



## DEPARTMENTAL GENERAL ORDER

### **I-26: REMOTE CONTROLLED GROUND SYSTEM (ROBOTS) and POLE CAMERAS**

Effective Date:

Coordinator: Electronic Services Unit, Special Operations Division

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#### **I. VALUE STATEMENT**

The Oakland Police Department promotes approved and safe technology into its everyday policing. OPD strives in protecting and serving its diverse community and city through fair, equitable and constitutional policing. Robots and pole cameras are implemented into OPD's strategy for success. These fleets will never replace the police officers who have sworn to protect the community, but will assist in mitigating use of force, bring safe resolutions to critical incidents and help save lives. OPD is committed in safeguarding and respecting the privacy of the community and has brought measures and policies in place to ensure none are violated. Regardless of deployment, robots and pole cameras will be utilized in accordance with OPD Core Values and our Mission.

#### **II. DESCRIPTION OF THE TECHNOLOGY**

##### **A. Robot and Pole Cameras Components**

A Remote-Controlled Ground System (Robot): is an unmanned machine guided and remotely controlled by a human individual as well as all the supporting or attached systems designed for gathering information through imaging, recording or by any other means.<sup>1</sup> Generally, a Robot consists of:

- A Robot, composed of:
  - Platform/Body/Frame that is capable of remote movement,
  - Radio frequency and antenna equipment to communicate with a remote-control unit;
  - A computer chip for technology control;
  - A camera;

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<sup>1</sup> This policy does not cover autonomous or partially autonomous robots, only those robots that are directly controlled by humans.

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- Battery charging equipment for the remote ground / aquatic vehicle and remote control.
- Two-way communication (talk/listen) with transmitter and receivers and Push to Talk functionality
- Robotic claw; and
- Single or Double (Twin) pan disrupter on telescoping arm with camera system
- Remote controlled unit (LCD display) with brightness control
- A Pole Camera, composed of:
  - Extendable pole with mounted camera, with thermal imaging capabilities;
  - Battery charging equipment for pole and LCD display with brightness control
  - Pole cameras do not require remote controlled devices. They are solely and human-operated by an ESU team member.

**B. Purpose**

Robots and Pole Cameras have been used to save lives and protect property and can detect possible dangers that cannot otherwise be seen. Robots and Pole Cameras can support first responders in hazardous incidents that would benefit from a ground, and or aquatic level perspective. In addition to hazardous situations, Robots and Pole Cameras have applications in locating and apprehending subjects, missing persons, and search and rescue operations as well as task(s) that can best be used in crawl spaces or confined isolated areas, or bodies of water. This immensely assists in searches for suspects, victims or evidence in an efficient and effective manner. Any use of a Robot or Pole Camera will be in strict accordance with constitutional and privacy rights and OPD Policy.

The robot or pole camera may not always be ideal for deployment and alternatives should always be considered prior to deployment.

**C. How the System Works**

1. Robots are remotely controlled by humans from a wireless remote-control unit. The wireless remote-control unit allows operators to remotely navigate the Robot and manipulate the robotic claw and

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any accessories and detachable tools.

ESU operators require time to make ready robots and install any detachable tools. Furthermore, not all attachments are ideal for each deployment.

2. Pole Cameras are human-operated and require kinetic energy to be operated.

**III. GENERAL GUIDELINES**

**A. Authorized Use**

1. Only authorized operators who have completed the required training shall be permitted to operate the Robots and Pole Cameras.
2. Robots and Pole Cameras may only be used for the following specified situations:
  - a) Mass casualty incidents (e.g. large structure fires with numerous casualties, mass shootings involving multiple deaths or injuries);
  - b) Disaster management;
  - c) Missing or lost persons;
  - d) Hazardous material releases;
  - e) Sideshow events where many vehicles and reckless driving is present;
  - f) Rescue operations;
  - g) Training;
  - h) Hazardous situations which present a high risk to officer and/or public safety, to include:
    - i. Barricaded suspects;
    - ii. Hostage situations;
    - iii. Armed suicidal persons;
    - iv. Arrest of armed and/or dangerous persons (as defined in OPD DGO J-04 "Pursuit Driving" Appendix A, H "Violent Forcible Crime");
    - v. Service of high-risk search and arrest warrants involving armed and/or dangerous persons (as defined in OPD DGO J-04 "Pursuit Driving" Appendix A, H "Violent Forcible Crime"; and
    - vi. Exigent circumstances - A monitoring commander

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(Lieutenant or above) may authorize a Robot or Pole Camera deployment under exigent circumstances as defined in OPD DGO K-03 “Exigent Circumstances<sup>2</sup>.” A report shall be completed and forwarded to the Chief of Police and the OPD Robot and Pole Camera Coordinator for all deployments authorized under exigent circumstances, for a full review to determine policy compliance.

**3. Deployment Authorization**

- a) Except as provided otherwise in this policy, deployment of an OPD Robot or Pole Camera shall only be for the authorized uses above and require the authorization of the incident commander, who shall be of the rank of Lieutenant of Police or above.
- b) Incident commanders of a lower rank may authorize the use of a Robot or Pole Camera during exigent circumstances. In these cases, authorization from a command-level officer shall be sought as soon as is reasonably practical.
- c) ESU Operators are encouraged to advise a supervisor or incident commanders when they believe they are incapable of operating a robot in a safe manner.

**4. Deployment Logs**

- a) A commander authorizing deployment of a Robot or Pole Camera shall send notification of the deployment via the military equipment deployment notification process.
- b) Deployment logs will provide all mission deployment details for each land, and or water deployment.

**5. Detachable Tools**

- a) Several ground robots have detachable tools. These detachable tools offer additional options to safely resolve a conflict consistent with OPD’s Mission and Values. These detachable tools can be deployed when command believes the usage is in accordance with OPD policy, procedure and the law and such

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<sup>2</sup> Those circumstances that would cause a reasonable person to believe that a particular action is necessary to prevent physical harm to an individual, the destruction of relevant evidence, or the escape of a suspect.

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usages places officers in a tactical advantage. The detachable tools include the following:

- i. 360 degree rotating robotic claw with telescoping camera on a telescoping arm.
  - ii. A detachable OC canister;
  - iii. A detachable glass and/or tire puncture;
  - iv. A detachable pan disrupter.
- b) 360 degree rotating robotic claw with telescoping camera on a telescoping arm.
- i. The rotating robotic arm is controlled through the remote control.
  - ii. The rotating robotic arm can be utilized to deliver packages or items such as food, water, telephone, etc.
  - iii. The robotic arm can also be utilized to open vehicle or structural doors.
  - iv. The robotic arm can also be utilized to pick up, retrieve or reposition items such as food, water, telephone, etc.
  - v. The robotic arm can be utilized to pick up firearms or suspicious packages believed to be explosives. However, such operation may only be at the direction of command staff and extreme caution must be used. The authorizing commander shall evaluate each scenario and coordinate with ESU.
- c) Detachable OC canister
- i. The detachable OC is controlled through the remote controller.
  - ii. Members shall use the minimum amount of the chemical agent necessary to overcome the subject's resistance in accordance with Department General Order K-3, USE OF FORCE.
  - iii. Officers must be familiar with OPD Training Bulletin V-F.2, USE OF OLEORESIN CAPSICUM (OC), and, specifically, the risk factors associated with aerosol chemical agents and the treatment for individuals subjected to them.
  - iv. In crowd control situations in the City of Oakland, aerosol chemical agents shall not be used without the approval of a supervisor or command officer and in accordance with OPD Training Bulletin III-G Crowd Control and Crowd Management.
- d) Detachable Glass/Tire Puncture
- i. The detachable glass/tire puncture can deflate or

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immobilize tires and or shatter vehicle or structural glass. However, such operation may only be at the direction of command staff and extreme caution must be used. The authorizing commander shall evaluate each scenario and coordinate with ESU.

- e) Detachable Pan Disrupter
  - i. This attachment utilizes a 12-gauge blank shotgun round and water to breach secured locks/doors or disrupt suspicious packages. However, such operation may only be at the direction of command staff and extreme caution must be used. The authorizing commander shall evaluate each scenario and coordinate with ESU. The ESU
  - ii. ESU Officers shall adhere to the Safety Checks of TB III-H Specialty Impact Munitions when loading the pan disruptor<sup>3</sup>.
  - iii. The detachable pan disruptor can be loaded with a live ammunition round. This practice is prohibited as described below in III.B. Prohibited Use.

## 6. Privacy Considerations

- a) Operators and observers shall not intentionally transmit images of any location where a person would have a reasonable expectation of privacy (e.g. residence, yard, enclosure). When the Robot or Pole Camera is being deployed, operators will take steps to ensure the camera is focused on the areas necessary to the mission and to minimize the inadvertent collection of data about uninvolved persons or places. Operators shall take reasonable precautions, such as turning imaging devices away, to avoid inadvertently transmitting images of areas where there is a reasonable expectation of privacy.

## B. Prohibited Use

- 1. Robots and Pole Cameras shall not be equipped with any weapon systems or attachments not described in Section III.A. above; nor shall it be equipped with any analytic systems capable of identifying groups or individuals, including but not limited to facial recognition or gait analysis.

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<sup>3</sup> The similar Safety Checks of clearing the barrel, having a second officer clear the barrel and inspecting the rounds to ensure the rounds are blank rounds and having a second officer inspect the rounds to ensure the rounds are blank rounds shall be followed.

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2. Robots and Pole Cameras shall not transmit any data except to their respective remote-controlled units (LCD Display).
3. Robots shall not be used for the following activities:
  - a. For any activity not defined by “Authorized Use” Section III.A. above.
  - b. Conducting surveillance.
  - c. Targeting a person or group of people based on their characteristics, such as but not limited to race, ethnicity, national origin, religion, disability, gender, clothing, tattoos, sexual orientation and/or perceived affiliation when not connected to actual information about specific individuals related to criminal investigations.
  - d. For harassing, intimidating, or discriminating against any individual or group.
  - e. To conduct personal business of any type.
4. The rotating robotic arm shall not be used as force<sup>4</sup> on a person.<sup>5</sup>
5. The detachable pan disruptor and glass/tire puncture tool shall not be used as force on a person.
6. The detachable pan disruptor shall not be loaded with a live ammunition round.

**C. Communications**

Notifications will be made to the Communications Section for notifying patrol personnel, when OPD Robot operations are authorized by a Commander.

**IV. ROBOT DATA**

**A. Data Collection, Access and Sharing**

Robot and Pole Cameras deployed by OPD shall not share any data with any external organizations via integrated technology. Robots and pole cameras only send data to the ground operator’s controller via encrypted radio signals – there is no internet connection for external

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<sup>4</sup> “Force” is defined in DGO K-3 USE OF FORCE and includes all levels of force up to and including lethal force.

<sup>5</sup> It is not a violation of this policy to use the robotic arm to push or poke someone to gain their attention, nor is it a violation to grab or pull them in an attempt to rescue them from a dangerous situation.

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data sharing and no data recording.

**V. ROBOT ADMINISTRATION**

**A. System Coordinator / Administrator**

1. The ESU will appoint a program coordinator who will be responsible for the management of the Robot and Pole Camera program. The program coordinator will ensure that policies and procedures conform to current laws, regulations and best practices.
2. The ESU Unit Supervisor, or other designated OPD personnel shall provide the Chief of Police, Privacy Advisory Commission, and City Council with an annual report that covers all use of Robot and Pole Camera technology during the previous year. The report shall include all report components compliant with Ordinance No. 13489 C.M.S. The annual report will include a breakdown of incident type for each year.
3. **Submission and evaluation of requests for Robot use**

The ESU Unit Supervisor, or other designated OPD personnel, shall develop a uniform protocol for submission and evaluation of requests to deploy a Robot and or Pole Camera, including urgent requests made during ongoing or emerging incidents.

**B. Program improvements**

The ESU Unit Supervisor, or other designated OPD personnel, shall recommend and accept program improvement suggestions, particularly those involving safety and information security.

**C. Maintenance**

The ESU Unit Supervisor, or other designated OPD personnel, shall develop a Robot and Pole Camera inspection, maintenance and record-keeping protocol to ensure continuing deployment of the tracking purposes, and include this protocol in the Robot and Pole Camera procedure manual. Maintenance and record-keeping should also include expenditures such as purchase of new equipment and mechanical repairs.

**D. Cost Analysis**

The ESU Unit Supervisor, or designated OPD personnel, shall develop a protocol for developing and documenting data for a cost-benefit analysis.



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This cost benefit analysis will include amount of ESU personal involved, ESU equipment utilized, suspect(s) located (e.g. gender, race and age) and the recovery of evidentiary items (e.g. firearms, clothing, vehicles, etc).

**E. Training**

The ESU Unit Supervisor, or other designated OPD personnel, shall ensure that all authorized operators have completed all required department-approved training in the operation, applicable laws, policies and procedures regarding use of the Robot and Pole Camera.

**F. Auditing and Oversight**

The ESU Unit Supervisor, or other designated OPD personnel, shall develop a protocol for documenting all Robot and Pole Camera uses in accordance to this policy with specific regards to safeguarding the privacy rights of the community and include this in the Robot and Pole Camera procedure manual and the annual Robot and Pole Camera report. The Robot and Pole Camera supervisor will develop an electronic record of time, location, equipment, purpose of deployment, and number of Robot and Pole Camera personal involved. Whenever a deployment occurs, the authorizing commander, or operator, will send an electronic notification/submission to the SOS Commander to include the topics listed above. This protocol will allow the SOS Commander to have a running log of all deployments and assist in the annual report.

**G. Reporting**

The ESU Unit Supervisor, or other designated OPD personnel, shall monitor the adherence of personnel to the established procedures and shall provide periodic reports on the program to the Chief of Police.

The ESU Unit Supervisor, or other designated OPD personnel, shall provide the Chief of Police, Privacy Advisory Commission, and City Council with an annual report that contains a summary of authorized access and use.

**H. Inquiry and Complaint Process**

*(Government Code 7070 d (7)) For a law enforcement agency, the procedures by which members of the public may register complaints or concerns or submit questions about the use of each specific type of military equipment, and how the law enforcement agency will ensure that each complaint, concern, or question receives a response in a timely manner.*

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Effective Date \_\_\_\_\_

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The Oakland Police Department DGO M-3: **Complaints Against Departmental Personnel or Procedures** will inform all employees and the public of procedures for accepting, processing and investigating complaints concerning allegations of member employee misconduct.<sup>[1]</sup> Refer to DGO K-7 for additional information.

By Order of

LeRonne L. Armstrong

Chief of Police

Date Signed:

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<sup>[1]</sup> DGO M-3 states, "IAD investigations shall be completed, reviewed, and approved within 180 days unless approved by the IAD commander."

## **Description and Purpose**

<b>ICOR Mini Caliber</b>	
<b>Description</b>	An unmanned machine guided and remotely controlled by an officer. The ICOR Mini Caliber is ground operated and has several attachments which can assist in opening doors, delivery of items and or the ability to demobilize vehicle's tires, break glass or bypass locks or destroy packages.
<b>Manufacturer's Product Description</b>	Designed for rapid tactical missions, the robot is simple to operate and quick to deploy for searching rooms, hallways, stairwells and confined spaces. With rubber tracks and articulating front and rear flippers, the Mini-CALIBER effortlessly climbs stairs. It also includes an extendible rotating claw arm that simplifies opening door handles.
<b>How the item works</b>	The robot is controlled by remote controllers. Operators will utilize the remote controller to direct the robot to climb stairs, move in all angles and control the robotic arm.
<b>Expected lifespan</b>	Not listed with manufacturer or website; with care can last several years. Batteries have shorter life spans as they gradually deteriorate due to normal usage
<b>Quantity</b>	1 owned
<b>Purpose and intended uses and/or effects</b>	Understanding that real time intelligence can provide officers safety and tactical advantages, robots are beneficial in providing a ground level perspective of interior, or exterior, locations during barricaded incidents. The usage of robots is in line with the mission of de-escalation and places officers at a safe distance. This allows for the safe resolution of critical incidents and mitigates use of force incidents.

<b>Avatar Tactical Robot</b>	
<b>Description</b>	An unmanned machine guided and remotely controlled by an officer. The Avatar Tactical Robot is ground operated and has a robotic arm attachment which can assist in opening doors, delivery of items.

<b>Manufacturer's Product Description</b>	The AVATAR enhances the capabilities of SWAT and tactical response teams by allowing them to quickly and safely inspect dangerous situations, there is no longer a need to send personnel in before you've had a chance to assess the situation.
<b>How the item works</b>	The robot is controlled by remote controllers. Operators will utilize the remote controller to direct the robot to climb stairs, move in all angles and control the robotic arm.
<b>Expected lifespan</b>	Not listed with manufacturer or website; with care can last several years. Batteries have shorter life spans as they gradually deteriorate due to normal usage
<b>Quantity</b>	2 owned
<b>Purpose and intended uses and/or effects</b>	Understanding that real time intelligence can provide officers safety and tactical advantages, robots are beneficial in providing a ground level perspective of interior, or exterior, locations during barricaded incidents. The usage of robots is in line with the mission of de-escalation and places officers at a safe distance. This allows for the safe resolution of critical incidents and mitigates use of force incidents.

<b>Andros Mark 5A-1</b>	
<b>Description</b>	An unmanned machine guided and remotely controlled by an officer. The Andros Mark 5A-1 is ground operated and has several attachments which can assist in opening doors, delivery of items and or the ability to demobilize vehicle's tires, break glass or bypass locks or destroy packages.
<b>Manufacturer's Product Description</b>	Is a bomb disposal robot for the purpose of handling potential explosives without risking any lives. First responders around the world depend on the MarkV to handle potential hazards and explosives from outside the danger zone.
<b>How the item works</b>	The robot is controlled by remote controllers. Operators will utilize the remote controller to direct the robot to climb stairs, move in all angles and control the robotic arm.
<b>Expected lifespan</b>	Not listed with manufacturer or website; with care can last several years. Batteries have shorter life spans as they gradually deteriorate due to normal usage
<b>Quantity</b>	1 owned
<b>Purpose and intended uses and/or effects</b>	Understanding that real time intelligence can provide officers safety and tactical advantages, robots are beneficial in providing a ground level perspective of interior, or exterior, locations during barricaded incidents. The usage of robots is in line with the

	mission of de-escalation and places officers at a safe distance. This allows for the safe resolution of critical incidents and mitigates use of force incidents.
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<b>Recon Scout Reconnaissance Robot</b>	
<b>Description</b>	An unmanned machine guided and remotely controlled by an officer. The Recon Scout Reconnaissance Robot is ground operated, light weight at 1.2lbs.
<b>Manufacturer's Product Description</b>	Recon Scout XT, a small throwable reconnaissance robot is for use in law enforcement and military applications. The robot can be used by warfighters, dismounted patrols, special weapons and tactics (SWAT) and other special operations teams. The robot offers real-time situational awareness and greater stand-off distance.
<b>How the item works</b>	The robot is controlled by remote controllers. Operators will utilize the remote controller to direct the robot to climb stairs, move in all angles and control the robotic arm.
<b>Expected lifespan</b>	Not listed with manufacturer or website; with care can last several years. Batteries have shorter life spans as they gradually deteriorate due to normal usage
<b>Quantity</b>	1 owned
<b>Purpose and intended uses and/or effects</b>	Understanding that real time intelligence can provide officers safety and tactical advantages, robots are beneficial in providing a ground level perspective of interior, or exterior, locations during barricaded incidents. The usage of robots is in line with the mission of de-escalation and places officers at a safe distance. This allows for the safe resolution of critical incidents and mitigates use of force incidents.

<b>Tactical Electronics LPSS3 Long Police Wireless Video Camera</b>	
<b>Description</b>	An extendable pole up to 20ft with a camera mounted.
<b>Manufacturer's Product Description</b>	The LPSS3 Long Pole Search System provides wireless video surveillance of subjects at significant heights and distances. The system features a 20ft telescoping pole, a flexible neck camera head, eight IR LEDs, and an internal DVR for video recording. The main housing is conveniently stored inside the collapsed pole for timely stowaway. The upgraded features and streamlined design of the LPSS3 combine compact portability and rapid deployment with covert wireless vision.

<b>How the item works</b>	The pole is controlled by a police officer through kinetic energy. Operators will utilize the pole and extend or retract the pole to the desired length and the camera will transmit live feed images or video on a remote LCD device.
<b>Expected lifespan</b>	Not listed with manufacturer or website; with care can last several years.
<b>Quantity</b>	1 owned
<b>Purpose and intended uses and/or effects</b>	Understanding that real time intelligence can provide officers safety and tactical advantages, pole cameras are beneficial in providing a wireless video live feed to officers at a safe location. The usage of cameras is in line with the mission of de-escalation and places officers at a safe distance. This allows for the safe resolution of critical incidents and mitigates use of force incidents.

<b>Zistos Tactical System</b>	
<b>Description</b>	An extendable pole up to 14ft with a camera mounted.
<b>Manufacturer's Product Description</b>	When it is too dangerous to physically look into a room or space, let Zistos be your eyes. Our wide range of HD Tactical Pole Cameras help law enforcement and government agency personnel more safely and effectively perform surveillance functions during tactical missions.
<b>How the item works</b>	The pole is controlled by a police officer through kinetic energy. Operators will utilize the pole and extend or retract the pole to the desired length and the camera will transmit live feed images or video on a remote LCD device.
<b>Expected lifespan</b>	Not listed with manufacturer or website; with care can last several years.
<b>Quantity</b>	1 owned
<b>Purpose and intended uses and/or effects</b>	Understanding that real time intelligence can provide officers safety and tactical advantages, pole cameras are beneficial in providing a wireless video live feed to officers at a safe location. The usage of cameras is in line with the mission of de-escalation and places officers at a safe distance. This allows for the safe resolution of critical incidents and mitigates use of force incidents.

## **Fiscal Costs**

## ***Initial Costs***

The Oakland Police Department (OPD) currently owns/possesses/uses the equipment. Initial costs (if known) to obtain the equipment were:

Initial costs of the items were approximately:

Equipment	Per-unit cost	Total cost
ICORE Mini Caliber	~\$119,000	~\$119,000
Avatar Tactical Robot	~\$40,000	~\$80,000
Andros Mark 5A-1	~\$280,000	~\$280,000
Recon Scout Reconnaissance Robot	~\$7,500	~\$7,500
Tactical Electronics LPSS3 Long Police Wireless Video Camera	~\$11,000	~\$11,000
Zistos Tactical System Video Camera	~\$11,000	~\$11,000

OPD proposes to obtain the equipment. Initial costs are anticipated to be:

### ***Estimated or anticipated costs for each proposed use***

Robots and pole cameras are stored in locked and secured facility, and or vehicle, at the Oakland Police Department. The Electronic Services Unit (ESU) members have access to robots and pole cameras and will respond to an incident with the equipment when requested by an Incident Commander. ESU members may be on duty during incidents requiring the Robot(s) or pole camera(s). If they are, they may deploy as patrol officers, or as their regular duty assignment, and utilize any one of the devices. For a tactical team call-out, other ESU members will respond even if they are off-duty, resulting in overtime expenditures. The amount of the expenditure is based on the time the incident takes to resolve. Over time deployments can be tracked utilizing an i-code through fiscal. Currently, OPD ESU has a staffing of 1 Lieutenant, 1 Sergeant and 14 Officers. OPD ESU has deployed robots and or pole cameras a total of fifty-seven (57) times in 2022, and eighteen (18) of these deployments were during bi-monthly training. OPD ESU members are not selected to the team based on their assignment, but rather by their ranking during the Order of Merit List (OML) selection process. However, applicants need to be assigned to a field assignment at the time of

application as opposed to office assignment. Based on the staffing levels and assignments in 2022 of ESU, OPD had full coverage throughout the week except for several nights between 2am-7am. Every January exists watch change and officers select their patrol assignments based on seniority. This minor shortfall on coverage may change next year due to the watch change.

It is also the goal of OPD ESU to expand our team to twenty (20) Officers in 2023. This will assist in coverage and in workload.

Unlike the OPD's UAS Program where it is required to have a Visual Observer (VO) and recommended to have a third officer as cover, operating a robot or pole camera does not require a VO. However, it is highly recommended to have an additional officer to assist the robot operator and to act as cover when feasible.

### ***Estimated or anticipated costs of potential adverse impacts***

Potential adverse effects are myriad, and there is no way of anticipating every possible adverse impact. Additionally, even some known possible adverse effects may be so remote that they were not assessed for the purposes of this report. Finally, costs of even likely adverse effects may vary wildly based on other circumstances which are difficult to predict and can vary from incident to incident. Keeping this in mind, some potential adverse effects and their possible costs are:

Deliberate misuse might cause the Department to be exposed to liability, which could include monetary judgments against the City.

Unintentional misuse might cause the Department to be exposed to liability, which could include monetary judgments against the City.

Failures of the equipment might cause the Department to have to purchase additional items, at a cost per item as indicated.

### ***Estimated or anticipated ongoing costs***

Costs for operation include training, personnel, maintenance and upgrade costs.

Training and personnel costs – Currently, ESU has mandatory training twice a month. This training consists of two 10-hour days and typically occurs at the OPD or any other nearby facility or location. There has not been any rental fees or associated costs to locations of training currently. Some training may either require the ESU member attending to be on



overtime, or for overtime to backfill that respective ESU members position while they are at training. If an ESU member elects to attend a POST certified training or outside training course there could be associated costs. Unknown yearly costs.

Storage costs – Robots and pole cameras are housed at secured OPD facilities and vehicles and there are no associated costs.

Maintenance and upgrade costs – Currently, there is no known life span for a robot or pole camera. With proper care the life expectancy will be longer. However, normal wear and tear can take place and will require replacement of parts. Depending on the part, the cost per item can range from fractions of a dollar to several hundred dollars.

Several recent costs for replacement, maintenance and repairs are listed below for 2021-2022 year:

Date	Equipment	Summary of repair / maintenance and or replacement	Total Cost
July 2022	ICORE	MINI Gearbox Assembly 1,382.81 US\$1,382.81  EA 2 MINI Flipper Arm 700MM 99.93 US\$199.86  EA 2 MINI Flipper Arm 730MM 117.15 US\$234.30  EA 2 24V DC Battery Pack - Mini Spare/Replacement 24V DC Battery Pack  for Mini-CALIBER™ Robot Includes: 2x  12.8V / 9.6 AH LiFeP04 Replacement  battery for use with the Mini- CALIBER™  Robot (note: The Mini-CALIBER™ uses 2	~\$4,427

		LiFeP04 batteries for 24V operation 655.00 US\$1,310.00 EA 2 CCU Battery - Mini Spare/Replacement 11.1V / 7.8Ah Li-Ion for use with the Mini-CALIBER™ CCU 165.00 US\$330.00	
February 2022	AVATAR	3 Batteries. Batteries outdated/Not charging. Replacement.	~\$1,433
August 2021	AVATAR	Battery Handle Broken, Touch Screen Controller not functioning, Camera Fan replacement, Robot Antenna broken	~\$1,272
August 2021	AVATAR	Battery Handle Broken, Touch Screen not functioning, PTZ Molded Camera Housing, Radio Card, Robot Antenna, Cables,	~\$4,328

The ICORE Mini Caliber was purchased in 2019. The AVATAR was purchased prior to 2012, thus the outdated technology and the frequent repairs. The ICORE Mini Caliber is the newest robot in our Fleet and the one which is more frequently used.

## **Impacts**

### ***Reasonably anticipated impacts***

#### Deliberate misuse.

Though unlikely, it is possible that Robots and Pole Cameras may be deliberately misused by employees. Some of the ways that the Department attempts to prevent deliberate misuse is through background checks of prospective employees, supervision and training, strict policy guidelines, robust reporting and accountability practices, and discipline for deliberate misconduct up to and including termination. Suspected criminal misuse of equipment may also be forwarded to the District Attorney's office or other appropriate prosecuting agency for charging consideration.

#### Unintentional misuse.

Unintentional misuse of Robots and Pole Cameras may come in many forms, from unfamiliarity or lack of training to the encountering of a scenario that was not anticipated in training or policy. The Department attempts to prevent unintentional misuse through thorough training, clear policy prescriptions, and robust review processes such as force reports, force review boards, and pursuit review boards.

#### Perception of militarization or exacerbation of a police/community divide.

While it is not the intent of the Department that this occur, the Department does recognize the possibility that its use of Robots and Pole Cameras may lead to a perception of militarization of the Department, or an exacerbation of any existing divides between the Department and the community it serves and is a part of. The Department attempts to overcome challenges such as this by taking full advantage of community forums required by policy and law (see for instance the mandated community engagement meeting in DGO K-07 and CA Government Code § 7072(b)), by completing full and robust reports such as this one, and by collaborating with the Police Commission in the creation of use policies and procedural safeguards surrounding this equipment.

#### Impact on persons and property.

The attachments on the robots, such as the tire puncture, window punch and pan disruptor are available for demobilizing vehicles, shattering a window and bypassing a bolt/locked door or destroying a package. Anytime these attachments are deployed in the field, there exists the possibility that the attachment may cause minor to serious injury to a person.

There is also the possibility of property damage and unintended property damage when the tire puncture, window punch and pan disruptor are deployed. When the tire puncture, window puncture and pan disruptor are deployed on property this does not constitute a use of force. However, there is an inherent possibility an injury can be caused when deploying such items when a person is nearby. This possibility exists and is remedied by training; ESU operators train bi-monthly and only ESU operators are allowed to prepare and deploy robots in the field.

The usage of the tire puncture will demobilize a vehicle and the usage of the window punch will shatter glass. There are also other external costs associated. The owner of said vehicle or property can request reimbursement for costs through the City Attorney's Office for property damages. Depending on the circumstances the City may reimburse an individual for damage to the property caused by the City. The process for obtaining reimbursement for property damage can be found on the Oakland City Attorney's website. Officers should also be mindful not to leave a demobilized vehicle in the field if it violates a parking zone or leave a vehicle or residence unsecured when utilizing the glass punch.

Several of our unhoused community also sleep in their vehicles due to multiple reasons. The usage of such items can also cause a hardship on these individuals.

The usage and deployment of the detachable OC also can cause minor to serious injury. OPD shall be aware of TB V-F.02 Chemical Agents as it relates effects, applications, exposure, reactions and injury.

## **Mitigations**

### ***Use of force and de-escalation policy - [DGO K-03](#)***

Controlled and military equipment frequently takes the form of a force option, or else is often used during high risk situations where force may be used. OPD, in concert with the Police Commission, created a state-of-the-art use of force policy that centers the Department's mission, purpose, and core principles, provides clear guidance that force is only allowed when reasonable, necessary, and proportional, and makes clear the consequences of unreasonable force. Additionally, OPD's use of force policy incorporates a robust de-escalation policy (Section C), which mandates that officers use de-escalation tactics and techniques in order to reduce the need for force when safe and feasible.

The entirety of this policy – which encapsulates OPD's values surrounding force and commitment to de-escalation – is a clear general procedural mitigation to the possible adverse impacts of the use of this equipment.

### ***Force reporting and review policy and practice – DGOs [K-04](#) and [K-04.1](#)***

Though the Department expects that every use of this equipment will be within the boundaries of policy and law, the Department also has clear procedures regarding force reporting and review in place. DGO K-04 and its attendant special orders require that force by officers – including force where controlled equipment was used – be properly reported and reviewed, with the level of review commensurate to the severity of the force incident. Additionally, for severe uses of force or where a use of force had severe outcomes, the Department utilizes Force Review Boards, led by top Department command staff and often attended and observed by Community Police Review Agency staff or Police Commission Chairs, to review every part of a force incident. These boards not only determine whether the force was proper, but also have wide latitude to suggest changes in policy, training, or practice, including with controlled equipment.

OPD's force reporting and review policies and practices serve as important procedural mitigations to the possible adverse impacts of the use of this equipment.

### ***Complaint receipt and investigation procedures – [DGO M-03](#)***

The use of controlled equipment, as with any use of the police powers, is subject to the rules and laws that govern the Department and its employees. Complaints and allegations that the Department or its employees have violated these rules or laws are treated with the utmost seriousness, including proper intake at the Internal Affairs Division and investigation by the appropriate investigative individual. Where allegations are found to be substantiated, the Department uses a progressive discipline structure to serve both deterrent and rehabilitative functions. Finally, deliberate misconduct or actions contrary to the Department's values are not tolerated, and can lead to termination of employment.

OPD's complaint receipt and investigation procedures serve as important procedural mitigations to the possible adverse impacts of the use of this equipment.

### ***Community outreach and specific inquiry pathways – [DGO K-07](#)***

Use of controlled equipment, especially equipment that may have analogues used by militaries or quasi-military federal law enforcement, can drive perceptions of a militarized police force that is pre-disposed to the use of force as opposed to thoughtful, deliberate resolutions to incidents using de-escalation and minimizing the use of force. An important procedural mitigation to this type of perception is regularly communicating with the community served, as a way for information to be shared in both directions. This serves to dispel common misconceptions as well as provide valuable perspective for the Department and its employees. OPD uses community outreach, such as social media, community events,

and a specific, annual community forum as required by DGO K-07. Additionally, OPD's overarching controlled equipment policy sets forth processes for inquiries about the equipment.

### ***Equipment-specific use policy and Police Commission oversight - OMC 9.65***

While most every law enforcement agency is bound by state law (Government Code § 7070 et. seq.), the very nature of police oversight in Oakland provides one of the most powerful procedural mitigations of potentially adverse impacts. For instance, state law requires that most agencies have their controlled equipment use policies approved by their governing body (e.g., City Council, or Board of Supervisors). In the case of OPD, however, there is an additional layer of oversight in the Police Commission, which must review any controlled equipment use policy prior to it being approved by the City Council. This requirement, set forth in Oakland's municipal code section 9.65, is a procedural mitigation to the possible adverse impacts of the use of this equipment.

### ***Technical safeguards***

The Andros MarkV-A1 has an approximate top speed of 3.5mph while the Andros and ICOR have top speeds of approximately 2mph. All robots are controlled by remote and there is no GPS and no pre-designated or mapped routes. These robots are equipped with lights and camera. These safeguards are in place which decrease the possibility of injury to persons from being inadvertently having a portion of their body run over by the robot. It also decreases the possibility of property damage. Although likely and still possible, the low speeds prevent these injuries and property damages from occurring.

### ***Procedural safeguards***

OPD only allows ESU members, who have attended ESU training to operate robots and pole cameras. Officers must submit a letter of intent and go through a selection process prior to being selected to join the OPD ESU. Once selected, Officers must attend bi-monthly training and attend an OPD Basic Robot and Pole Camera Operators course, which is 40 hours. OPD ESU created this program in 2022 to educate new ESU operators with all the robots and pole cameras.

The utilization of the OC and pan disruptor have safety level/switches on the remote controller as an added safety function and prevent accidentally deployments. In addition, ESU Operators are familiar with TB III H Specialty Impact Munitions and apply the similar Safety Checks of clearing the barrel, having a second officer clear the barrel and inspecting the rounds to ensure the rounds are blank rounds and having a second officer inspect the rounds to ensure the rounds are blank rounds.

## **Alternatives**

### ***De-escalation and alternative strategies***

As mentioned in the Mitigations section, above, OPD officers are mandated to use de-escalation strategies and tactics when safe and feasible. These strategies and tactics, which are predicated on de-escalation best practices around communication, containment, positioning, and time/distance/cover, reflect the Department's commitment to de-escalation over the reliance on force to compel compliance.

However, even during de-escalation strategies and actions, controlled equipment may be used or ready to further a safe outcome to the event for the engaged person, the community, and the officers. Generally, a built-in alternative to the actual use of controlled equipment – especially as a force option – is its use as a tool to provide safety, information, or containment to an incident so that officers can bring the situation under control and hopefully encourage a peaceful outcome. This, in conjunction with other de-escalation or alternative strategies, provides a baseline for OPD officers in the conduct of their duties when using or contemplating the use of this controlled equipment.

Robots and pole cameras have been utilized by OPD tactical team since approximately 2011. In late 2018, the ESU Team Leader incorporated the robots and pole cameras with every day patrol calls. OPD officers in patrol or working field assignments, and having ESU training, would respond to calls to service and deploy robots and pole cameras to assist in critical incidents.

There are many different types of robot and pole camera products. Although several agencies now deploy UAVs, robots and pole cameras have not become obsolete. UAVs cannot open doors as a robot can. UAVs also may not fit in attic or basement entry ways where a pole camera can. Without such technology, the only alternative in most cases would be the need for an officer to place themselves in a location to physically see or hear. Without the real-time intelligence of a robot or pole camera some of the other options officers have are the following;

- air support (Argus, or outside agency), but depending on time, weather and personnel air support may not be available or delayed.
- OPD K-9's can be utilized, but without first clearing the area the risk of a bite (use of force) is escalated

- Officers can also use community support and contact a resident to have them look out a window which provides an additional vantage point. This has proven successful in the past but depending on circumstances this can place the resident in danger.

## **Location**

Robots and Pole Cameras will typically be used within the areas that OPD has jurisdiction or in areas of the State of California where OPD is specifically conducting operations or investigations. This includes the entirety of the City of Oakland, and may include neighboring jurisdictions or other areas within the State.

## **Third Party Dependence**

- This item does not require third-party actors for operation.
- This item does require third-part actors for operation:

## **Track Record**

Other agencies utilize robots and pole cameras similar to OPD. As mentioned, even though several agencies have adopted UAV Programs, their robot and pole camera usages have not gone obsolete. Other agencies do not have any robots or pole cameras, while others have severely outdated technology.

Santa Rosa Police Department have Avatar robots and deployed approximately ten (10) times in 2021. The San Francisco Police Department (SFPD) also has Avatar robots and the Andros Mark 5A-1. SFPD hosts a yearly maintenance course on the Andros, where a representative attend and assists in repairs, maintenance, mechanical and troubleshoot issues.

Robots and pole cameras places officers at a place of advantage for safety. The usage of use technology is paramount in the de-escalation of incidents and the mitigation in use of force. Without such technology, the only alternative in most cases would be the need for an officer to place themselves in areas where there is an unknown.



Below is a list of deployments in 2022.

*Table 1 below details the deployments of OPD Robots and Pole Cameras in 2022.*

**Table 1: 2022 OPD Robot and Pole Cameras Deployments**

<b>Incident Type</b>	<b>Number</b>
Mass casualty incidents	0
Disaster management	0
Missing or lost persons	0
Hazardous material releases	0
Sideshow events	0
Rescue operations	0
Training	18
Barricaded suspects	7
Hostage situations	1
Armed suicidal persons	1
Arrest of armed and/or dangerous persons	17
Service of high-risk search and arrest warrants	13
Exigent circumstances	0
<b>Total</b>	<b>57</b>
<b>Total Deployed Outside of Training</b>	<b>39</b>

The deployment of robots and pole cameras has assisted OPD in de-escalation and places the emphasis on “time”, “de-escalation” and “real-time intelligence” to bring incidents to a safe resolution. Several success stories on the deployment of robots and pole cameras have been:

- Locating suspects hiding in yards
- Locating suspects hiding in residences.
- Robots have been beneficial in climbing stairs, opening gates/doors and entering residences.
- The speaker and microphone have been successful in directing suspects to exit and surrender.

On March 28, 2022, OPD Ceasefire Officers followed armed suspects from San Francisco to 901 Filbert St (22-014673 LOP220328000794). The suspects committed an armed robbery in SF and then barricaded themselves inside their apartment complex. After manually breaching the front door, OPD ESU drove the robot into the apartment complex, opened the bedroom door and provided orders/directions to the suspects to exit the residence with their hands in the air. The suspects safely complied.

On September 14, 2022, Patrol units were flagged down regarding an armed unresponsive male inside a vehicle. Patrol units deployed the armored vehicles and formed a Designated Arrest Team (DAT). Numerous announcements were made but the subject was unresponsive. OPD UAV's were deployed and conducted a low-level flight to maintain visual of the subject and the firearm that was on his lap. OPD ESU ICOR was deployed and the robotic arm was used to open the vehicle door and later picked up the firearm from the subject's lap. The DAT moved up and later placed the subject into custody. The firearm was loaded with one round in the chamber RD#22-042263).