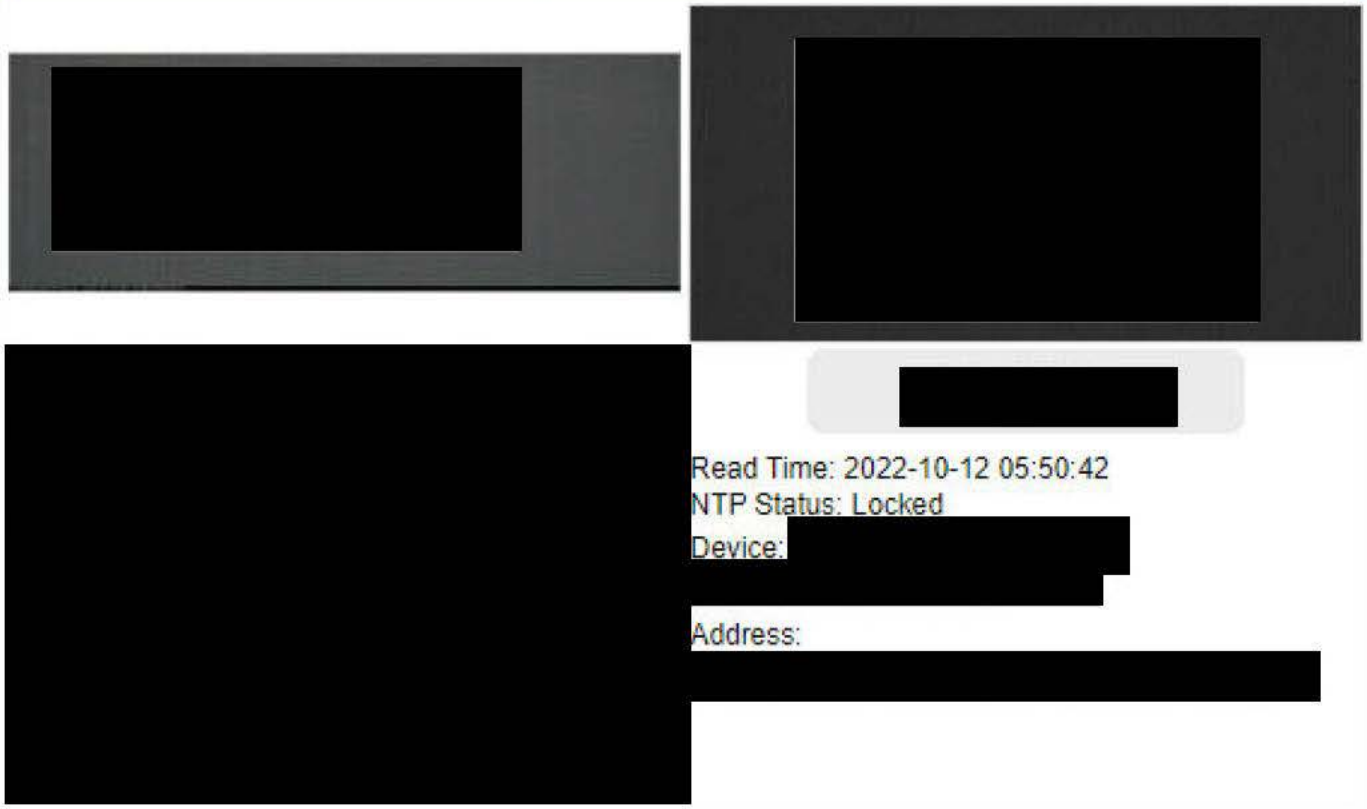
Hotplate#:
Field1:
Field2:
Field3: 2021CHEVSLVPK
Field4: BLK
Field5: W
PNCID:
Information:

S - Do Not Disseminate

Hit notification

Priority:500

STOLEN VEHICLE - AZ (WEST)



Read Time: 2022-10-12 05:50:42
NTP Status: Locked
Device:

Address:

HIT INFORMATION

Hotplate#:
Field1:
Field2:
Field3: 2018KIA 0PT4D
Field4: BLK
Field5: V
PNCID:
Information:

- Do Not Disseminate

Reports

- Boss4 can generate reports
- Single read and multiple read
- Original full-size image also available
- NTP status & watermark
- Documentation and duty to preserve data

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Considerations for Patrol

Purpose of Patrol Integration

- Enhance emergency alert programs (AMBER/Silver/etc.)
- Situation awareness and real-time response
- Protect the safety of the motoring public
- Support emergency and public safety situations

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Hotlist Hits & Alerts

Examples:

- NCIC Missing Person
- NCIC Wanted Person
- NCIC Stolen Vehicle
- NCIC Stolen Plate
- NCIC Misc, PO, SO, VO
- MA RMV

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Report Guidelines

- A hit/alert is never the reason you stopped a car
- A hit/alert can draw your attention to the car
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Report Guidelines

- Example report language:

"At approximately 1615 hours, I received an LPR alert that a stolen vehicle, a grey Toyota Rav4 bearing MA registration plate 123ABC, may be traveling on Route 290 in the Marlboro area. I conducted a query of CJIS/RMV records and determined that this vehicle was listed as STOLEN from Worcester with a date of theft of 9/20/2022. While positioned on Route 290 observing traffic at approximately 1620 hours, I observed this vehicle traveling westbound and…"

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T p118, 149

Radio Guidelines

- Avoid radio broadcasts of LES information
- Do not broadcast hits on stale BOLOS

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Other LPR Systems

- Motorola, Flock, & Rekor
- Contact outside agency or Watch
- Turnpike





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For Questions or Assistance:

Commonwealth Watch Center

fusion@pol.state.ma.us

Main: 508-820-2233

Sergeant Noah Pack

noah.pack@mass.gov

Cell: [redacted]

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ALPR

Overview for Users

G.L. c. 4.sec. 7. cl.26(f)(investigative), G.L. c. 4.sec. 7.cl.26 (n)(security)

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Discussion Points

Overview of ALPR program

Overview of policy and law

System use guidelines

Why ALPR:

- AMBER alert and reported child abduction in Fall River
- Recovery of a missing & endangered elderly male from C.T.
- Human trafficking investigation involving juveniles from Berkshires
- Catalytic convertor theft ring investigation
- Arrest in fatal hit & run of bicyclist in Holyoke
- Identification and arrest re shooting of female in New Bedford
- Arrest of suspect for attempted murder, sexual assault in S.C.
- Arson of a business with injuries in Holyoke
- Bank robbery pattern in the metro Boston area
- Arrests for armed home invasion in Attleboro

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Terminology

- *Automatic License Plate Recognition (ALPR)*: AKA Automated License Plate Reader; cameras capture images of license plates and computer algorithms such as Optical Character Recognition (OCR) to convert the images to readable text data.

- *Read:* A scan of a license plate observed by an ALPR camera.

- *Hit*: A match between a license plate observed by an ALPR camera and a record maintained on a Hot List.

- *Hot List*: License plate numbers of vehicles of interest, such as vehicles associated with missing or endangered persons, AMBER & Silver alerts, kidnappings, wanted fugitives, including vehicles which are the subject of ongoing public safety or criminal investigations that are entered by the Department or an authorized officer.

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MSP ALPR Software

- Current software: **Neology Boss4**
- Web based, accessible by browser, no local software

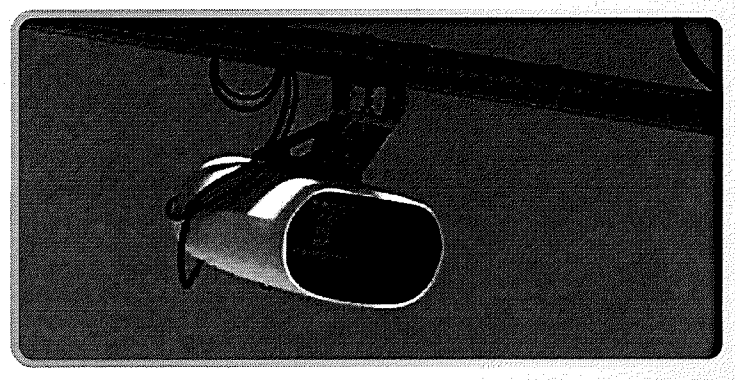


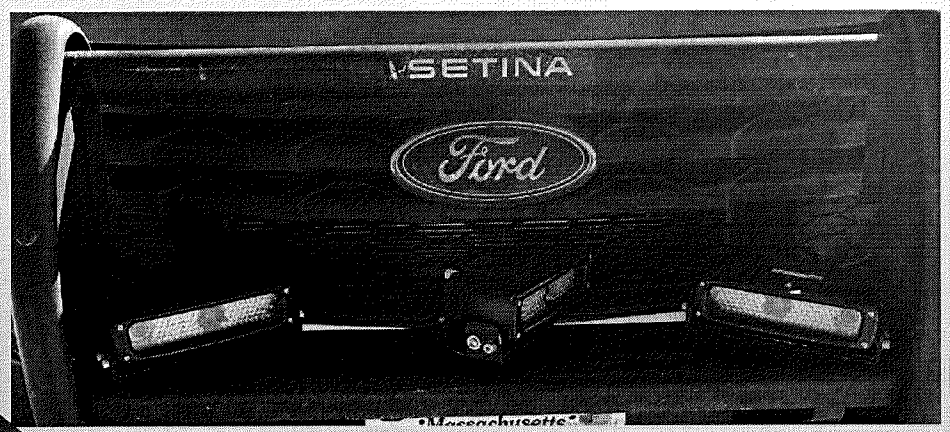
boss4

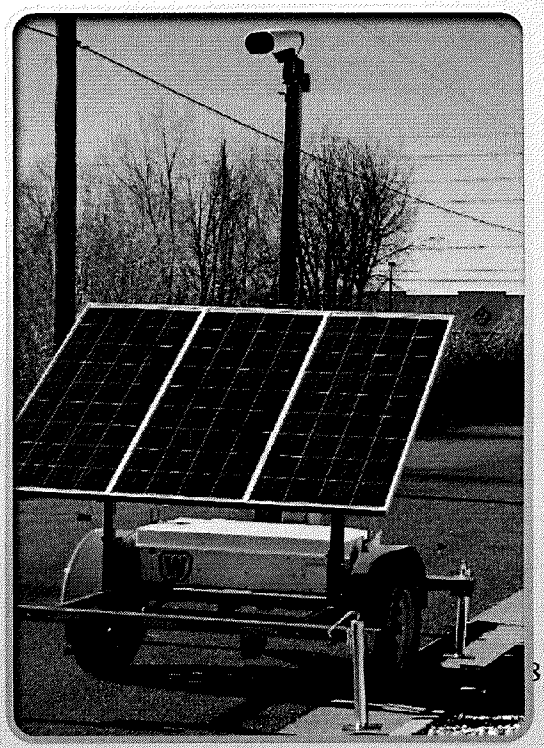
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Configurations

- **Overt**
- **Covert**
- **Trailer**
- **Cruiser**







T p8, 22, 127

ALPR in 2023

- Comm. v. McCarthy (2020)
- Judicial/legislative trends
- Exigent vs. investigative use
- Active vs. passive use



Chicago Police Adding 200 Plate Reader Vehicles to Help Combat Carjackings

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Effective Date:	Number:
November 10, 2021	**TRF-11**
Subject: **Automatic License Plate Recognition**	

Policy

Review & Modernization

- Applies to MSP and partner agencies using MSP system
- Must review and be familiar with policy
- All queries are recorded and subject to audit
- Consequences for improper use

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ALPR for Investigators

ALPR for Investigators

Purpose:

- Investigative access to ALPR data for:
  - Exigent or urgent situations
  - Investigations, as compliant with policy
  - For your unit/agency; refer others to Watch Center

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TRF-11

- **Authorized** uses *(not exhaustive):*
  - Missing persons, kidnapping, endangered elderly, etc.
  - Public safety matters, such as Q5 subject or other BOLO
  - Vehicle involved in a crime or pursuit
  - Terrorism or criminal investigation

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TRF-11

- **Unauthorized** uses *(not exhaustive):*
  - Personal use or non-official matters
  - Harassing individual or group
  - Based solely on classification protected by law
  - To violate any constitutional or civil rights

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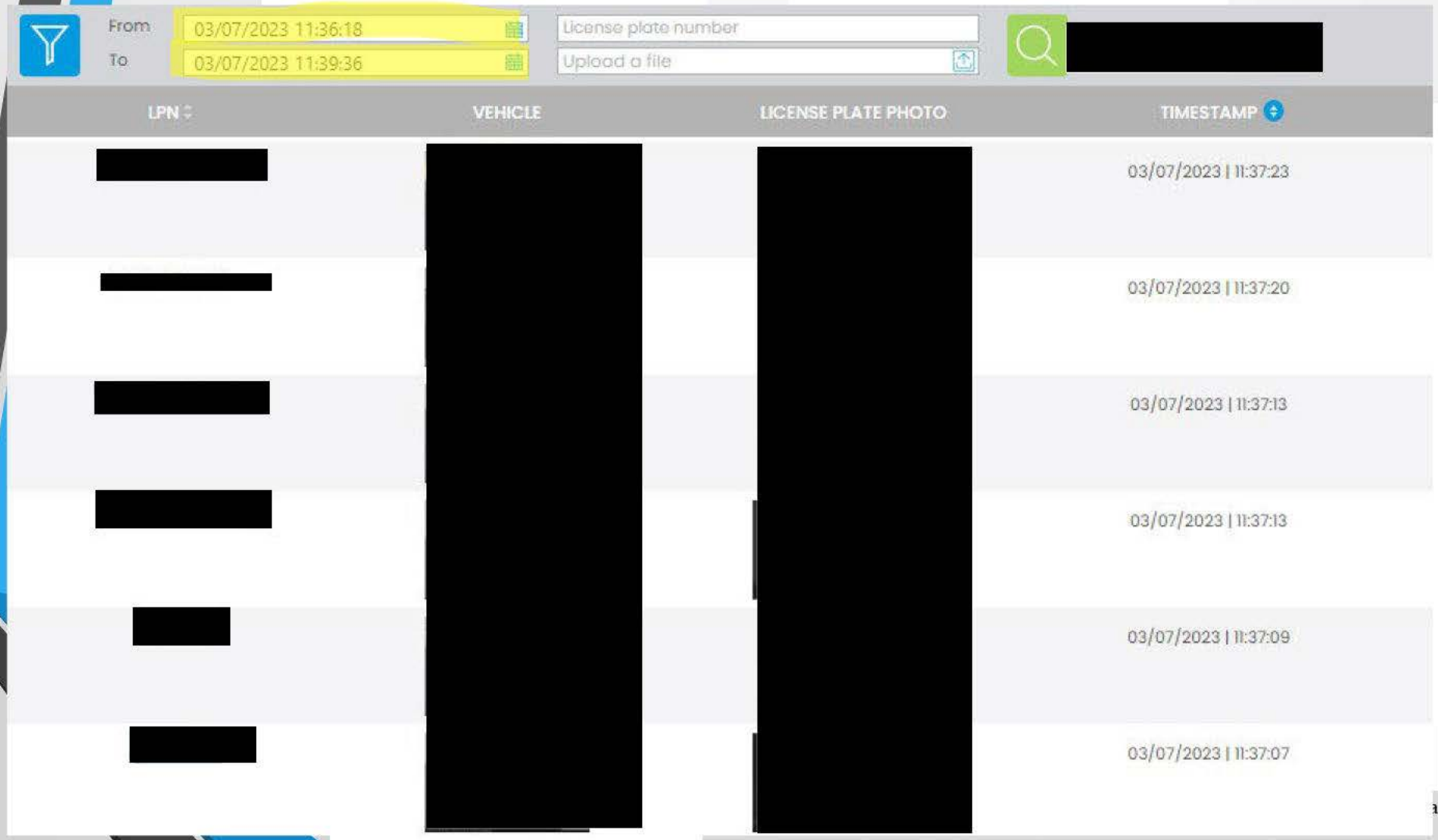
Searches

- A search returns reads for a plate or a device
- Historical data visible for **90 days**
- Data retained up to **1 year** per DCJIS
- Searches may have legal implications
- Geographic and temporal parameters
- Minimization & privacy considerations

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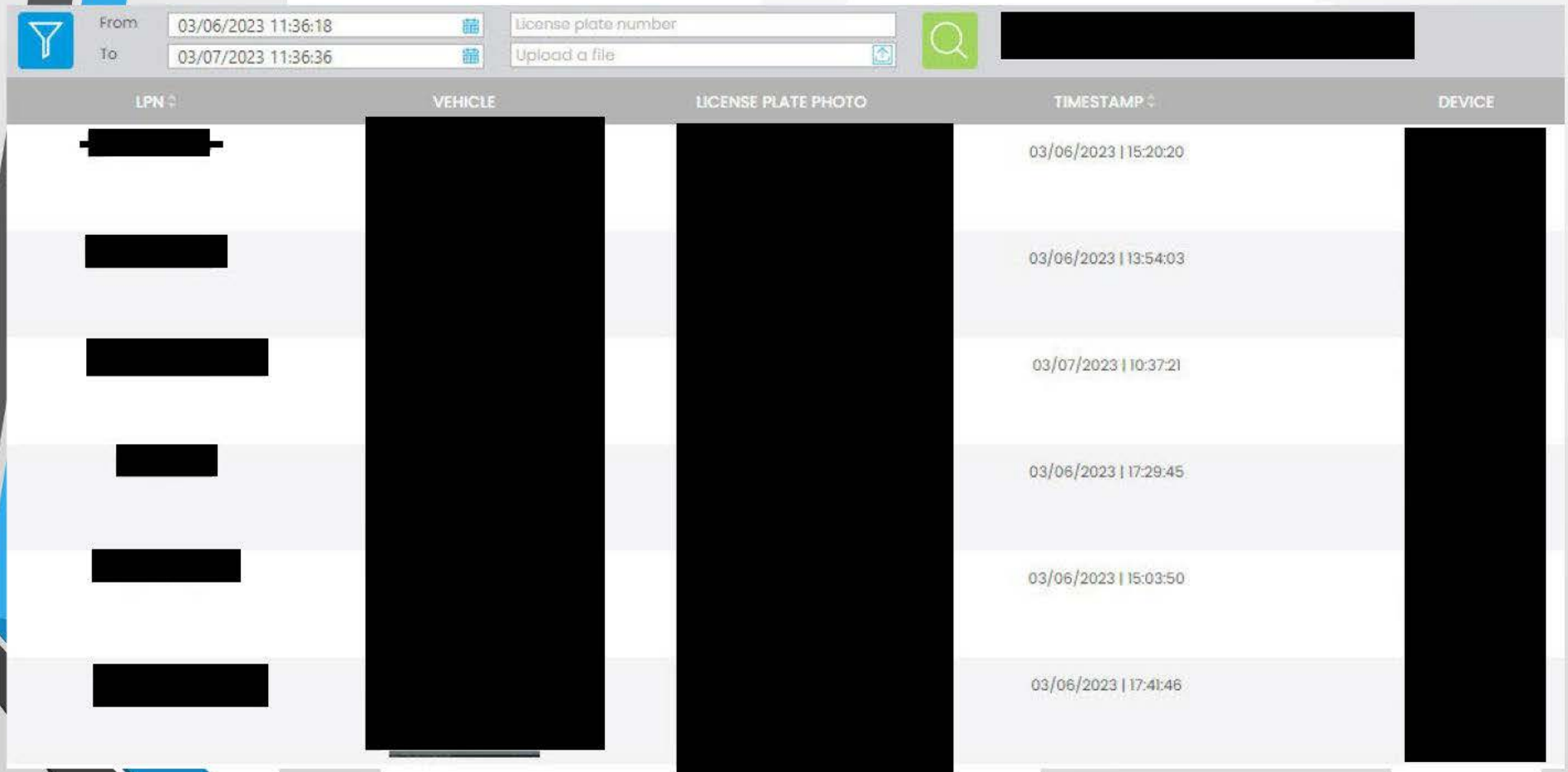
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- Device and time specific for unknown plates



Search Tools

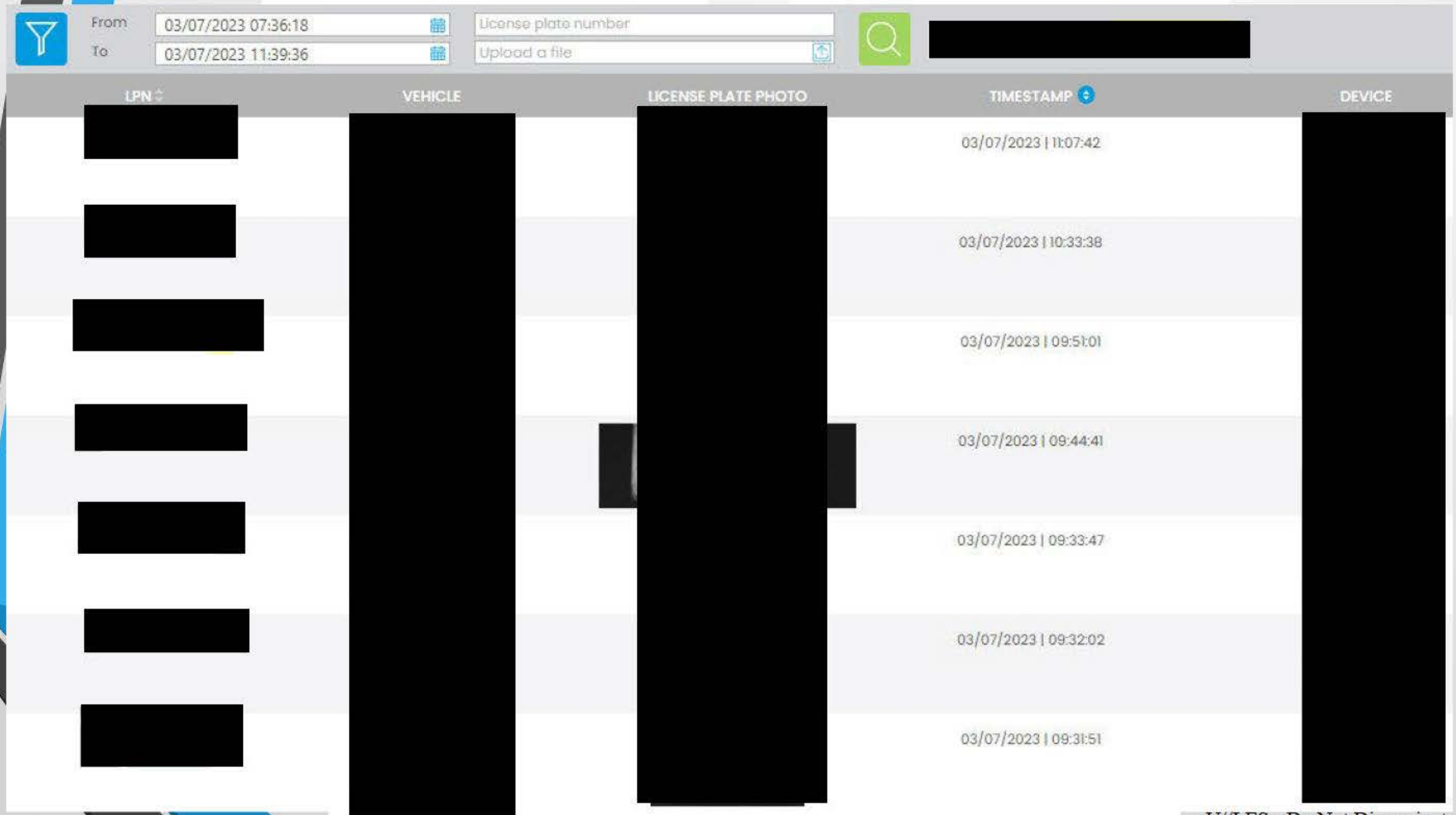
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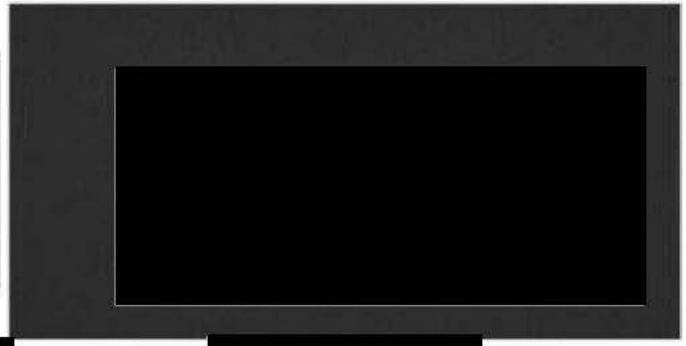
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Address: [redacted]

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Field5: V
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