# Purpose

## Present recommendations for the installation and support of an Automated License Plate Recognition (ALPR) system in an Ottawa Police Service (OPS) Sport Utility Vehicle (SUV).

# Background

## ALPR solutions have shown the ability to scan 50-100x the number of license plates that an officer can scan during a shift while maintaining over 90% accuracy. ALPR will be used to:

* Identify vehicles with registration or license plate violations
* Identify drivers with outstanding warrants or without valid permits or auto-insurance.

Funds have been allocated to pilot an ALPR system in the new OPS SUV. The pilot program will evaluate ALPR as a tool to increase public safety, as well as review its use and benefits before deploying to more vehicles or expanding integration to regional and national databases.

# Approach

## Review related deployments from internal and other departments for advancement opportunities in the design, installation and support of a mobile workstation. Teams who operate, install, and maintain the equipment shall consult on improvements or redesign. Review process will include:

* Feedback of ALPR deployment from neighboring jurisdictions
* Lessons learned from previous vehicle deployments
* Improvements on existing design, usability, installation, and support

## Requirements for the installation and support will be assessed by the appropriate business team. Options, where available, shall detail the benefits, risks and cost. Requirements shall include:

* Hardware: minimum and recommended
* Software: compatibility, configuration, storage
* Training: operation, installation, support, analysis and integration

# Considerations

## An SUV mobile workstation shall be used as the basis of the design in conjunction with lessons-learned and improvement feedback. Vehicle installations and support require at a minimum:

* 2-4 ALPR cameras which can be mounted on the hood, roof or existing lightbar.
  + Additional cameras shown to improve detection rates
  + Rear camera provides added detection and situational awareness to officer safety
  + Mounting cameras to the lightbar and mobile kits simplify installation.
* ALPR processor to capture images and process meta-data for mobile-workstation
* Data connection to back-office databases and service fees
* Software and hardware maintenance and licensing fees

## Back-end services are required to enable the full capabilities of the ALPR system. Captured license plates are queried in a database, stored, and will alert the mobile unit of matches in configured ‘hot lists’. Back-office installations and support require at a minimum:

* Server to run back-office software, and database
  + Physical server, virtual machine, or hosted appliance
* Configuration and integration of databases to determine ‘hot lists’
* Workstations require application and to utilize analytic software
* Revision of laws to address and determine data retention and privacy policies
* Software licensing fees

## Further ALPR database integration, improvements of analytic software, and system intelligence along with expanding system-usage will expand public safety. Possible future capabilities:

* Locate stolen vehicles or stolen license plates
* Detect vehicles associated with serious crimes or repeat offenders
* Locate vehicles believed to be currently involved in a crime
* Assist investigation of missing persons and Amber Alerts
* Evaluate threats while protecting public events or important persons
* Detect violations of parole, curfew, house arrest and other criminal or judicial orders
* Add stationary cameras to increase detection rates
* Add regional, national systems to increase matches to ‘hot lists’.

# Key Recommendations

To maximize benefits from the ALPR systems and its application to public safety, a careful review of prior deployments, feedback, and the technology should be performed and discussed. The following key recommendations should be considered:

* Review ALPR deployments from neighboring jurisdictions
* Use lessons-learned from previous vehicle deployments
* Seek improvement feedback for use, installation and maintenance of mobile workstations
* Consider at least 3 cameras for installation, 1 rear-facing
* Virtualized servers maintained in-house provide scalable data-secure solution
* Future applications

development and growth opportunities by reviewing and learning from previous projects. Review lessons-learned and soliciting feedback can improve the success of the project and ease the transition and utility of its use.

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While road-safety and officer efficiency is of highest importance, ALPR systems can be a tremendous source of revenue generation and cost-savings.

* Revenue Generators
  + Revenue from compliance with insurance and registration violations
  + Revenue from delinquent accounts with outstanding parking tickets
  + Cost-savings from damage from uninsured drivers
  + Cost-savings from faster stolen vehicle recovery and suspect apprehension
  + parking, tolls
  + Hotlists (stolen vehicles, suspended drivers, parole violations

Execution What/who/why/how/ must something be done?

Value What are the short-medium-long term goals?

* 4 camera system to view all directions
* ?? Stationary Cameras to improve detection rates
* ?? In addition to hot-lists, integrate with several systems
  + Parking tickets / delinquent accounts

# conslusion?? or just KR?

**Removed/re-written form above**

Seek requirements and improvements from current teams operating and supporting mobile workstations. Reponses should indicate minimum and recommended requirements as well as improvement suggestions and lessons -learned from previous vehicle deployments.

Input should include their expected requirements to complete their portion of the ALPR deployment as well as recommendations to … improve/enhance … integration/usability/…///?? Review latest new vehicle deployment and seek ‘lessons-learned’.

??… Give teams a week to provide feedback, evaluate requirements and determine if any requested features/modifications are possible to include in the new deployment…

## input regarding usability, design, and comments from current teams who:

* + Operate the existing mobile workstations,
  + Support the hardware and installation of hardware in the vehicle,
  + Maintain the servers and databases where the back-end application would be running.
* Vehicle
  + Internet/Data costs
  + Hardware maintenance
  + Software licensing
* Office
  + DB maintenance
  + Software licensing
  + Data retention / privacy laws
* Staff
  + Training (use, analysis, installation, configuration)

Requirement

Organize the installation and support of an ALPR system into new SUV

Present your **approach** and **key recommendations** verbally to the board

Bring Paper/USB cobies, Professional references

(<http://web.uvic.ca/~sdoyle/E302/Notes/WritingBriefingNotes.html>)

(<http://www.writingforresults.net/classic.pdf>)

Purpose: Explain in 1-2 lines why the BN matters

Summary of the facts

Background

Details needed to understand what follows

Brief history/background

Current Status / Current situation / issue

Key considerations

Options (Next Steps/Comments)

Conclusion/recommendations

Cover most important points. Many readers start with the conclusion

No new information

Other City Projects

PE – removed reg stickers

<http://www.phillyvoice.com/penndot-eliminate-pennsylvania-registration-stickers-2017/>

2mil mailing costs, 1 mil production costs annually

Simpler process for renewal/registration

Benefits

Detection and seizure of vehicles. LA county recovered $3mil in 2 years.

* Vehicles
  + Installation, Cameras
  + Software/hardware
  + Cellular/data connection
  + Training, support
* office
  + installation
  + staffing
  + software/database/storage
  + training, support