



**CITY OF NOVI CITY COUNCIL  
JUNE 5, 2023**

**SUBJECT:** Approval to award a contract effective July 1, 2023 to Flock Safety, sole source provider, for the purchase of a stationary License Plate Reader (LPR) System in the amount of \$36,500 for the first year and \$30,000/year thereafter.

**SUBMITTING DEPARTMENT:** Public Safety - Police

<b>EXPENDITURE REQUIRED</b>	<b>\$36,500</b>
<b>AMOUNT BUDGETED</b>	<b>\$36,700 (FY 2023-24 Budget)</b>
<b>APPROPRIATION REQUIRED</b>	<b>N/A</b>
<b>LINE ITEM NUMBER</b>	<b>101-301.00-982.056</b>

**BACKGROUND INFORMATION:**

The purchase of a stationary License Plate Reader (LPR) System is included in the Adopted FY 2023-24 Budget which was approved by City Council on Monday, May 8, 2023. Automatic License Plate Readers (LPRs) are high-speed, computer-controlled camera systems that are typically mounted on street poles, streetlights, highway overpasses, mobile trailers, or attached to police squad cars. LPRs automatically capture all license plate numbers that come into view, along with the location, date, and time. The data, which includes photographs of the vehicle and sometimes its driver and passengers, is then uploaded to a central server.

License plate reader systems are increasingly being tapped for a variety of investigations. The law enforcement community can retrieve LPR data to determine vehicles in the vicinity of a crime scene, can provide photos of those vehicles to confirm suspect alibis, and also be used to analyze crime patterns.

License plate readers have spread rapidly in policing and are now used by an estimated two-thirds of large agencies in the United States for a range of patrol, investigative, and security operations.

Flock Safety partners with Axon, our preferred vendor for our upcoming transition to new vehicle and body cameras. Axon installs the cameras, but the software and database used belong to Flock Safety. Flock Safety is emerging as the leader in this field and is currently being used by several agencies in the region, including our neighbors in Farmington Hills, and they are adding Oakland County agencies rapidly.

We identified Novi and I-96 as the most ideal spot to place stationary cameras as the main access point to our city. The Flock Safety representative stated that it would take 8-10 cameras to fully cover the intersection.

**RECOMMENDED ACTION:**

Approval to award a contract effective July 1, 2023 to Flock Safety, sole source provider, for the purchase of a stationary License Plate Reader (LPR) System in the amount of \$36,500 for the first year and \$30,000/year thereafter.

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Prepared For      Novi Police Department      Prepared By      Matt Wayne  
Created Date      April 27, 2023      Phone      734-558-6000  
Expiration Date      July 31, 2023      Email      [matt.wayne@flocksafety.com](mailto:matt.wayne@flocksafety.com)

Product	Description	Unit Cost	Sale Cost	Quantity	Total Price
Falcon Camera	Law enforcement grade infrastructure-free (solar power + LTE) license plate recognition camera with Vehicle Fingerprint TM technology (proprietary machine learning software) and real-time alerts for unlimited users.	\$3,000.00	\$3,000.00	10	\$30,000.00
Professional Services - Falcon, Standard Implementation	One-time Professional Services engagement. Includes site & safety assessment, camera setup & testing, and shipping & handling in accordance with the Flock Safety Standard Implementation Service Brief.	\$650.00	\$650.00	10	\$6,500.00

First Year Price      \$36,500.00

Second Year Price      \$30,000.00

# MEMORANDUM



**TO:** ERICK W. ZINSER  
DIRECTOR OF PUBLIC SAFETY / CHIEF OF POLICE

**FROM:** JASON MEIER  
COMMANDER – SUPPORT SERVICES

**SUBJECT:** LICENSE PLATE READERS

**DATE:** SEPTEMBER 9, 2022

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## BACKGROUND

Automatic license plate readers (LPRs) are high-speed, computer-controlled camera systems that are typically mounted on street poles, streetlights, highway overpasses, mobile trailers, or attached to police squad cars. LPRs automatically capture all license plate numbers that come into view, along with the location, date, and time. The data, which includes photographs of the vehicle and sometimes its driver and passengers, is then uploaded to a central server.

Vendors say that the information collected can be used by police to find out where a plate has been in the past, to determine whether a vehicle was at the scene of a crime, to identify travel patterns, and even to discover vehicles that may be associated with each other. Law enforcement agencies can choose to share their information with thousands of other agencies.

License plate readers have spread rapidly in policing and are now used by an estimated two-thirds of large agencies in the United States for a range of patrol, investigative, and security operations. Outcomes from LPR use are likely to depend on several factors, including the volume of LPR deployment, the manner in which LPRs are deployed (mobile versus fixed), the types of data accessed by LPR systems, how officers use LPRs in the field, how data are saved and used for investigations, and the public's reaction to LPR use.

Investigative applications of LPRs might be more promising than applications for general patrol. Although officers are more likely to recover stolen vehicles when using LPRs in patrol, they do not make significantly more arrests, nor do they generate stronger deterrence of crime and disorder according to a report published by International Association of Chiefs of Police.

Deployment of LPRs at strategic fixed positions (or on mobile trailers), in contrast, opens several avenues for innovative ways to use LPRs for investigations. This might prove to be a key advantage of fixed relative to mobile LPR deployment, especially for agencies that have large numbers of LPRs. However, a caveat is that the number of LPRs deployed may need to be very high to have clearly discernible and substantial impacts on investigative outcomes, at least in large cities.

## RESEARCH

After the FBIGVCTF had great success using LPRs to locate and arrest armed robbery suspects, I asked Detective Tim Hartland to look further into getting them for our department. His research shows that most agencies are using stationary LPRs mounted in high traffic areas to capture the most data and cover the quick escape routes of offenders. There is also an option to add them to vehicles as well. His research shows that most agencies in our area and Oakland County are using the FLOCK system and it would be beneficial to go with them as we would have access to their database which is used by the majority of agencies in our area including Farmington Hills. The FLOCK system does offer an advanced search package as well which costs additional money.

Flock partners with Axon, who is our preferred vendor for our upcoming transition to new vehicle and body cameras. Axon installs the cameras, but the software and database used belong to FLOCK.

We identified Novi and I-96 as the most ideal spot to place stationary cameras as the main access point to our city. The FLOCK representative stated that it would take 8-10 cameras to fully cover the intersection.

In addition, FLOCK also offers a moveable reader (the Flacon Flex System) similar to a speed sign that could be deployed wherever we wish.

## BENEFITS

- Identify persons of interest through ALPR or facial recognition
- Identify associations of persons of interest
- Connecting cases
- Plate search: complete or partial by year, make, and model.

## COST

FLOCK stationary system to cover Novi Road and I-96:

- 10 cameras @ \$2,5000 per year
- Installation \$350.00 per camera
- FLOCK Advanced search @ \$2,500 per year
- Year one total cost: \$31,000.00
- Following Years: \$27,500.00 per year (3-, 5- or 10-year contract)

FLOCK Flacon Flex Moveable LPR

- 1 Falcon Flex @ \$3,000 per year

AXON Vehicle Mounted system:

- 26 vehicles @206.00 per month
- Yearly cost: \$64,896.00

## SUCCESSFUL IMPLEMENTATION

- Plan for more storage if not cloud based
- Plan for sustainability with product upgrades and subscriptions
- Determine appropriate use: mobile, fixed, and portable

- Implement proper policy and training for employees and citizens
- Ongoing research and evaluation

#### Action Items

\* Agencies with LPRs should consider fixed deployment (or deployment on mobile trailers) at strategic roadways in high-crime areas as a means of enhancing investigations.

\* Regardless of the deployment method chosen (mobile or fixed, general or special uses), police should focus LPR use on strategically chosen areas and regularly track LPR uses and results for evaluation.

\* Agencies considering LPR adoption should assess the technology's pros and cons. Substantial investments might be needed to achieve modest impacts with this technology, and adjustments to investigative and reporting practices might be needed to optimize its use.

The technology is not without flaws. Conditions that include bad weather, poor lighting, dirt on plates, and even background colors can result in false matches.

Currently Michigan does not have any law governing ALPR use.

#### CONCLUSION

License plate reader systems, while initially used to detect stolen vehicles and plates, are increasingly being tapped for a variety of investigations. The law enforcement community can retrieve LPR data to determine vehicles in the vicinity of a crime scene, can provide photos of those vehicles to confirm suspect alibis, and also be used to analyze crime patterns.

LPR systems can be beneficial in aiding in any type of investigation, provided the necessary data are available to support the systems. Systems with the most database access and longest retention policies are the most beneficial because they can provide the greatest number of alerts and the ability to retrieve LPR data over time across law enforcement activities.

There are no legitimate privacy concerns as license plates have been proven in court to have no privacy protection and we routinely run plates in our patrol vehicles everyday to detect stolen vehicles or wanted subjects.

Placing the vehicles in a high-volume stationary location would be more beneficial than placing them on patrol vehicles. Often our vehicles are not in high volume traffic areas and can be stationary on calls or at the station for long periods of time. It is far more beneficial to have them in a stationary location at the highest volume areas of our city. With Novi and I-96 being the highest volume area, this is a great location to install our cameras and if proven successful, we can add them to other areas later.

FLOCK is emerging as the leader in this field and is currently being used by several agencies in the region including our neighbors in Farmington Hills and they are adding Oakland County agencies quickly. During his research, Detective Hartland found that every agency that uses them has found them to be an invaluable investigative tool as you are able to not only determine potential suspects, but also then track those suspects as they travel through neighboring communities. It is my recommendation that we equip the Novi and I-96 area with the FLOCK system. If needed, FLOCK is compatible with our future AXON system, and we can always add LPR's to our vehicles later if needed. I would also recommend we purchase one Falcon Flex reader which could be deployed anywhere in the city.

#### Total Cost of Recommended Project

##### Flock Stationary System

- First Year: \$31,000.00
- Following Years: \$27,500

##### FLOCK Falcon Flex System

- \$3,000 per year

##### Total Cost:

- First Year: \$34,000
- Additional Years: \$30,500

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## **Sole Source Letter for Flock Safety™ ALPR Cameras and Solution**

Flock Safety is the sole manufacturer and developer of the Flock Safety ALPR Camera. Flock Safety is also the sole provider of the comprehensive monitoring, processing, and machine vision services which integrate with the Flock Safety ALPR Camera.

**The Flock Safety ALPR camera and devices are the only Law Enforcement Grade ALPR System to offer the following combination of proprietary features:**

1. Vehicle Fingerprint Technology™:
    - Patented proprietary machine vision to analyze vehicle license plate, state recognition, and vehicle attributes such as color, type, make and objects (roof rack, bumper stickers, etc.) based on image analytics (not car registration data)
    - Machine vision to capture and identify characteristics of vehicles with a paper license plate and vehicles with the absence of a license plate
    - Ability to 'Save Search' based on description of vehicles using our patented Vehicle Fingerprint Technology without the need for a license plate, and set up alerts based on vehicle description
    - Only LPR provider with "Visual Search" which can transform digital images from any source into an investigative lead by finding matching vehicles based on the vehicle attributes in the uploaded photo
    - Falcon Flex™: an infrastructure-free, location-flexible license plate reader camera that is easy to self install. Falcon Flex ties seamlessly into the Flock ecosystem with a small and lightweight camera with the ability to read up to 30,000 license plates and vehicle attributes on a single battery charge
  
  2. Integrated Cloud-Software & Hardware Platform:
    - Ability to capture two (2+) lanes of traffic simultaneously with a single camera from a vertical mass
    - Best in class ability to capture and process up to 30,000 vehicles per day with a single camera powered exclusively by solar power
    - Wireless deployment of solar powered license plate reading cameras with integrated cellular communication weighing less than 5lbs and able to be powered solely by a solar panel of 60W or less
    - Web based footage retrieval tool with filtering capabilities such as vehicle color, vehicle type, vehicle manufacturer, partial or full license plate, state of license plate, and object detection
    - Utilizes motion capture to start and stop recording without the need for a reflective plate
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- Motion detection allows for unique cases such as bicycle capture, ATV, motorcycle, etc.
  - On device machine processing to limit LTE bandwidth consumption
  - Cloud storage of footage
  - Covert industrial design for minimizing visual pollution
3. Transparency & Ethical Product Design:
- One-of-a-kind “Transparency Portal” public-facing dashboard that details the policies in place by the purchaser, as well as automatically updated metrics from the Flock system
  - Built-in integration with NCMEC to receive AMBER Alerts to find missing children
  - Privacy controls to enable certain vehicles to “opt-out” of being captured
4. Integrated Audio & Gunshot Detection:
- Natively integrated audio detection capabilities utilizing machine learning to recognize audio signatures typical of crimes in progress (e.g., gunshots)
5. Live Video Integration:
- Ability to apply computer vision to third-party cameras using Wing™ LPR, transforming them to evidence capture devices using the same Vehicle Fingerprint technology offered on the Flock Safety Falcon™ ALPR cameras
  - Wing™ Livestream integrates live stream traffic cameras, publicly or privately owned livestream security cameras into one cloud-based situational awareness dashboard to increase response time in mission-critical incidents
  - Manage various government intelligence including ALPR, livestream cameras, CAD, automatic vehicle location (AVL) on Flock Safety's Wing™ Suite
  - Access Wing™ Replay to unlock enhanced situational awareness with 7-day footage retention, Hot List Live Video Instant Replay, and downloadable MP4
6. Partnerships:
- Flock Safety is the only LPR provider to officially partner with AXON to be natively and directly integrated into Evidence.com
  - Flock Safety is the only LPR provider to be fully integrated into a dynamic network of Axon's Fleet 3 mobile ALPR cameras for patrol cars and Flock Safety's Falcon cameras
  - Access to additional cameras purchased by our HOA and private business partners, means an ever-increasing amount of cameras and data at no additional cost

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## 7. Warranty & Service:

- Lifetime maintenance and support included in subscription price
- Flock Safety is the only fully integrated ALPR one-stop solution from production of the camera to delivery and installation
- Performance monitoring software to predict potential failures, obstructions, tilts, and other critical or minor issues

Thank you,



Garrett Langley CEO, Flock Safety