



“Flock Camera System”



CITY *of* CALABASAS

Flock Camera System City of Calabasas

During the summer months of 2020, detectives assigned to the Los Angeles County's Malibu/Lost Hills Sheriff's Station began exploring new and innovative technologies for use in deterring and/or mitigating both criminal activity and traffic related safety issues within the City of Calabasas.

The City of Calabasas has three main access points which connect to its surrounding communities and the adjacent San Fernando Valley. Some of these communities have experienced a dramatic rise in criminal activity, specifically in the areas of theft and stolen vehicles. In addition, the City of Calabasas has seen a rise in illegal "street racing," which fosters a culture of dangerous driving habits and leads to an otherwise preventable number of traffic collisions and vehicular fatalities.

The Flock Camera System, which has been purchased and deployed by several municipalities, and is currently in use by Temple Sheriff's Station, has assisted or been directly responsible for the apprehension on dozens of suspects and the lowering of violent crime in the target areas. Included in this informational report are studies, matrixes, and statics demonstrating the success of this system.

The installation of these cameras in the noted areas of Calabasas would give field patrol deputies the ability to receive "real time" and immediate notifications of vehicles (associated with suspects) in the area, thus preventing crimes from occurring while also solving existing crimes through arrests and subsequent investigatory measures. It is the intention of the Los Angeles County Sheriff's Department, after having been granted access to the system by the City of Calabasas, to use the information collected to identify, deter, reduce and/or mitigate the criminal activity and traffic related issues mentioned above.

The placement of these cameras were the result of a collaborative discussion between the detectives, patrol deputies, and crime analyst of the Malibu/Lost Hills Sheriff's Station, along with input provided by the city government of Calabasas. Their strategic and geographically pertinent locations are ideal to addressing the criminal activity discussed within this report, and provide the field deputies and investigators with the most advantageous tools currently available.

Flock Safety ALPR System - City of Calabasas

Flock Safety's ALPR system includes fixed license plate reading cameras and software for unlimited users to access footage and receive hotlist notifications.

Company Overview

Flock Safety's mission is to eliminate non-violent crime. This is possible with city-wide coverage of automatic license plate readers (ALPRs) for both public safety organizations and private citizens. When a crime occurs, Flock Safety cameras deliver the actionable evidence you need to make an arrest.

Our company is headquartered in Atlanta, Georgia. Flock Safety camera systems are live in over 710 cities in 38 states and over 360 police departments. With an average of 116 Hot List notifications sent an hour with jurisdictions throughout the U.S., our team is helping agencies solve and prevent crime every hour.

Our Team

We are a team of passionate engineers and developers focused on creating cutting-edge technology to help solve and prevent crime. We do this by building our own hardware, writing our own software, and continuously improving our systems. Ongoing customer feedback is at the core of our product. We release regular enhancements based on customer needs, so we can deliver the best technology to help eliminate non-violent crime.

Purpose

Police departments need a scalable solution to increase clearance rates and deter crime. The Flock Safety camera sees like a detective to make actionable evidence available when needed that is easily searchable by car type, model, color, timeframe, and plate details.

In April 2019, Marietta Police Department released a study that shows they experienced a 34% reduction in calls for service by targeting crime hot spots throughout the city with Flock Safety cameras.

In October 2019, Cobb County Police Department released a study based on their installation of 13 Flock Safety cameras in March. Over the six month period, Cobb police reported a 60%

reduction in overall crime by focusing on the beat with the highest crime levels.

Product

Flock Safety cameras do not just identify the plate seen, but all the objects within the frame. Even if the vehicle does not have a tag, the image can be captured for review.

The user interface is a simple search with unlimited user licenses. Within the software component, law enforcement can receive hotlist alerts and create custom alerts for plates under your investigation.



Camera Performance

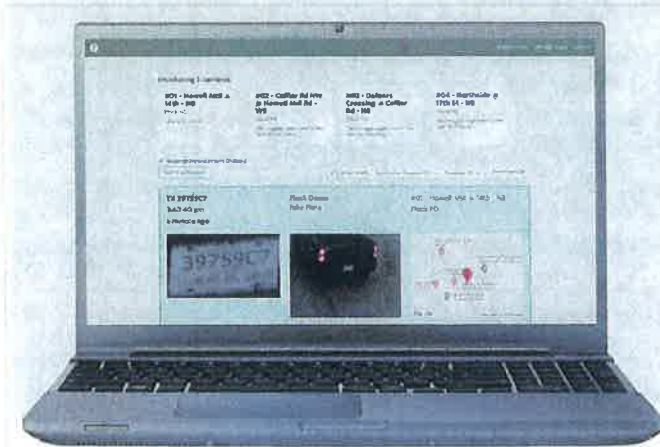
- Traffic Capacity
 - Solar: Up to 30,000 per day
 - Powered: Up to 45,000 per day
 - Two lanes of traffic (back plates)
 - NCIC Alert Notifications: Under 30 seconds
 - Hotlist alerts include state detection
 - Includes time, location, plate, and image
- Power Source
 - 100-240 VAC <1 amp
 - 60 W Solar
 - 11-14 VDC
- Processing Power
 - 1.4GHz
 - 64-bit quad-core CPU
- Image Capture
 - License plates from 30-50 ft
 - Date and time with camera location
 - Plate (state, partial, paper, and none)
 - Vehicle details (type, model and color)

Camera Specifications

- Design
 - Size: 8.75" length x 5" height x 2.875" width
 - Weight: 3 lbs
 - IP65 Waterproof
 - Mounting: Adjustable band clamps
 - Field of View: 15' wide, 65' distance
- Power
 - 14Ah Battery
 - 30W Solar Panel (14" x 21")
- Pole: DOT Breakaway Pole - 12' installed
- Data: 16GB local storage, ~2 weeks
- Image: 5MP Image Sensor
- Motion: Passive Infrared Motion Detection
- Connectivity
 - Footage uploads via integrated LTE
 - Service depends on area (AT&T, Verizon or T Mobile)
- Production: Designed & manufactured in the US
- Night Vision: 850nm Custom IR Array
- Cloud Storage
 - 30 days storage (Amazon Web Services)
 - Accessible via secure website

Software User Interface

Included at no additional cost with unlimited user licenses. Receive alerts to help detect crime and search footage to access evidence — with any internet-connected device.



Detect Crime

- Connected to the NCIC Alerts & CJIS compliant
- NCIC alert notifications (includes privately owned cameras in your jurisdiction)
- Create custom alert notifications for tags under investigation within your organization, ability to share with neighboring jurisdictions with Flock
- Filter notifications by reason codes (exclude sex offenders, include stolen plates, etc.)



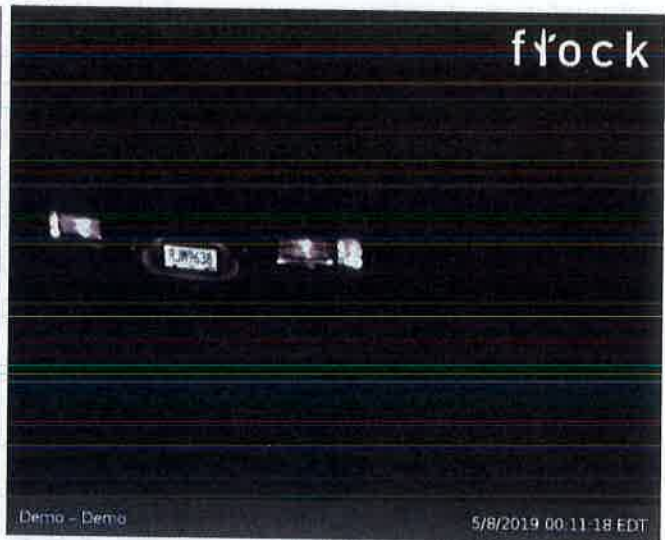
Access Evidence

- Filter search by specific camera location
- Capture vehicles regardless of plate type (paper, no plate, etc.)
- Filter by *Vehicle Fingerprint*
 - Time Frame
 - Location
 - Vehicle Characteristics
 - Plate (partial)
 - Plate Type (in state, out of state, temporary tag)
 - Build, Make & Color
 - Resident status

Performance

Day Time Footage

Night Time Footage



Results

Jersey Village, Texas - [A camera on every street to create a virtual gate](#)

Within one week, Flock Safety cameras notified officers of two vehicles on the NCIC Hot List. During the seizure of one of the vehicles, a wanted murderer in the state of Louisiana was arrested. Both vehicles were returned to their owners.

- Location: Houston suburb
- Flock Cameras: 50+
- Residents: 8,000
- Installation: Two months from purchase

Marietta, Georgia - [34% reduction in calls for service in targeted hotspots](#)

Cameras within the county led to the arrest of a suspect who allegedly brutally attacked a woman. Officers were able to locate and arrest the suspect using Flock cameras after weeks of the suspect being on-the-run.

- Location: Atlanta suburb
- Flock Cameras: 70 and growing (30 police cameras and 40 private cameras)
- Residents: 650,000
- Installation: Two months from purchase for first hotspot

Redlands, California - [Contain crime with custom hotlist alerts](#)

A string of commercial burglaries across two towns led officers to create a custom hotlist alert for the suspected vehicle's tag. Within three days, detectives received the notification and were able to pursue the suspect.

- Location: San Bernardino suburb

- Flock Cameras: 14
- Residents: 70,000
- Installation: Phased approach, ongoing

Post Purchase Order

Safety-as-a-Service

- Customer Support team to provide ongoing support
- Regular software updates at no additional cost
- Unlimited users for hotlist integration and alerts, and camera footage search

Installation & Camera Locations

The average installation is 6 to 8 weeks. Camera locations and installation timing is coordinated with the Flock Safety Customer Support team.

City intersection

Solar & existing pole



Entrance to Hotel

Solar & Flock 12 foot pole



Two Lane Traffic Street

Electric & existing pole



Pricing & Contract Details

Today's Date - Sep 03, 2020
 This proposal expires in 30 days.

Traditional ALPR systems have upfront costs ranging from \$10,000 to \$30,000 per camera. Additionally, due to infrastructure requirements installation can be costly and timing can vary drastically.

Flock's ALPR camera is the only completely wireless system designed for city-wide protection. This fully infrastructure-free setup with options for solar or direct power, allows us to offer flexible and affordable pricing. Helping police across the country have more eyes on the street to help reduce crime in a matter of weeks.

Subscription Details	Price	QTY	Subtotal
1 Year Subscription			
1 Year Subscription Price Paid Upfront	\$2,500.00	5	\$12,500.00
Automatic License Plate Reader (ALPR) Solar or DC Power	\$0.00	5	\$0.00
Hosting & Analytics Cloud Hosting Unlimited User Licenses Hotlist Integration & Alerts Neighborhood Camera Integration Ongoing Software Enhancements	\$0.00	5	\$0.00
Installation Camera Setup Shipping & Handling	\$250.00	5	\$1,250.00
Other Cellular Mounting Equipment	\$0.00	5	\$0.00
1 Year Subscription Price			
Total			\$13,750.00

flock safety

City-wide coverage your jurisdiction needs.

7 million property crimes occur every year.

Unfortunately, 87% of these crimes go unsolved due to lack of evidence. Flock Safety's license plate reading cameras give clear, filterable footage you need to solve crime.



Capture every license plate



Find the evidence needed in seconds



Unlimited users for hotlist alerts



Protecting communities in 38 US states

“With Flock Safety’s system, we were able to successfully solve an incident that in any other situation would have been a cold case”

- Detective N. Yimer, Dekalb County PD

For more details contact Jesse.

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“This relatively inexpensive camera technology helps to solve and prevent crime in our community”

- Lieutenant D. Strickland, LaGrange, GA PD

Unrivaled accuracy

Our cameras deliver 30% more plate reads compared to traditional LPR cameras, and capture state details, temporary tags, and details on no-plate vehicles.

Install anywhere

Leverage solar or wired electric for power, so cameras can go anywhere you need.

Fast and easy

Use a Google-like search from your computer or phone to access footage from our secure cloud, identifying vehicles in seconds.

Worry-free maintenance

We install, service, and continuously upgrade your cameras at no additional cost.

Affordable for all

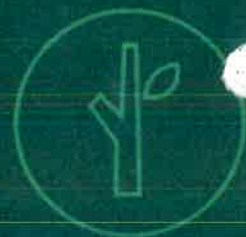
\$2,500 per camera annually includes maintenance, cloud storage, cellular service, and software updates. One-time installation fee per camera of \$250.



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Proposed Camera Deployment

The initial recommended deployment includes five (5) cameras located in the below noted areas/intersections. These locations were chosen for their strategic value in combating criminal activity and quality of life issues, such as illegal street racing.

Location 1 - The intersection of Agoura Road / Las Virgenes Road

- This location is a significant thoroughfare and entrance point into the Calabasas area, allowing for the monitoring of a potential criminal element coming from the Las Virgenes Road via the 101 Freeway. Additionally, dependent on the camera placement, vehicles coming into the city from both Malibu and Agoura Hills can also be identified.

Location 2 - Calabasas Road / Parkway Calabasas

- This location is considered a primary “four direction” intersection within the city limits, and provides access to the surrounding communities and downtown Calabasas. This is a prime location, and an access point that is heavily travelled by both residents and visitors to the city.

Location 3 - Calabasas Road / El Canon Avenue (Old Town Calabasas)

- This location is a well-traveled route between Old Town Calabasas and the San Fernando Valley via the community of Woodland Hills. Vehicles entering the city limits via this road or the adjacent 101 Freeway would be captured on an east facing camera system.

Location 4 - Mulholland Highway / Old Topanga Canyon Road

- This is the predominate meeting point for those involved in illegal street racing, and has fond to be problematic with respect to other traffic related issues such as speeding, failing to stop for posted signs and/or lights, as well as unsafe lane changes. It is also a main access point to the adjacent canyon roads, most of which are favorite by street racers and those transporting narcotics to and through the city.

Location 5 - Park Ora Road / Park Sorento Road

- Another roadway frequented by those engaged in illegal street racing, and one which feeds directly into Valmar Road (Woodland Hills). This location is also adjacent to a significantly sized residential community.

Calabasas Camera Deployment



Flock Camera System City of Calabasas

City of Rosemead Deployment and Study

The City of Rosemead, which is serviced by the Los Angeles County Sheriff's Department's Temple Station, provided the below statistics which resulted from arrests developed by information provided through their Flock Camera System. Currently, the City of Rosemead deploys fifteen (15) static cameras.

Since November 11, 2019 the deputies assigned to Temple Sheriff's Station have produced the following arrests, all of which were made possible as a result of the Flock Camera System's implementation.

- 167 individual stolen vehicles have been identified , resulting in 39 arrests and 53 vehicle recoveries
- 9 felony vehicles have been identified
- 5 felony vehicles identified and detained, and each contained suspects wanted by adjacent police agencies.
- Of the 39 arrests made, 30 included secondary charges including carrying a concealed weapon (firearm), being an ex-felon in possession of a firearm, possession of a controlled substance for the purposes of sale, receiving stolen property, identity theft, possession of burglary tools, shoplifting, parole violation, and vehicular "hit and run."



FLOCK FSLPR ANALYSIS

DATA REQUEST DEFINED: This data was pulled at the request of Lieutenant Hall, for a briefing to the City Commission on the Flock Safety Fixed Site License Plate Readers (FSLPR). Data was sent to the Crime Analysis Unit (CAU) who were asked to analyze the data to include the following:

1. Background of system to include start date and coverage area
2. Crime stats for the coverage area (from start-up to YTD over the last 3 years)
3. An analysis summary of the impact of the system on crime during its operation
4. Anecdotal stories (mainly provided by outside units)

SUMMARY: Flock Safety FSLPR are devices that capture license plates, persons on bike/s, cats and dogs. There are a total of 29 FSLPR throughout the city with two (2) located in the Oregon District, and twenty-seven (27) located in the Twin Towers neighborhood. These FSLPRs produce still frames of license plates and short recordings are available for persons on bike/s, cats and dogs, with a retention period of 30 days. While the license plate reading technology is certainly not novel, the FSLPRs are unique in three distinct areas of functionality:

1. Cost – Previous LPRs require a considerable investment plus monthly costs (approx. \$18k up-front costs). The Flock Safety FSLPRs are a subscription service with zero capital investment.
2. Ease of Use/Installation – The Flock Safety FSLPRs are solar powered and are cloud-based connected through cellular communications which is embedded into the subscription cost, thus is not dependent on the city's network nor constrained by finding a power source.

Every plate that is ran through NCIC and will yield the following alerts:

- Supervised Release
- Protection Order
- Protective Interest
- Violent Person
- Missing Person
- CPIC Data Records
- Gang or Suspected terrorist
- Warrants
- Stolen Vehicle
- Stolen Plate
- Sex Offender



Users are able to add license plates for vehicles that were utilized in various crimes, as well as search license plates to see if the vehicle frequents the areas in which the FSLPRs are located (if the search has any results of the license plate, it provides users with a still frame of the vehicle, which shows any distinguishing stickers, damage, marks that are on the vehicle). If a suspect on a described bike is in the flock area, a search of the FSLPRs could be done for the bike which could yield a better description of the suspect.

METHODOLOGY:

The CAU pulled the crime counts for the Twin Towers Neighborhood (which is where 27 (93%) of the 29 FSLPRs are located. Additionally, the crime counts for the adjacent Walnut Hills Neighborhood were culled for comparison and to determine efficacy of the system

The crimes were broken down the following way:

- Part 1 Violent
 - Robbery
 - Homicide
 - Forcible Rape
 - Aggravated Assault
- Part 1 Property
 - Arson
 - Breaking & Entering
 - Burglary
- Part 2 Violent
 - Kidnapping / Abduction
 - Simple Assault
 - Forcible Fondling
 - Menacing
 - Incest
 - Statutory Rape
- Part 2 Property
 - Extortion / Blackmail
 - Counterfeiting / Forgery
 - Stolen Property
 - Vandalism
 - Bribery
 - Bad Checks
- Other Crime which includes those not listed above
- The CAU pulled all of Twin Towers and Walnut Hills crime data from March 01 through July 20 (YTD comparison) for each year (2018, 2019, 2020), and compared the results from before the FSLPRs were installed to after all of the units were installed and in operation.
 - 29 FSLPRs were installed in throughout the month of March in 2019, making the data for 2018 as "Pre-Flock Safety FSLPRs".



- o Due to the fact that not all FSLPRs were in full operation for the full month of March in 2019, the data for 2020 is categorized as “Full Post-Flock Safety FSLPRs”

FINDINGS:

FIGURE 1

<u>Crime Category</u>	<u>Twin Towers</u>			<u>% CNG</u>	<u>Walnut Hills</u>			<u>% CNG</u>
	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2020 vs. 2018</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2020 vs. 2018</u>
P1V	17	9	11	-39%	10	10	11	10%
P1P	57	46	35	-39%	89	82	75	-16%
P2V	42	46	39	-7%	53	37	45	-15%
P2P	25	24	20	-20%	36	20	25	-31%
Other	107	73	37	-65%	45	50	54	20%
Total	248	198	142	-43%	233	199	210	-10%

Figure 1 shows the actual values from the chart for the crime categories along with a percentage comparison comparing 2018’s to 2020’s numbers.

The data collected showed clear decreases in all crime categories from 2018 to 2020 in the Twin Towers Neighborhood. The most noticeable decreases are realized in the Part 1 Violent and Property Crime categories with an aggregate 43% decrease in crime counts overall. This contrasts with the same examinations in the Walnut Hills Neighborhood, which experienced less pronounced decreases in Part 1 Property, Part 2 Property and Part 2 Violent offenses. The Walnut Hills Neighborhood counts also reflect increases in Part 1 Violent, Other related offenses, and reflect a 33% lower reduction in counts as compared to Twin Tower.

Given the geographic proximity of the examined neighborhoods, the reduction in crime counts from the Twin Towers Neighborhood compared to Walnut Hills appears to be significant. Determining the causal factor(s) for this difference will require additional research; however, the data, along with anecdotal

DAYTON POLICE DEPARTMENT



incidents reported by patrol and investigative personnel strongly indicates the FSLPR program has had a beneficial impact on crime.

**Success stories:**

- Homicide Detectives utilized the hotlist tool to add Ohio license plate GHR8404, for a suspicious death investigation (200607-0058). A Flock camera hit on the vehicle on 07/02/2020 at 9:13 PM. The hotlist alert was sent out to officers, who were able to get into the area and observe the vehicle traveling on west Xenia Ave and conduct a traffic stop on the vehicle. The driver and lone occupant was able to be interviewed by Detectives in relation to the investigation and the vehicle was recovered/towed.



- On 5/28/20 the Dayton Police had a homicide at 416 Bowen and received little information on the suspect's vehicles or any suspect info. The detectives were able to obtain the suspects' vehicle and plate using the FLOCK camera's by entering this little information of vehicle color and time. This camera system resulted in 2 homicide arrests.
- Homicide Detectives also had success with the flock system picking up suspect vehicles in the following cases: 200509-0022 and 200708-0076.
- The Homicide Unit stated that 40% of their cases have some type of FLOCK involvement. It has been very helpful and useful in my short time in the unit

**Recommendations:**

- For tracking purposes, it is recommended that an option be added to MIS screen or a check box/ drop down box in e-DIBRS that will note if FSLPRs used in the investigation.

- Expanding FSLPRs into other neighborhoods experiencing elevated crime to include:
 - The Shot Spotter Area
 - This would provide investigators additional tools when looking for possible suspect vehicles or targeted vehicles.
 - The area has a high incidence of violent crime.
 - Extend the current system into the Linden Heights neighborhood.
 - The common "Xenia Avenue Neighborhood" area encompasses Linden Heights
 - Multiple Stolen Vehicles have been recovered in that neighborhood over the summer
 - Miami Chapel and Edgemont Neighborhoods
 - The deployment can be focused on the De Soto Bass and Bancroft Housing Complexes
 - These complexes have historically struggled with large spikes in crime.
 - The Burkhardt, Springfield, and Wright View Neighborhoods
 - This area is commonly known as the "East End".
 - We can focus deployment on primarily the East Third St. corridor from Findlay St to Smithville St and US 35 to Springfield St.
 - This area is known as a higher activity area, including prostitution, which could provide detectives with investigative tools to locate offenders or connect possible human trafficking operation.



- Little Richmond Neighborhood
 - Focused on the Summit Square Area
 - Area of high crime and multiple shootings
 - This can be deployed as test case of FSLPRs efficacy on an area further from the city core as well as develop investigative leads from incidents as suspects may flee the area in vehicles.