BALANCING THE CONSTITUTION, CIVILIANS, AND EMERGING TECHNOLOGY IN LAW ENFORCEMENT: A MODEL ACT FOR REGULATING POLICE ROBOTS

JAKE BERNSTEIN[†]

ABSTRACT

Advancements in artificial intelligence and robotics will cause robots to become integral to a flourishing society. The problem is that throughout history, the United States military and domestic law enforcement have been among the first adopters of advanced technology, which has many people concerned about whether local police officers should be permitted to use robots in the future. Too much freedom in deploying robots could lead to a loss of civil liberties for society, while too many restrictions could lead to an inflexible and antiquated law enforcement system. This Note proposes a novel solution in the form of a model Robot Act that jurisdictions can use as a foundation when addressing the problem of police robots through regulation.

The Robot Act permits certain authorized police officers to use robots only in three situations: (1) for training, (2) in high-risk, explosives-related incidents, and (3) in other high-risk, dangerous situations where there are no other reasonable alternatives. The Act's language—and the safeguards it inherently affords to civilians—strikes the proper balance between law enforcement's mission to protect public safety and society's interest in community-driven officers limited in their use of force, while also staying within the bounds of the Supreme Court's Fourth Amendment jurisprudence.

[†] Jake Bernstein received a J.D. from The George Washington University Law School in May 2025 and is currently employed by Paul Hastings LLP. The views expressed herein are solely the author's and do not necessarily reflect those of Paul Hastings or its clients. All statements or errors are the author's alone.

TABLE OF CONTENTS

INTRODUCTION 199

I. DEFINING ROBOTS AND UNDERSTANDING HT OW POLICE ACQUIRE THEM 202
A. What is a Robot? 202
B. How Do Police Officers Get Robots? 204

II. THE FOURTH AMENDMENT, EXCESSIVE FORCE, AND POLICE ROBOTS.....206
A. The Supreme Court's Excessive Force Cases 207
B. Excessive Force Claims Involving Police Robots.....208

III. THE POLICE ROBOT DEBATE AND CURRENT ATTEMPTS TO REGULATE THEM 211
A. The Arguments Supporting and Opposing Police Robots 211
B. Current Approaches: San Francisco, Rhode Island, and New York 214

IV. THE MODEL ROBOT ACT: A FOUNDATION FOR JURISDICTIONS SEEKING TO REGULATE POLICE ROBOTS.....217
A. Using Robots to Mitigate an Explosives-Related Incident 219
B. Using Robots in Other Dangerous Situations with No Reasonable Alternatives 220
C. Addressing the Interests of Police Robot Supporters and Opponents.....222

CONCLUSION.....223

INTRODUCTION

Over time, police officers in America acquire a growing arsenal of advanced weaponry as it trickles down from the military.[1] The weapons of yesterday were muskets and flintlock pistols.[2] The weapons of today are tasers, shotguns, machine guns, tear gas, and armored vehicles.[3] As the military continues to make significant investments in artificial intelligence and robotics,[4] society must pause to consider whether domestic law enforcement officers should use robots as the weapon of tomorrow.

The first time U.S. law enforcement used a robot to kill a civilian occurred in 2016 at a Black Lives Matter demonstration.[5] In Dallas, Texas, thousands of protestors were peacefully marching when Micah X. Johnson, a deranged military veteran, pulled the trigger of his semi-automatic rifle.[6] Johnson fired so many shots and created so much chaos that officials thought there were multiple shooters.[7] Five police officers were gunned down and seven others were wounded in the ambush.[8] Johnson then fled into a nearby parking garage, which resulted in a lengthy standoff.[9] As the shooter was lying, laughing, and singing to the fearful officers[10]—and threatening that he had planted multiple bombs—Dallas Police Chief David Brown ordered his SWAT team to deploy their military-grade, remote-controlled robot into the garage to eliminate the target.[11] Officers rigged the vehicle with a pound of C-4 explosives, and Johnson died immediately upon detonation.[12] In an interview, Police Chief Brown said he used the tool he believed was necessary to save his officers' lives[13] in what has been called "the deadliest single

---

[1] *See infra* Part II.

[2] *See Gun Timeline | History Detectives*, PBS, HTTPS://WWW.PBS.ORG/OPB/HISTORYDETECTIVES/TECHNIQUE/GUN-TIMELINE/ [https://perma.cc/Z9Z3-6XWP].

[3] Matthew Horace, *The Use of Military Assets by U.S. Police*, AM. POLICE BEAT (Oct. 22, 2023), https://apbweb.com/2023/10/the-use-of-military-assets-by-u-s-police [https://perma.cc/YLW3-6PPS]; Kanya Bennett, *365 Days and 605 Armored Military Vehicles Later: Police Militarization a Year After Ferguson*, ACLU (Aug. 7, 2015), https://www.aclu.org/news/criminal-law-reform/365-days-and-605-armored-military-vehicles-later [https://perma.cc/FS5G-DTQY]; Jordan B. Cohen, CONG. RSCH. SERV., R48365, *Law Enforcement Use of Less-than-Lethal Weapons: Considerations for Congress* (Jan. 23, 2025), https://www.congress.gov/crs_external_products/R/PDF/R48365/R48365.4.pdf [https://perma.cc/3SJA-VDHE].

[4] *See* Himanshu Joshi & Sonia Mutreja, *Military Robot Statistics 2030*, ALLIED MKT. RSCH., https://www.alliedmarketresearch.com/military-robots-market-A13130 [https://perma.cc/5F5A-LZQB] (last visited Oct. 16, 2025).

[5] Isabelle Taft, *Police Use of Robot to Kill Dallas Suspect Unprecedented*, *Experts Say*, TEX. TRIB. (July 8, 2016, 12:00 PM), https://www.texastribune.org/2016/07/08/use-robot-kill-dallas-suspect-first-experts-say [https://perma.cc/FDC5-Z6AK].

[6] Faith Karimi, Catherine E. Shoichet, & Ralph Ellis, *Dallas Sniper Attack: 5 Officers Killed, Suspect Identified*, CNN (July 9, 2016, 1:37 AM), https://www.cnn.com/2016/07/08/us/philando-castile-alton-sterling-protests [https://perma.cc/HXV6-DH7U].

[7] Manny Fernandez, Richard Pérez-Peña, & Jonah Engel Bromwich, *Five Dallas Officers Were Killed as Payback, Police Chief Says*, N.Y. TIMES (July 8, 2016), https://www.nytimes.com/2016/07/09/us/dallas-police-shooting.html [https://perma.cc/35WZ-RXVU].

[8] Karimi, *supra* note 6.

[9] *Id.*

[10] *Id.*

[11] Sara Sidner & Mallory Simon, *How Robot, Explosives Took Out Dallas Sniper in Unprecedented Way*, CNN (July 12, 2016, 8:50 AM), https://www.cnn.com/2016/07/12/us/dallas-police-robot-c4-explosives/index.html [https://perma.cc/5WYC-3VF9].

[12] *See* Kelly Dearmore, *7 Years After the July 7 Police Attacks in Dallas, 'Killer Robots' Aren't Very Active*, DALLAS OBSERVER (July 7, 2023), https://www.dallasobserver.com/news/7-years-after-the-july-7-attack-killer-robots-arent-very-active-16962729 [https://perma.cc/KUR8-6DXP].

[13] Sidner, *supra* note 11. The officers were not charged in this situation because the grand jury found their force to be justified. *See* Chris Kenning, *No Charges for Dallas Officers who Killed Sniper with Robot Bomb*, REUTERS (Jan. 31, 2018, 7:38 PM), https://www.reuters.com/article/us-texas-crime/no-charges-for-dallas-officers-who-killed-sniper-with-robot-bomb-idUSKBN1FK35W

incident for U.S. law enforcement since September 11, 2001."[14] Despite public fear that this event would open the police-robot floodgates due to its success and legality under Texas law, there have been no other newsworthy uses of killer police robots as of 2025.[15]

Eight years after the Dallas shootout, San Francisco received backlash for their attempt to regulate police robots.[16] The San Francisco Board of Supervisors ("SFBS") voted to approve an ordinance that permitted city police to deploy certain robots in extraordinary circumstances.[17] Specifically, officers could use robots if there was an imminent and substantial risk of loss of life to officers or the public and all other alternatives had been exhausted.[18] The SFBS justified it as a "last resort option" that enabled certain authorized officers to protect public safety in the event of a "terrorist attack or a mass shooting event."[19] Nonetheless, the ordinance's limitations were not enough as the SFBS reversed their decision after a mere week following outcry and protests from citizens and civil rights groups.[20] Critics convincingly argued that the policy would promote further militarization of law enforcement and result in the overuse of coercive force, especially against racial minorities.[21]

The militarization of law enforcement has been a prolonged issue in the United States. Historically, the military and local police departments have a close relationship. The latter is greatly influenced by the former.[22] Since 1996, local police departments have been receiving weapons passed down from the Pentagon.[23] Through the Department of Defense's 1033 Program, over "10,000 jurisdictions have received more than $7 billion of equipment" including "combat vehicles, rifles, military helmets,"[24] crowd-control weapons, and unmanned ground robots.[25] As manufacturers ramp up the development and production of robots, commentators are increasing their scrutiny of the 1033 Program and echoing the concerns of police militarization critics.[26]

[https://perma.cc/2FB2-93MQ].

[14] Karimi, *supra* note 6.

[15] *See It's Simply Too Dangerous to Arm Robots*, ACLU, https://www.aclu.org/news/privacy-technology/its-simply-too-dangerous-to-arm-robots [https://perma.cc/FT3V-CZ44] (last visited Oct. 16, 2025); Taft, *supra* note 5.

[16] *See* Daniella Silva, *San Francisco Vote to Allow Police Use of Deadly Robots Spurs Concerns and Outrage*, NBC NEWS (Dec. 2, 2022, 6:12 PM), https://www.nbcnews.com/news/us-news/san-francisco-vote-allow-police-use-deadly-robots-spurs-concern-outrag-rcna59841 [https://perma.cc/N8XQ-TCKP].

[17] *Id.*

[18] *Id.*

[19] *Id*.

[20] *See* James Vincent, *San Francisco Reverses Plans to Allow Police Robots to Kill Suspects*, THE VERGE (Dec. 7, 2022, 6:20 AM), https://www.theverge.com/2022/12/7/23497922/killer-robot-policy-san-francisco-reversed [https://perma.cc/H9MN-725D].

[21] Jennifer Tu & John Lindsay-Poland, *Lessons from San Francisco's Killer Robot Debate*, ACLU OF N. CAL. (Dec. 20, 2022), https://www.aclunc.org/blog/lessons-san-francisco-s-killer-robot-debate [https://perma.cc/6C93-XMVZ].

[22] *See* Elizabeth E. Joh, *Policing Police Robots*, 64 UCLA L. REV. 516, 528 (2016) (describing the military and domestic law enforcement's close relationship such as similar bureaucratic hierarchical structures, ranks, recruiting, and metaphors).

[23] Charlotte Lawrence, *Federal Militarization of Law Enforcement Must End*, ACLU (May 12, 2021), https://www.aclu.org/news/criminal-law-reform/federal-militarization-of-law-enforcement-must-end [https://perma.cc/38KJ-ZXGZ].

[24] *Id.*

[25] *See generally Lethal in Disguise: The Health Consequences of Crowd-Control Weapons*, ACLU (Mar. 8, 2016), https://www.aclu.org/report/lethal-disguise-health-consequences-crowd-control-weapons [https://perma.cc/J4U2-KHBD]; Dan Gettinger & Arthur Holland Michel, *Law Enforcement Robots Datasheet*, CTR. FOR THE STUDY OF THE DRONE (July 2016), https://dronecenter.bard.edu/files/2016/07/LEO-Robots-CSD-7-16-1.pdf [https://perma.cc/JT2J-R3E4].

[26] *See* Lawrence, *supra* note 24.

Despite the scrutiny, the Supreme Court has never declared that local police officers' use of a particular military technology to inflict physical force is per se prohibited by the Constitution because excessive force claims are analyzed under the Fourth Amendment's reasonableness standard.[27] This is a case-by-case approach that requires courts to assess what a reasonable officer would have done in the same situation as the officer in question by considering the totality of the circumstances.[28] Because the use of a specific weapon is not a dispositive factor, it is unclear whether the Supreme Court is likely to hold that a police officer's use of a robot to inflict force constitutes excessive force in violation of the Fourth Amendment. Thus, due to that uncertainty and the inevitable disparity to be found in the lower courts, lawmakers must proactively address the issue of police robots.

However, proactivity alone might not solve the problem because state and local agencies regulate police departments in an ad hoc and decentralized manner, which will result in a wide range of approaches concerning the use of robots.[29] This is already happening. In addition to the San Francisco ordinance, New York and Rhode Island state legislators proposed police robot laws in 2023.[30] New York senators are pushing to ban police robots completely, while Rhode Island senators are pushing to permit police robots to be used only in extraordinary circumstances.[31] Although certain aspects of these approaches are compelling, neither has longevity in a technologically advancing United States.

The policy reversal in San Francisco is instructive on at least one point: a balance must be struck between law enforcement's mission to protect public safety by maintaining law and order, society's interest in community-driven officers that are limited in their use of force, and the Supreme Court's guidance on excessive force. This Note proposes a model Robot Act that aims to strike that balance through timeless and precise definitions, broad prohibited uses, and specific permitted uses only in justifiable circumstances.

Part II of this Note provides a general description of robots, including a brief historical overview and a definition of the robots discussed herein. Part II also describes robots in the context of the United States military and how military technology makes its way to local police departments. Part III explains the constitutional framework that applies when assessing whether a police officer's use of force is excessive. Following a brief description of the Supreme Court's guidance on excessive force derived from Fourth Amendment jurisprudence, Part IV applies that guidance to future situations courts will face when police officers use a robot to inflict physical force upon a civilian. Finally, Part V introduces the arguments supporting and opposing police robots and delivers a model Robot Act that lawmakers can use as a foundation when drafting their

---

[27] *See* Graham v. Connor, 490 U.S. 386, 388 (1989).

[28] *Id.* at 388.

[29] *See* Joh, *supra* note 22, at 540.

[30] *See infra* Part IV. Both laws remain pending as of November 2025. *See supra* notes 168, 174. Even if there is a decision after publication of this Note, other jurisdictions should use the model Robot Act as a foundation to strike the proper balance between the Constitution, civilians' rights, and emerging technology in law enforcement.

[31] *Id.*

own regulations. Ultimately, this Note determines that police robots are not per se unconstitutional, but because lower courts will have trouble applying the Supreme Court's current guidance, an appropriate police-civilian balance must be struck through regulations like the proposed Robot Act.

I. DEFINING ROBOTS AND UNDERSTANDING HT OW POLICE ACQUIRE THEM

Lawmakers who seek to regulate police robots must understand the current state of advanced technology and what it may look like in 5, 10, or 20 years. Robots are unique because they come in many forms: assembly line machines at a Ford factory,[32] the Mars Rover,[33] and Optimus Prime from the Transformers movie franchise,[34] to name a few. They are also experiencing rapid advancement: Boston Dynamic's Atlas is a humanoid robot with "whole-body mobility" and "real-time perception" systems, a machine that was impossible a decade ago.[35] Because robots are hard to define and constantly developing, regulations that govern their use must have precise and timeless definitions. Not only could a poorly worded law become outdated after a few years, but it may permit officers to use robots in such a way that would give rise to excessive force claims in violation of the Fourth Amendment. For those reasons, this Part begins by defining what a robot is and then explains how police officers get them.

A. What is a Robot?

The consensus among experts is that "robots are mechanical objects that take the world in, process what they sense, and in turn act upon the world." In other words, robots are machines that can sense, think, and act.[36] Robots *sense* through sensors that collect data about their environment, *think* through an algorithm that interprets the sensory data and decides on an action, and *act* by sending a set of instructions to their actuators to perform the action.[37] Tesla's autopilot vehicles are illustrative: Teslas have several sensors that can detect cars and other moving objects, enabling them to automatically steer within a lane, change lanes, manage speed, and notify the driver when they should take over.[38] This "sense, think, act" definition of robots is broad enough to accurately cover machines from the complex T-800 in Terminator[39] to the simple Roomba in a local Best

---

[32] *See* Sheena McKenzie, *Rise of the Robots: The Evolution Ford's Assembly Line*, CNN (Apr. 29, 2015, 5:41 AM), https://money.cnn.com/gallery/technology/2015/04/29/ford-factory-assembly-line-robots/index.html [https://perma.cc/EDA2-MRAX].

[33] *See* Mars Curiosity Rover, NASA SCI., https://mars.nasa.gov/msl/spacecraft/rover/summary [https://perma.cc/WJE6-LUE4] (last visited Oct. 16, 2025).

[34] *See Optimus Prime*, FANDOM, HTTPS://MICHAELBAYSTRANSFORMERS.FANDOM.COM/WIKI/OPTIMUS_PRIME [https://perma.cc/XCV3-FXTP] (last visited Oct. 16, 2025).

[35] *Atlas and Beyond: The World's Most Dynamic Robots*, BOSTON DYNAMICS, https://bostondynamics.com/atlas/ [https://perma.cc/UWZ3-SYT6] (last visited Oct. 16, 2025).

[36] Ryan Calo, *Robotics and the Lessons of Cyberlaw*, 103 CALIF. L. REV. 513, 529 (2015).

[37] *See* JIEFEI WANG & DAMITH HERATH, FOUNDATIONS OF ROBOTICS: A MULTIDISCIPLINARY APPROACH WITH PYTHON AND ROS 178 (Damith Herath & David St-Onge eds., 2022).

[38] *See* Cadie Thompson, *Here's How Tesla's Autopilot Works*, BUS. INSIDER (July 1, 2016, 12:01 PM), https://www.businessinsider.com/how-teslas-autopilot-works-2016-7#while-autopilot-can-do-most-of-the-driving-while-cruising-down-the-highway-drivers-should-always-keep-their-hands-on-the-wheel-8 [https://perma.cc/7WCJ-5FHL].

[39] *See T-800 (Original Timeline)*, FANDOM, https://terminator.fandom.com/wiki/T-800 [https://perma.cc/ZKD9-PP3B] (last visited Oct. 16, 2025).

Buy.[40] However, it is too broad to use for drafting an effective regulation.

Michael Sinclair's article, *Proposed Rules to Determine the Legal Use of Autonomous and Semi-Autonomous Platforms in Domestic U.S. Law Enforcement*, provides insight that helps narrow the breadth of the definition of robots.[41] Within the broad "sense, think, act" definition, there are remotely operated, semi-autonomous, and fully autonomous robots.[42] A key factor in remotely operated and semi-autonomous robots is that there is a human "in the loop" who either directly controls the machine or monitors and adjusts it as sensors transmit feedback.[43] Fully autonomous robots can function without any human input and independently react to changing stimuli in their environment.[44] Such robots are far from abundant in society and their use poses a unique set of complex issues.[45] Accordingly, this Note focuses on remotely operated and semi-autonomous robots because they are a realistic adoption for law enforcement.

First, Sinclair defines a remotely operated robot as a device that feeds information to an operator who then directly controls the device by maneuvering it and using its tools equipped to interact with the environment.[46] An example of this type of robot is the DJI Mavic 3 Pro: a commercial, remote-controlled drone capable of taking high-resolution photos of wildlife or architecture within a range of 5 miles from its operator.[47] Second, Sinclair defines a semi-autonomous robot as a device whose operation is shared between a human and the robot's onboard computer, meaning the operator monitors the robot's movement and can deploy its equipped tools, but the robot is "smart" and has the capability to perform autonomous movements.[48] An example of this type of robot is the Air Force's MQ-9 Reaper drone, which has autonomous take-off, landing, and waypoint capabilities, but also allows a team of operators to control sensors and guide weapons remotely.[49]

Hereafter, this Note characterizes remotely operated and semi-autonomous machines simply as "robots," both for the reader's ease and because doing so has a negligible effect on the

---

[40] *See iRobot - Roomba 694 Wi-Fi Connected Robot Vacuum - Charcoal Grey*, BEST BUY, https://www.bestbuy.com/site/irobot-roomba-694-wi-fi-connected-robot-vacuum-charcoal-grey [https://perma.cc/95EE-VSNG] (last visited Oct. 16, 2025).

[41] *See generally* Michael R. Sinclair, *Proposed Rules to Determine the Legal Use of Autonomous and Semi-Autonomous Platforms in Domestic U.S. Law Enforcement*, 20 N.C. J. L. & TECH. 1 (2018).

[42] *See id.* at 10.

[43] *Id.* at 14.

[44] *Id.* at 15.

[45] *See generally* Aarian Marshall, *Delivery Robots Aren't Ready—When They Could Be Needed Most*, WIRED (Apr. 28, 2020, 8:00 AM), https://www.wired.com/story/delivery-robots-arent-ready-when-needed-most [https://perma.cc/G3FC-AFMH]; Joann Muller, *Delivery Robots Aren't Quite Ready to Roll*, AXIOS (Sep. 6, 2022), https://www.axios.com/2022/09/06/delivery-robots-study [https://perma.cc/4NKF-586P]; Joe McKendrick & Andy Thurai, *AI Isn't Ready to Make Unsupervised Decisions*, HARV. BUS. REV. (Sep. 15, 2022), https://hbr.org/2022/09/ai-isnt-ready-to-make-unsupervised-decisions [https://perma.cc/N9FG-YQQ8].

[46] *See* Sinclair, *supra* note 41, at 14.

[47] *See DJI Mavic 3 Pro*, DJI, https://www.dji.com/mavic-3-pro [https://perma.cc/ZVT9-PRX6].

[48] *See* Sinclair, *supra* note 41, at 14–15.

[49] *See* Prajesh Majumdar, *The Cutting-Edge Details of the General Atomics MQ-9 Reaper UAV (2023)*, MEDIUM (June 25, 2023), https://medium.com/@avipra303/the-cutting-edge-details-of-the-general-atomics-mq-9-reaper-uav-2023-9b2ce9795727 [https://perma.cc/V9G4-SQ89].

analysis and recommendations.[50] Thus, a "robot" is a machine that can collect information, process it, and use it to act upon the world, and is operated either remotely or semi-autonomously by a human.

B. How Do Police Officers Get Robots?

Historically, the military has had a strong influence on local law enforcement: police departments have a militarized organizational structure and ranking system (e.g., lieutenants, sergeants, captains, and officers), recruit from the military, [51] and adopt surveillance tactics used in the military (e.g., surveillance camera networks and real-time location tracking).[52] In addition, police departments receive equipment directly from the military. Military-grade flash-bangs, tear gas, rubber bullets, and armored vehicles have made appearances at protests across the country.[53] The robot used in the 2016 Dallas shootout was a $151,000 military-grade Unmanned Ground Vehicle ("UGV") manufactured by Northrop Grumman,[54] the fourth biggest U.S. defense contractor.[55] Accordingly, it is helpful to understand the current state of military technology because that is what police officers will acquire in the future.

The category of military robots most relevant to this Note is the tactical robot, which includes the Dallas UGV robot.[56] Tactical robots are aerial or ground machines designed for specific field operations,[57] such as—in the context of the military—"Improvised Explosive Device ("IED") inspection, object manipulation, remote surveillance, security and patrolling, and bomb detection."[58]

A typical UGV robot is a small metal vehicle with a manipulator arm that extends several feet vertically and horizontally, a set of tires or tracks that enable it to climb stairs or drive over rough terrain, and advanced technology like high-definition cameras and two-way audio systems.[59] UGV robots are often used in situations where there is a high-risk of human death, such as responding to a bomb threat.[60] The opening sequence of the 2008 war film, The Hurt Locker,

---

[50] Nonetheless, the previous paragraph is useful because it provides a clear definition and example of the two types of robots the term "robots" includes. Lawmakers seeking to regulate autonomous robots should seek further guidance.

[51] *See* Joh, *supra* note 22, at 528; *see generally* Julian Go, *The Imperial Origins of American Policing: Militarization and Imperial Feedback in the Early 20th Century*, 125 AM. J. SOCIO. 1193 (2020).

[52] *See Street Level Surveillance*, ELEC. FRONTIER FOUND., https://sls.eff.org/?page=5 [https://perma.cc/YN8F-JZ6R].

[53] *See* Juhohn Lee, *How Police Militarization Became an Over $5 Billion Business Coveted by the Defense Industry*, CNBC (July 9, 2020, 11:53 AM), https://www.cnbc.com/2020/07/09/why-police-pay-nothing-for-military-equipment.html [https://perma.cc/FLM3-UGNZ].

[54] *See* Sidner, *supra* note 11.

[55] *Top 100 for 2023*, DEFENSENEWS, https://people.defensenews.com/top-100/ [https://perma.cc/D8W2-B35L] (last visited Oct. 16, 2025).

[56] *See* Zachary A. Kaplan, *R2D2 or iRobot: Can Armed Robots be a Friend to Police Without Being a Foe to the Public?*, 32 NOTRE DAME J.L. ETHICS & PUB. POL'Y 603, 606 (2018).

[57] *See* Sudi Bruni, *Company's Mid-Sized Interoperability Profile-Compliant Unmanned Ground Vehicle Offers Affordability and Versatility with Extraordinary Mobility*, NORTHROP GRUMMAN (Sep. 25, 2017), https://news.northropgrumman.com/news/releases/northrop-grumman-remotec-introduces-next-generation-multifunction-multimission-robot.

[58] Kaplan, *supra* note 56, at 607.

[59] *See Andros Spartan Unmanned Ground Vehicle System*, PERATON REMOTEC, https://www.peraton.com/wp-content/uploads/2020/10/2021_DS_PERATONREMOTEC_ANDROS_SPARTAN.pdf [https://perma.cc/L7BG-67NH].

[60] *See* David Miller, *The Future of Unmanned Ground Systems in the Operational Environment*, U.S. ARMY (Aug. 20, 2020), https://www.army.mil/article/238342/the_future_of_unmanned_ground_systems_in_the_operational_environment

illustrates how these machines are used to identify bombs: as soldiers usher civilians away, an operator steers a remote-controlled UGV towards a roadside pile of garbage and uses the robot's manipulator arm to remove a cloth sheet, revealing a high-explosive missile.[61] In these situations, UGV operators will then either diffuse the bomb using the robot's precision tools or perform a controlled detonation.[62]

The airborne equivalent of UGV robots is the Unmanned Aerial Vehicle ("UAV"). This Note focuses on a subgroup of UAVs called a Small Unmanned Aircraft System ("sUAS") to address the most common types of robots used by law enforcement. A sUAS is a drone that has cameras, rotors, and a remote control.[63] The military uses these robots primarily for surveillance;[64] however, some sUAS robots are weaponized.[65] This Note limits its discussion of sUAS robots to those capable of inflicting physical force because surveillance drones raise a different, complex set of issues under the Fourth Amendment.

Local law enforcement acquires the military-grade UAVs and UGVs discussed above through federal funding and a trickle-down system. First, law enforcement receives significant funding from the Department of Homeland Security's Federal Emergency Management Agency in the form of federal grants—more than $25 billion since 9/11.[66] Using that money, police departments have purchased advanced technologies such as a $72,000 submarine robot,[67] a $285,000 armored vehicle,[68] and a $920,000 upgrade to cell phone tracking technology.[69]

Second, law enforcement receives military equipment from the Department of Defense's

---

[https://perma.cc/9CWW-ZWTB]; Joydeep Bhattacharyya and Paras Sharma, *Unmanned autonomous military ground vehicles: overcoming deployment challenges and enhancing military efficiency*, TRANSFORMA INSIGHTS (Feb. 14, 2025), https://transformainsights.com/blog/unmanned-autonomous-military-ground-vehicles-deployment [https://perma.cc/P8YC-588U]; *Unmanned Vehicles Could Lead the Way in Dangerous Rescue Situations*, U.S. DEP'T OF HOMELAND SEC. (June 9, 2022), https://www.dhs.gov/science-and-technology/news/2022/06/09/feature-article-unmanned-vehicles-could-lead-dangerous-rescue-situations [https://perma.cc/WY7C-96BZ].

[61] *See* THE HURT LOCKER (Warner Bros. 2008).

[62] *See* Simon Burge, *What is Explosive Ordnance Disposal (EOD)?,* INT'L SECURITY J. (Aug. 15, 2025), https://internationalsecurityjournal.com/explosive-ordnance-disposal/ [https://perma.cc/56J8-QBJC] (explaining that EOD technicians either defuse bombs by disabling firing mechanisms or perform controlled detonations).

[63] *See* Joshua Skovlund, *How Small Drones Changed Modern Warfare*, TASK & PURPOSE (Sep. 22, 2023), https://taskandpurpose.com/tech-tactics/small-drones-military-warfare [https://perma.cc/RFZ4-PLG6].

[64] *Id.*

[65] For a few examples of weaponized sUAS robots, see Kelsey D. Atherton, *Everything to Know About Switchblades, the Attack Drones the US Gave Ukraine*, POPULAR SCI. (July 31, 2023, 4:44 PM), https://www.popsci.com/technology/switchblade-drones-explained/ [https://perma.cc/3VCP-Y6NX] (the Switchblade 300 is a "flying camera robot with an explosive inside"); *Axon Announces TASER Drone Development to Address Mass Shootings*, AXON PRESS RELEASES (June 2, 2022), https://investor.axon.com/2022-06-02-Axon-Announces-TASER-Drone-Development-to-Address-Mass-Shootings [https://perma.cc/QA8X-UBX8] (Axon is developing a non-lethal drone. Equipped with an electric Taser).

[66] *See Homeland Security Grant Program*, FEMA, https://www.fema.gov/grants/preparedness/homeland-security [https://perma.cc/7TJS-8SCJ] (last visited Nov. 21, 2023).

[67] *See* The Baltimore Sun, *Maryland Police to Buy $72,000 Robot for Underwater Searches*, AP NEWS (July 18, 2018), https://apnews.com/cd4f3e837e44446aa94a5df2dcb3d657 [https://perma.cc/YQ4B-4A2L].

[68] *See* Christopher Cartwright, *The BearCat Decade: Analyzing Use of Keene's Armored Vehicle Since 2012*, THE KEENE SENTINEL (June 20, 2023), https://www.sentinelsource.com/news/local/public_safety/the-bearcat-decade-analyzing-use-of-keenes-armored-vehicle-since-2012/article_d9d9954a-96d6-5a7e-9655-8c53432bfec7.html [https://perma.cc/C83W-R9MA].

[69] *See* David Collins, *BOE Approves $920k for Baltimore Police to Upgrade Cell-Site Simulator Technology*, WBALTV (Aug. 24, 2022, 5:24 PM), https://www.wbaltv.com/article/cell-site-simulator-technology-baltimore-police/40981452# [https://perma.cc/8BAK-JJP7].

("DoD") Defense Excess Property Program, or the "1033 Program."[70] The 1033 Program allows the DoD to transfer excess military property to over 17,000 law enforcement agencies free of charge, with the condition that they be used within twelve months of acquisition.[71] Thus, 1033 "not only makes military-grade robots readily available to law enforcement agencies, but it incentivizes them to put such technology to use."[72] Since 9/11, more than $1.6 billion of surplus military equipment has been transferred to police departments: assault rifles, grenade launchers, bayonets, helicopters, battle uniforms, electric wire, and bomb-detonator robots.[73]

Importantly, manufacturers design UAV and UGV tactical robots for field operations, so police departments can order robots "specially configured" for any given purpose or with modular systems.[74] Critics of the SFBS police robot ordinance emphasized that although most of SFPD's robots are "used for defusing bombs or dealing with hazardous weapons," their newer UGV robots "have an optional weapons system," potentially giving the department access to various lethal tools. For example, a single SFPD UGV robot can hold various weapons, including "grenade launchers, machine guns, or even a 0.50 caliber anti-material rifle."[75] Thus, even if a police department chooses not to use a lethal robot, the option will always be available.

It follows that because police officers have robots, most of which are capable of inflicting force, there may be situations like in Dallas where officers deploy a robot to neutralize an active criminal threat. In those situations—where officers use physical force against a civilian—the Constitution governs.

II. THE FOURTH AMENDMENT, EXCESSIVE FORCE, AND POLICE ROBOTS

The Fourth Amendment protects people from unreasonable searches and seizures by the government.[76] A seizure occurs either when a police officer intentionally uses physical force—no matter how slight and "whether or not it succeeded in subduing the arrestee"—or a person submits to an officer's "'show of authority' to restrain the subject's liberty."[77] For example, in the context of robots, a seizure occurs when a police robot uses a weapon to inflict physical force on an arrestee or a robot's threatening presence convinces an arrestee to surrender. A Fourth Amendment violation only arises if the police robot's seizure is unreasonable, such as seizing a person using

---

[70] Kaplan, *supra* note 56, at 609.

[71] *See id.* at 610.

[72] *Id.* at 610.

[73] *See* Talib Visram, *Eliminating This Federal Program Would Play a Major Part in Demilitarizing the Police*, FAST CO. (June 8, 2020), https://www.fastcompany.com/90513061/eliminating-this-federal-program-would-play-a-major-part-in-demilitarizing-the-police [https://perma.cc/P4D3-TW7V] (citing Arezou Rezvani, Jessica Pupovac, David Eads & Tyler Fisher, *MRAPs and Bayonets: What We Know About the Pentagon's 1033 Program*, NPR (Sep. 2, 2014, 6:09 PM), https://www.npr.org/2014/09/02/342494225/mraps-and-bayonets-what-we-know-about-the-pentagons-1033-program [https://perma.cc/PD46-ZB6N]).

[74] John Ingold, *Rifles, Mine-Resistant Vehicles, Robots: How Colorado Police Have Used a Federal Program to Stockpile Military Gear*, THE COLO. SUN (July 7, 2020, 3:00 AM), https://coloradosun.com/2020/07/07/colorado-police-military-equipment-protests/ [https://perma.cc/34SS-QETZ].

[75] Emma Roth, *San Francisco Police Consider Letting Robots Use 'Deadly Force,'* THE VERGE (Nov. 23, 2022, 6:57 PM), https://www.theverge.com/2022/11/23/23475817/san-francisco-police-department-robots-deadly-force [https://perma.cc/85AM-CS4A].

[76] *See* U.S. CONST. amend. IV.

[77] California v. Hodari D., 499 U.S. 621, 621–24 (1991).

excessive force. Thus, lawmakers seeking to regulate police robots must draft language with the Supreme Court's Fourth Amendment jurisprudence in mind because permitting officers to use robots in too many or unclear situations could result in excessive force claims. This Part begins with a summary of the Supreme Court's excessive force cases and then applies those rules to future lower court cases involving police robots.

A. The Supreme Court's Excessive Force Cases

The constitutionality of a police officer's use of force is governed by the standard articulated in *Graham v. Connor*.[78] In *Graham*, the Supreme Court rejected the lower courts' four-factor test that examined officers' subjective motivations in favor of an objective reasonableness inquiry.[79] The Court held that the question in all excessive force claims is "whether the officers' actions are 'objectively reasonable' in light of the facts and circumstances confronting them, without regard to their underlying intent or motivation."[80] Further, "the 'reasonableness' of a particular use of force must be judged from the perspective of a reasonable officer on the scene, rather than with the 20/20 vision of hindsight," and must account "for the fact that police officers are often forced to make split-second decisions about the amount of force necessary in a particular situation."[81] Although lower courts have criticized *Graham* for "'creating the [false] illusion of precision' and as being 'a comforting metaphor for judicial work' but unworkable in reality," it is the constitutional standard.[82]

Three factors can be extrapolated from the Court's *Graham* analysis.[83] The first factor is "the severity of the crime at issue," which has lower courts looking into the length of the possible jail sentence, whether the crime is a felony or misdemeanor, whether the crime is violent, and whether the suspect was dangerous.[84] The second factor is "whether the suspect poses an immediate threat to the safety of the officers or others," which places an emphasis on the officer's presence on the scene.[85] The third factor is "whether [the suspect] is actively resisting arrest or attempting to evade arrest by flight," which looks to the suspect's behavior in response to police conduct.[86]

The analysis does not change when an officer uses deadly force. In *Tennessee v. Garner*, a police officer shot and killed a 15-year-old who was fleeing from the burglary of an unoccupied house.[87] The Supreme Court held that deadly force "may not be used unless necessary to prevent

---

[78] 490 U.S. 386, 397 (1989).

[79] *See id.*

[80] *Id.* at 397.

[81] *Id.* at 387.

[82] Thomas Wanebo, *Remote Killing and the Fourth Amendment: Updating Constitutional Law to Address Expanded Police Lethality in the Robotic Age*, 65 UCLA L. REV. 976, 1000 (2018).

[83] *See id.* at 1001.

[84] Graham, 490 U.S. at 396; *See* Wanebo, *supra* note 82, at 1001.

[85] Graham, 490 U.S. at 396; *See* Kaplan, *supra* note 56, at 630.

[86] Graham, 490 U.S. at 396.

[87] *See* Tennessee v. Garner, 471 U.S. 1, 1 (1985).

the escape [of a fleeing suspect] and the officer has probable cause to believe that the suspect poses a significant threat of death or serious physical injury to the officer or others."[88] However, in *Scott v. Harris*, the Court rejected the argument that *Garner* "establish[ed] a magical on/off switch that triggers rigid preconditions whenever an officer's actions constitute 'deadly force.'"[89] Thus, all applications of force by police officers—deadly or not—must be "analyzed under the general reasonableness standard of *Graham v. Connor*[90]

B. Excessive Force Claims Involving Police Robots

Because courts have "rejected per se challenges to the use of specific devices or methods" in determining excessive force, the use of police robots will not be per se unconstitutional.[91] Instead, each excessive force claim that involves a police robot will be subject to the *Graham* objective reasonableness standard.[92] Lower courts must pay "careful attention to the facts and circumstances of each particular case"[93] and "take into account the 'totality of the circumstances' that bear on the use of force."[94]

As of this Note's publication, no court has adjudicated a police robot excessive force claim. However, after the 2016 Dallas incident, a grand jury declined to charge the officers who used an explosive-rigged robot to kill the deranged shooter, Micah X. Johnson.[95] The grand jury found that the officers' actions were justified under the extreme circumstances.[96] UCLA's Thomas Wanebo came to a similar conclusion in his article, *Remote Killing and the Fourth Amendment: Updating Constitutional Law to Address Expanded Police Lethality in the Robotic Age*. Using the *Graham* standard—and also proposing his own "Dallas test"[97]—Wanebo determined that the Dallas officers acted recklessly, but reasonably, in using a robot to kill Johnson. He concluded that Johnson, who gunned down numerous officers and made several bomb threats, posed an "imminent and 'immediate threat[']" to officers and nearby civilians and that the physical constraints of the structure Johnson was hiding in "made impractical any viable, nonlethal options for seizing [him]."[98] Although the grand jury and Wanebo agreed that the Dallas officers did not use excessive force in killing Johnson with a robot, it is but one set of facts. The issue of

---

[88] *Id.* at 3.

[89] Scott v. Harris, 550 U.S. 372, 382 (2007). The Supreme Court did not overturn *Garner* in *Scott*. *See id*.

[90] MICHAEL AVERY ET AL., POLICE MISCONDUCT: LAW AND LITIGATION § 2:19 (Nov. ed. 2023).

[91] *Id.*

[92] *See id.*

[93] *Graham,* 490 U.S. at 396.

[94] Avery, *supra* note 90.

[95] *See* Chris Kenning, *No Charges for Dallas Officers who Killed Sniper with Robot Bomb*, REUTERS (Jan. 31, 2018, 7:38 PM), https://www.reuters.com/article/us-texas-crime/no-charges-for-dallas-officers-who-killed-sniper-with-robot-bomb-idUSKBN1FK35W [https://perma.cc/U333-9XN3].

[96] *Id.*

[97] As explained by Wanebo, the Dallas test would be "most applicable in situations that do not involve Graham's presumptive split-second decisions, but rather where officers have time to contemplate their approach." Wanebo, *supra* note 82, at 1007. The Robot Act proposed in Part IV shares some of the principles articulated by Wanebo, such as the amount of time officers had in making a decision, whether other reasonable alternatives are available, and whether officers considered those alternatives. *See id*.

[98] Wanebo, *supra* note 82, at 1033.

consistently applying the *Graham* factors to future police robot cases persists.

The first *Graham* factor, "the severity of the crime at issue," and the third, "whether [the suspect] is actively resisting arrest or attempting to evade arrest by flight,"[99] are not likely to confuse lower courts. In fact, police robots may improve a court's ability to determine whether force was reasonable under these factors, especially when the robot is equipped with high-resolution cameras and sensors. Instead of relying on fallible human eyes and memory, courts could review how a police-civilian encounter developed from the robot's perspective to assist in a reasonableness inquiry.[100] Body cameras are illustrative: they "have significantly improved how officers capture evidence for investigations and court proceedings" and are inherently "more reliable" than an officer's testimony.[101] Ultimately, the first and third *Graham* factors do not require a face-to-face interaction between an officer and a civilian because the "severity of the crime" and "whether the suspect is actively resisting arrest" can be determined based on 9-1-1 calls, eyewitnesses, or observing a scene from afar or through a camera. It is the "inherent stress and pressure a human officer" encounters while on the scene of a crime that influences their decision to use force.[102] Notwithstanding the foregoing, an officer's failure to fully identify the subject, their behavior, and the threat they pose before deploying a robot could result in a complicated excessive force case because it will turn on whether the officer acted objectively reasonable. A regulation clearly stating when officers are permitted to deploy robots will avoid this problem.[103]

The second *Graham* factor concerns volatile face-to-face interactions and requires courts to determine "whether the suspect pose[d] an *immediate* threat to the safety of the officers or others" [emphasis added], coupled with the two considerations of examining "the perspective of a reasonable officer *on the scene*" [emphasis added] and "the fact that officers are often forced to make *split-second* decisions" [emphasis added].[104] This factor creates ambiguity in excessive force cases. Although Wanebo found that a sufficiently immediate threat existed in the Dallas situation—primarily because of Johnson's excessive gunfire, serious bomb threats, and refusal to surrender[105]—a reasonable jury could disagree.

The "immediate threat" factor becomes difficult to apply when the officer is physically removed from the scene—and the threat—but can reach it using a robot. For example, officers are

---

[99] *Graham*, 490 U.S. at 396.

[100] *See* Lance Whitney, *Are Computers Already Smarter Than Humans?*, TIME (Sep. 29, 2017, 10:09 AM), https://time.com/4960778/computers-smarter-than-humans.

[101] U.S. DEP'T OF JUST., IMPLEMENTING A BODY-WORN CAMERA PROGRAM: RECOMMENDATIONS AND LESSONS LEARNED 9 (2014), https://www.justice.gov/iso/opa/resources/472014912134715246869.pdf [https://perma.cc/A8W9-3TCV].

[102] Sinclair, *supra* note 41, at 63.

[103] *See infra* Section IV.B

[104] *See supra* notes 81, 85.

[105] *See* Wanebo, *supra* note 82, at 1024 (explaining how Johnson posed an immediate threat based on both his physical actions including his "shooting rampage" where he was "firing at every officer he could," and his verbal statements where he said "he intended to kill more people" and told the police "he had planted 'bombs all over the place and downtown.'"). There are also reports that "Johnson was bunkered in a building with fifty-eight students and college staff still inside," which provide further reason to believe Johnson posed an immediate threat to the officers and others. Kaplan, *supra* note 56, at 628.

likely to deploy robots into buildings to interact with potentially dangerous suspects. The first issue that arises is whether an officer is "on the scene" if he is standing outside, in relative safety, watching a live feed from a robot's camera. To answer that question, lower courts may draw arbitrary lines to determine the boundaries of being "on the scene," much like the Supreme Court's perplexing curtilage doctrine.[106] In *Florida v. Jardines*,[107] the Supreme Court held that the porch of a home is included in the curtilage, which means that when officers approach the front door of a home with a police drug-sniffing dog, they engage an unlawful search and intrude on the homeowner's constitutionally protected area.[108] "By ruling that the porch is included in the curtilage, the laws regarding the surrounding area of one's home have become even more ambiguous."[109] This is exemplified in the federal appellate courts' disagreement about whether "common areas of multi-unit dwellings" are constitutionally protected areas.[110] Similarly, courts may disagree about what it means for an officer to be "on the scene" and become forced to draw arbitrary lines, such as stating that officers within a certain number of yards of a suspect are on the scene or officers who are watching a live feed are never on the scene.[111]

Another issue that arises when officers deploy robots away from a scene is whether they can adequately determine if the suspect poses an "immediate threat" to the safety of officers or others.[112] It is unclear whether an officer who views a crime scene from a robot's live feed can feel the same "immediate threat" to their safety as an officer who confronts a suspect face-to-face.[113] The problem is that the remote officer cannot "use all five senses to absorb the surrounding facts and circumstances (i.e., lack of peripheral vision, depth perception, localization of sound, and sense of touch and smell)"[114] that are present in the "split-second decisions" contemplated by the Court.[115] Further, being physically removed from the scene makes using force easier, especially when the threat is simply a man on a screen.[116] Scholars compare operating a robot to playing a video game and note that it could have the effect of desensitizing robot operators.[117] Also, remote officers may have trouble interpreting whether a suspect's threats are serious. Understanding social nuances, such as lying or joking, is difficult without face-to-face interaction.[118] A regulation

---

[106] *See generally* Justin Shaw, T. Mark Frost, & Michael Stevens, *The Conundrum of the Curtilage: A Critical Interpretation of Florida v. Jardines*, 29 BYU PRELAW REV. 11 (2015); Carol A. Chase, *Cops, Canines, and Curtilage: What Jardines Teaches and What it Leaves Unanswered*, 52 HOUS. L. REV. 1289 (2015).

[107] Florida v. Jardines, 569 U.S. 1 (2013).

[108] *See* Shaw, *supra* note 106, at 123–24.

[109] *Id.* at 124.

[110] Chase, *supra* note 106, at 1306–09.

[111] Joseph Lanuti, *In the Officer's Omnipresence: Live Surveillance and Warrantless Misdemeanor Arrests*, 55 AM. CRIM. L. REV. ONLINE 29, 31–32 (2018), https://www.law.georgetown.edu/american-criminal-law-review/wp-content/uploads/sites/15/2021/10/55-0_Lanuti_IN_THE_OFFICERS_OMNIPRESENCE.pdf [https://perma.cc/3CSF-HS6E].

[112] *See supra* note 84 and accompanying text.

[113] *Id.*

[114] Kaplan, *supra* note 56, at 630.

[115] Graham v. Connor, 490 U.S. 386, 387 (1989).

[116] *See* Kaplan, *supra* note 56, at 630.

[117] *See, e.g.*, Kaplan, *supra* note 71, at 621–22.

[118] *See, e.g.*, Tim Brennen & Svein Magnussen, *Research on Non-Verbal Signs of Lies and Deceit: A Blind Alley*, 11 FRONTIERS PSYCH., at 2 (2020).

permitting qualified officers to use robots only after they identify an immediate and substantial threat with no reasonable alternatives will avoid many of these problems.

Whether or not the Dallas officers used reasonable force, future police robot situations will certainly raise complex questions. Officers will not have to make the "split-second decisions" that the Supreme Court has contemplated because robots add time and distance to the equation. Ultimately, the *Graham* standard is a "'notoriously opaque and fact-dependent' doctrine that has become difficult for courts to articulate and police to incorporate into their training,"[119] and that is true before robots are thrown into the mix. Without a clear regulation that specifies when officers are permitted to use robots, the number of excessive force claims will increase and lower courts will differ in their approaches.

III. THE POLICE ROBOT DEBATE AND CURRENT ATTEMPTS TO REGULATE THEM

Supporters and opponents of police robots make reasonably convincing arguments. Supporters argue that robots will increase law enforcement's effectiveness, efficiency, and safety. Opponents argue that robots will increase officer misconduct and militarization of police. Considering those two perspectives, there are many ways to draft police robot regulations; lawmakers in San Francisco, Rhode Island, and New York have already taken three different approaches. First, the San Francisco ordinance permitted officers to use non-lethal robots in almost every situation and lethal robots only in substantially threatening situations with no alternatives.[120] Second, a proposed Rhode Island Senate bill permits officers to use robots only in an explosives-related incident or to breach a barricade.[121] Third, a proposed New York Senate bill prohibits police officers from using robots in all situations.[122] Although certain aspects of these approaches may be effective, they do not adequately address the arguments supporting and opposing police robots. This Part begins by explaining what supporters and opponents of police robots argue and then summarizes the current attempts to regulate police robots.

A. The Arguments Supporting and Opposing Police Robots

Lawmakers must consider the social, public policy, and legal arguments supporting and opposing police robots. An effective police robot regulation should not only comply with the Supreme Court's Fourth Amendment guidance, but also balance the interests of all stakeholders—civilians and law enforcement. This Section highlights those stakeholders' strongest arguments.[123] Supporters of police robots argue that robots will increase law enforcement's effectiveness and

---

[119] Joh, *supra* note 22, at 526.

[120] *See Law Enforcement Equipment Policy*, CITY AND CNTY. OF S.F., https://sfgov.legistar.com/View.ashx?M=F&ID=11449771&GUID=9FC57C5A-6E68-4485-A989-632C3837B909 [https://perma.cc/5Y4L-KPCS] (last visited Jan. 28, 2024).

[121] *See* S. 409, Gen. Assemb., Jan. Sess. (R.I. 2023).

[122] *See* S. 3097, 2023–24 Reg. Sess. (N.Y. 2023).

[123] This Note only considers some of the arguments, opinions, and perspectives concerning the police robot debate. For more information, *see* Kaplan, *supra* note 56.

efficiency and reduce risk to human lives.[124] Opponents of police robots argue that police robots will increase misconduct, especially towards minorities, and contribute to the militarization of police.[125]

First, it should be no surprise that the law enforcement community—current officers, ex-officers, and supporters of officers—generally favors police robots.[126] The main argument is that police departments must equip their officers with cutting-edge technology to stay on pace with criminals who perpetually try to outsmart law enforcement.[127] Further, police robots will significantly increase officers' efficiency when investigating, pursuing, and deterring crime.[128] Police robots will have advanced crime-scene technology such as high-definition cameras, thermal vision, and other forensic tools.[129] These capabilities will greatly reduce the time and effort spent analyzing complex situations.[130]

In addition to being efficient, police robots will reduce the risk to human officers and save money.[131] Instead of sending human officers into unknown and dangerous situations like active shootouts, dark buildings, or bomb threats, officers could send robots. The 2016 Dallas incident is illustrative of a situation where a police robot saved numerous officers' and civilians' lives. Also, police robots with advanced crime-scene technology will reduce the need to employ as many officers, saving taxpayers' money.[132] One robot can serve many roles: performing a protective sweep of a building before officers enter, taking photos and collecting forensic data from crime scenes, and neutralizing a violent threat.[133]

Ultimately, supporters of police robots argue that robots' presence will enhance public safety.[134] In one real-world experiment, the City of Huntington Park in Los Angeles deployed a single surveillance police robot from June to December of 2019.[135] The city reported that the robot's presence resulted in a 10% decrease in calls for service, a 27% increase in arrests, a 46%

---

[124] *See infra* notes 126–136.

[125] *See infra* notes 137–150.

[126] *See State Your Case: Should Police be Permitted to Use Robots to Deliver Lethal Force?*, POLICE1 (Dec. 2, 2022, 1:05 PM), https://www.police1.com/police-products/police-technology/robots/articles/state-your-case-should-police-be-permitted-to-use-robots-to-deliver-lethal-force-K5Z7jsvccu1wHeiw/ [https://perma.cc/8JDT-KBTG].

[127] *See* Joh, *supra* note 22, at 534–35 (envisioning a future where "[a]n armed robot drug dealer could act as an autonomous vending machine able to defend itself against attack and destroy evidence in the event of discovery").

[128] *See* Sinclair, *supra* note 41, at 34.

[129] *Id.*

[130] *See How Robots Help Solve Crimes*, MINN. DEP'T OF PUB. SAFETY (Jan. 13, 2020), https://dps.mn.gov/blog/Pages/20200113-robotics-in-forensic-testing.aspx [https://perma.cc/DH4K-UD3W]; *Game-Changing Tactics, Welcome to the Age of Law Enforcement Robots,* KUSTOM SIGNALS, INC., HTTPS://KUSTOMSIGNALS.COM/BLOG/GAME-CHANGING-TACTICS-WELCOME-TO-THE-AGE-OF-THE-LAW-ENFORCEMENT-ROBOTS [https://perma.cc/3VVZ-BXMF].

[131] *See* Sinclair, *supra* note 41, at 29.

[132] *See* Sinclair, *supra* note 56, at 29.

[133] See John Ingold, *Rifles, Mine-Resistant Vehicles, Robots: How Colorado Police Have Used a Federal Program to Stockpile Military Gear*, THE COLO. SUN (July 7, 2020, 3:00 AM), https://coloradosun.com/2020/07/07/colorado-police-military-equipment-protests [https://perma.cc/K7ZP-RS5M].

[134] *See* Prathamesh Khedekar, *The 'Robotic Revolution' in Public Safety*, THE CRIME REP. (Apr. 14, 2022), https://thecrimereport.org/2022/04/14/the-robotic-revolution-in-public-safety/ [https://perma.cc/A3GU-BU4Z].

[135] *See Fighting Crime with Knightscope*, KNIGHTSCOPE, https://www.knightscope.com/crime [https://perma.cc/W7UC-5C42].

decrease in crime reports, and a 68% decrease in citations.[136] As the presence of robots increases, criminals may become hesitant to commit crimes; even if they do not, robots may prevent them from committing crimes at a higher rate.

However, just as police robots signal criminals to proceed with caution, they also signal to the public that law enforcement is permeating deeper into our lives. Generally, civilians are against the idea that police officers should be permitted to use robots.[137] The primary concern is that officer misconduct will increase when they gain access to more advanced, potentially dangerous technology.[138] Officers are already in the news for devasting racially motivated killings[139] and critics argue that robots and autonomous systems would make these killings easier, and therefore more common.[140] In fact, there is data to suggest that remotely operated and semi-autonomous robots will cause a "remote officer [to have] less empathy for the human target of mechanical violence."[141] Unlike officers on a crime scene, who have "better information about unfolding dangers and opportunities to de-escalate,"[142] officers viewing targets as abstract images on a screen lose the human connection, making "unethical . . . conduct easier to engage in."[143] This desensitizing effect, compounded with the "'shoot first, think later' police culture of today," could exacerbate the problems of police brutality and the use of "disproportionate excessive force against African-Americans."[144] Also, although beyond the scope of this Note, opponents cite various surveillance-related concerns because robots equipped with cameras will inevitably collect pictures, videos, and other data that infringe on the privacy of innocent civilians.[145]

Finally, opponents argue that police robots will contribute to the prolonged issue of the militarization of police. Law enforcement departments in America already "partner[] with the military to develop tactics, create specialized weapons and tactics (SWAT) units, and field[]

---

[136] *Id.*

[137] *See generally* Stanley, *supra* note 21.

[138] *See* David Berreby, *Can We Make Our Robots Less Biased Than We Are?*, N.Y. TIMES (Nov. 22, 2020), https://www.nytimes.com/2020/11/22/science/artificial-intelligence-robots-racism-police.html [https://perma.cc/B6VP-29JP].

[139] *See* Ernie Suggs, *The Michael Brown Killing: What You Need to Know*, THE ATLANTA J.-CONST. (Nov. 19, 2014), https://www.ajc.com/news/ferguson-brown-faq [https://perma.cc/RR3A-2FXY]; Amelia McDonell-Parry & Justine Barron, *Death of Freddie Gray: 5 Things You Didn't Know*, ROLLING STONE (Apr. 12, 2017), https://www.rollingstone.com/culture/culture-features/death-of-freddie-gray-5-things-you-didnt-know-129327 [https://perma.cc/Y32U-KTJU]; Evan Hill et al., *How George Floyd Was Killed in Police Custody*, N.Y. TIMES (May 31, 2020), https://www.nytimes.com/2020/05/31/us/george-floyd-investigation.html [https://perma.cc/YQ8T-XMVD]; Al Baker, J. David Goodman & Benjamin Mueller, *Beyond the Chokehold: The Path to Eric Garner's Death*, N.Y. TIMES (June 13, 2015), https://www.nytimes.com/2015/06/14/nyregion/eric-garner-police-chokehold-staten-island.html [https://perma.cc/EL24-M2F6].

[140] *See generally* Stanley, *supra* note 21; *c.f.* David Berreby, *Can We Make Our Robots Less Biased Than We Are?*, N.Y. TIMES (Nov. 22, 2020), https://www.nytimes.com/2020/11/22/science/artificial-intelligence-robots-racism-police.html https://perma.cc/H75Q-Q6EB] (explaining that "[m]any of today's algorithms are biased against people of color and others who are unlike the white, male, affluent and able-bodied designed of most computer and robot systems.").

[141] Matthew Guariglia, *Don't Let Police Arm Autonomous or Remote-Controlled Robots and Drones*, ELECTRONIC FRONTIER FOUNDATION (July 16, 2021), https://www.eff.org/deeplinks/2021/07/dont-let-police-arm-autonomous-or-remote-controlled-robots-and-drones [https://perma.cc/YW9J-849J].

[142] *Id.*

[143] Kaplan, *supra* note 56, at 621.

[144] *See* Avidan Y. Cover, *Reconstructing the Right Against Excessive Force*, 68 FLA. L. REV. 1773, 1773, 1775 (2016); *see also* Leah Wang, *New Data: Police Use of Force Rising for Black, Female, and Older People; Racial Bias Persists*, PRISON POLICY INITIATIVE (Dec. 22, 2022) https://www.prisonpolicy.org/blog/2022/12/22/policing_survey/[https://perma.cc/B6W2-K753].

[145] *See, e.g.,* Stanley, *supra* note 21.

increasingly deadly weapons."[146] If officers gain access to robots, it could put an even greater wedge between them and the community they are sworn to protect.[147] Further, although there is great "value in human interaction and community policing," robots' presence and use—and misuse—may increase the tension between civilians and officers.[148] This could cause distrust for the government and fear for the lives of innocent civilians.[149] Currently, there is "not enough data to determine how . . . effective robots are at preventing crime," so the public believes that the negatives of permitting police officers to use robots outweighs the positives.[150]

B. Current Approaches: San Francisco, Rhode Island, and New York

The Dallas incident was only a matter of time because regulations governing police robots were rare, if not non-existent.[151] For example, Dallas officers could use robots "on tactical operations to communicate with suspects and de-escalate situations through negotiations" or be deployed "inside areas that are deemed not secure."[152] Police Chief David Brown was able to execute his "on-the-fly the plan" because he was never explicitly told he could not use a robot to kill an active shooter or bomb threat.[153] After the incident, experts and legal scholars raised concerns that Dallas had set a precedent for routine lethal use of police robots;[154] however, there have been no newsworthy uses of lethal police robots since.[155]

In 2022, California passed Assembly Bill 481, requiring law enforcement agencies to "obtain approval of the[ir] applicable governing body, by adoption of a military equipment use policy," before purchasing military-grade weapons including robots.[156] Shortly after, the SFBS voted to approve an ordinance allowing the SFPD to use their 17 military-grade robots under

---

[146] Sinclair, *supra* note 41, at 49.

[147] *See* Rashawn Ray, *How 9/11 Helped to Militarize American Law Enforcement*, BROOKINGS (Sep. 9, 2021), https://www.brookings.edu/articles/how-9-11-helped-to-militarize-american-law-enforcement [https://perma.cc/FJR4-GXVT] (stating that "[r]esearch further documents that more militarized police departments are less likely to prevent crime or make local residents feel safer. [They] seem to ultimately harm the reputation of law enforcement.").

[148] *See* Sinclair, *supra* note 41, at 38.

[149] *See id.*

[150] *See* N'dea Yancey-Bragg, *Police Robots Are on Patrol. Now the Questions About Them Are Piling Up*, USA TODAY (Oct. 31, 2023, 5:05 AM), https://www.usatoday.com/story/news/nation/2023/10/31/nyc-police-robots-privacy-safety-concerns/71218199007 [https://perma.cc/4W7X-MY4S]; Police Robots: Preventing Crime Or Just 'Security Theater'?, NAT'L CRIM. JUST. ASS'N (Oct. 31, 2023), https://www.ncja.org/crimeandjusticenews/police-robots-preventing-crime-or-just-security-theater [https://perma.cc/XZT5-RSBA]

[151] *See supra* pp. 2–3.

[152] Dearmore, *supra* note 12.

[153] *See id.*

[154] *See* Camila Domonoske, *Dallas Shooting: In An Apparent First, Police Used A Bomb Robot To Kill*, NPR (July 8, 2016), https://www.npr.org/sections/thetwo-way/2016/07/08/485262777/for-the-first-time-police-used-a-bomb-robot-to-kill [https://perma.cc/3JGH-FSY6]; Brian Fung, *In an Apparent First, Dallas Police Used a Robot to Deliver Bomb That Killed Shooting Suspect*, WASH. POST (July 8, 2016), https://www.washingtonpost.com/news/the-switch/wp/2016/07/08/dallas-police-used-a-robot-to-deliver-bomb-that-killed-shooting-suspect/ [https://perma.cc/2J3C-DAMP]; Michael Liedtke & Bree Fowler, *Robot Used by Dallas Police to Kill Ambusher Opens Ethical Debate*, POLICE1 (July 30, 2025), https://www.police1.com/police-products/police-technology/robots/articles/robot-used-by-dallas-police-to-kill-ambusher-opens-ethical-debate-ekKvBAj3DlWagzB2/ [https://perma.cc/6JGP-7PTC].

[155] *See* Peter Weber, *The Rise and Regulation of Killer Police Robots*, THE WEEK (Dec. 2, 2022), https://theweek.com/san-francisco/1018852/lethal-police-robots [https://perma.cc/QXH9-TPQ9]; Alan Greenblatt, *The Rising Call for Regulating Police Robots*, GOVERNING (Mar. 7, 2025), https://www.governing.com/policy/the-rising-call-for-regulating-police-robots [https://perma.cc/GKE5-DENT].

[156] A.B. 481, 2021-2022 Reg. Sess. (Cal. 2022).

certain conditions.[157] The stated purpose of the robots was "to enhance the safety of the community and officers by providing ground support and situational awareness for law enforcement operations."[158] The ordinance permitted officers to use robots in "training and simulations, criminal apprehensions, critical incidents, exigent circumstances, executing a warrant or during suspicious device assessments."[159] The ordinance also permitted officers to use robots as a "deadly force option" only when "risk of loss of life to members of the public or officers is imminent and outweighs any other force option available."[160] Finally, only a select number of officers "who have completed the required training [were] permitted to operate the robots."[161] Despite the limitations imposed on using police robots, the SFBS reversed their decision after a mere week following protests from citizens and civil rights groups who voiced concerns about the militarization of police and racial injustice.[162]

From a constitutional standpoint, the ordinance is overly broad. Permitting officers to use robots in routine and subjective situations like "criminal apprehensions, critical incidents, exigent circumstances, [or] executing a warrant" gives too much freedom to officers.[163] The problem is not that using a robot in those situations always leads to excessive force, but that it leaves the occurrence of excessive force "at the unfettered discretion of officers in the field."[164] Just as using canines, tasers, and pepper spray in non-threatening situations constitutes excessive force because of those instrumentalities' inherently dangerous potential, an officer should not have the option to use a robot unless the situation calls for it.[165] There must be constitutional safeguards in place that decrease the possibility of excessive force situations from arising, such as a restriction on officers from using robots to arrest criminals, address dangerous situations, or execute routine warrants unless they have determined that there is a substantial threat to the safety of officers and the public and there are no reasonable alternatives.[166]

Since the San Francisco ordinance, at least two states have proposed noteworthy regulations: Rhode Island and New York. On February 16, 2023, Rhode Island SB409 ("RI Bill")

---

[157] *See Law Enforcement Equipment Policy*, CITY AND CNTY. OF SAN FRANCISCO, https://sfgov.legistar.com/View.ashx?M=F&ID=11449771&GUID=9FC57C5A-6E68-4485-A989-632C3837B909 [https://perma.cc/5Y4L-KPCS].

[158] *Id.*

[159] *Id.*

[160] *Id.*

[161] *Id.*

[162] The majority position was that "[r]obots should not be used to kill, subdue, push, constrain, or otherwise control or harm people" because, along with many other reasons, officers use excessive force in too many unjustified situations and do so "in a legal context that protects almost all officers from accountability." Stanley, *supra* note 19; *see also* Vincent, *supra* note 18.

[163] *Law Enforcement Equipment Policy*, CITY AND CNTY. OF SAN FRANCISCO, https://sfgov.legistar.com/View.ashx?M=F&ID=11449771&GUID=9FC57C5A-6E68-4485-A989-632C3837B909 [https://perma.cc/5Y4L-KPCS].

[164] Brown v. Texas, 443 U.S. 47, 51 (1979).

[165] *See, e.g.*, Cooper v. Brown, 844 F.3d 517 (5th Cir. 2016) (finding that an officer used excessive force when his canine attacked a DUI suspect because the suspect did not commit a violent crime, was unarmed, and was not resisting arrest); Boyd v. McNamara 74 F.4th 662 (5th Cir. 2023) (finding that an officer used excessive force when he repeatedly used a stun gun against a prisoner who was "neither threatening nor resisting"); Park v. Shiflett, 250 F.3d 843 (4th Cir. 2001) (finding that an officer used excessive force when he sprayed an unarmed and non-threatening woman twice from close range).

[166] *See infra* Section IV.b.

was introduced to the state's Senate by four Democratic senators.[167] The RI Bill, titled "Prohibition on the Use of Police Robot Technology," seeks to restrict the use of police robots to certain situations.[168] In its list of definitions, the RI Bill defines "robot" as an autonomous or remotely-operated machine that can "collect information, process it, and use it to act" and "weapon" as a "device designed to inflict death or serious physical injury."[169] The RI Bill prohibits officers from using, attempting to use, or threatening to use a robot armed with any weapon, unless the "robot is being used to mitigate an explosive-related incident or to breach a barricade."[170] Officers are also prohibited from using, attempting to use, or threatening to use a robot in any "physical manner that is substantially likely to cause death or serious physical injury," regardless if the robot is armed with a weapon.[171]

New York lawmakers have gone further by proposing a complete ban of police robots.[172] On January 27, 2023, New York Senate Bill S3097 ("NY Bill") was introduced to the state's Senate by two Democratic senators. The NY Bill is titled, "An Act to amend the executive law, in relation to prohibiting the use of robots by police agencies."[173] Senators justified the NY Bill by discussing current NYPD robots and the DoD's 1033 Program, and explained that military-grade robots "undermine[] trust, increase[] conflict, and impose[] significant monetary costs."[174] The NY Bill defines "robot" as an autonomous or remotely-operated machine that "senses, processes and acts" and "weapon" as a "device designed to inflict physical injury, including nonlethal injury."[175] The NY Bill then prohibits officers from using, attempting to use, or threatening to use a robot: (1) "armed with any weapon," (2) "in any manner that can potentially cause injury,

---

[167] S. 409, Gen. Assemb., Jan. Sess. (R.I. 2023). The RI Bill was postponed on June 6th, 2023, and as of November 2025, there has been no decision. *See Rhode Island Senate Bill 409*, LEGISCAN, https://legiscan.com/RI/bill/S0409/2023 (last visited Nov. 30, 2025).

[168] *Id*. Rhode Island law enforcement has used police robots in the past, such as when Providence police deployed a camera-equipped mobile robot to maintain surveillance on an active shooter during a dangerous standoff. *See* Tim White, *Police Used Robot, Armored Vehicle in Providence Gun Battle*, WPRI (Feb. 10, 2022, 6:10 PM), https://www.wpri.com/target-12/police-used-robot-armored-vehicle-in-providence-gun-battle [https://perma.cc/27DT-RL8D].

[169] R.I. S. 409, 2023 Leg., Reg. Sess. (R.I. 2023).

[170] *Id.*

[171] *Id.*

[172] Ironically, New York is no stranger to police robots. The New York Police Department ("NYPD") has tested many, including the Knightscope K5 "fully autonomous" security robot to monitor subway stations, aerial surveillance drones to check for large parties in backyards, and remote-controlled robot dogs for "reconnaissance" in dangerous situations. *See* Jeffrey C. Mays, *400-Pound N.Y.P.D. Robot Gets Tryout in Times Square Subway Station*, N.Y. TIMES (Sep. 22, 2023), https://www.nytimes.com/2023/09/22/nyregion/police-robot-times-square-nyc.html [https://perma.cc/6H4E-7Q3L]; Jake Offenhartz, *New York Will Use Drones to Monitor Backyard Parties This Weekend, Spurring Privacy Concerns*, AP NEWS (Aug. 31, 2023, 7:53 PM), https://apnews.com/article/drones-labor-day-eric-adams-nypd-jouvert-c2787e87bcad8fa87aa8d34b454ee6cf [https://perma.cc/Z7UA-RWZ3]; Emma Roth, *The NYPD is Bringing Back its Robot Dog*, THE VERGE (Apr. 11, 2023, 6:18 PM), https://www.theverge.com/2023/4/11/23679297/nypd-robot-dog-spot-surveillance-boston-dynamics [https://perma.cc/R3FE-SE6U]; Karen Matthews, *RoboCop? No, RoboDog: Robotic Dog Rejoins New York Police*, AP NEWS (Apr. 12, 2023, 9:07 AM), https://apnews.com/article/robot-dog-nypd-61bd64c94360e30f110f65626cc1687c. [https://perma.cc/C5AU-XRR3]. In September 2024, NYPD "spent nearly a quarter million dollars on "14 military-grade 'throw bots,'" which are "throwable micro-robot[s]" that can "move through structures or outdoor environments" and "provide[] operators with instant access to real-time video and audio." *See* Keely Quinlan, *NYPD buys 14 military-grade 'throw bots*,' STATESCOOP (Sept. 5, 2024), https://statescoop.com/nypd-buys-14-military-grade-throw-bots/.

[173] S. 3097, 2023–24 Reg. Sess. (N.Y. 2023). In January 2024, the NY Bill passed both houses of the New York State Legislature and is being referred to the Governor for approval or veto, and as of November 2025, there has been no decision. *See New York Senate Bill S03097*, LEGIPLEX, https://app.legiplex.com/ny/legislature/2023/2023-r/bills/s03097/activity (last visited Nov. 30, 2025).

[174] *Id.*

[175] *Id.* The NY Bill also defines "surveillance," but that is beyond the scope of this Note. *Id.*

regardless of whether or not the robot is armed with a weapon," or (3) "for surveillance purposes."[176] Unless officers are using a robot in a manner that has no potential to cause injury and is not observing or monitoring civilians, this regulation constitutes a ban on police robots.[177]

From a constitutional standpoint, the RI Bill and NY Bill seem permissible. Neither approach permits officers to use robots in ordinary situations. Further, although the RI Bill permits officers to use robots in explosives-related incidents or to breach barricades, no officer may use a robot in a manner that is likely to cause injury. Thus, the Bill contemplates no situation where an excessive force claim may arise because no robot can be used if it could physically injure a civilian. The same applies to New York's ban on police robots. However, the problem with these regulations is that they do not adequately address the arguments supporting police robots. As explained in the next Part, all regulations governing police robots should avoid language that results in an inflexible and antiquated law enforcement system. Given their advantages, it is almost inevitable that robots—and other advanced technology—will become integral to a flourishing society, which includes law enforcement.[178]

IV. THE MODEL ROBOT ACT: A FOUNDATION FOR JURISDICTIONS SEEKING TO REGULATE POLICE ROBOTS

Lawmakers in other jurisdictions should craft a regulation in the middle ground of San Francisco, Rhode Island, and New York because permitting robots in ordinary situations will increase excessive force claims, but permitting robots in no situation will result in an antiquated law enforcement system. Achieving this middle ground also means balancing the interests of police robot supporters and opponents. One thing that both supporters and opponents of police robots agree on is that legislators regulating the technology must proceed with enhanced scrutiny. A definition that is too broad or a word that is out of place could drastically impact society, such as increasing the number of excessive force claims in violation of the Fourth Amendment. This Note's model Robot Act addresses all these concerns. Legislators, policymakers, and local agencies are strongly encouraged to consider the Act when drafting police robot regulations.

The Robot Act is as follows:[179]

Purpose.

Robots are becoming integral to society and have the potential to greatly assist law enforcement when maintaining peace, enhancing public safety, and deterring criminals. Although permitting police officers to use robots raises issues relating to the militarization of police, the

---

[176] *Id.*

[177] *Id.*

[178] Mike Thomas, *Are Police Robots the Future of Law Enforcement?*, BUILTIN (Dec. 13, 2023), https://builtin.com/robotics/police-robot-law-enforcement [https://perma.cc/VR2Y-VR6H].

[179] Note that the Robot Act has certain phrases and sentences in quotation marks because it combines the most effective elements from the regulations drafted by San Francisco, Rhode Islands, and New York policymakers with original considerations; the effect is that the Robot Act considers multiple perspectives and achieves a workable solution. In its non-academic final form, the Robot Act should only have quotation marks around the terms being defined in the "Definitions" section.

privacy and safety of citizens, and racial injustice, police officers must have the freedom to develop and improve their capabilities over time. Criminals will inevitably adopt emerging technology; law enforcement cannot become antiquated.

The robots contemplated herein will be used only in limited circumstances. When human lives are at stake, robots shall be used only as a last resort after weighing all reasonable alternatives. Certified officers will have the sole authority to operate a robot only after permission is granted by a specialized supervisor. The safeguards this Act affords were drafted with the intent and purpose of reducing the number of situations that could give rise to an excessive force claim.

(a) **Definitions.**

(1) "Certified Operator" means a law enforcement officer who has completed all required trainings and continuing education trainings regarding the operation of robots and holds a valid certification from an official source which grants the officer permission to operate a robot.

(2) "Dangerous Weapon" means an object or device capable[180] of inflicting death or serious physical injury.

(3) "Robot" means a mobile machine[181] "that can collect information, process it, and use it to act upon the world,"[182] at least to some degree, and is operated either remotely or semi-autonomous by a human.

(4) "Specialized Supervisor" means a law enforcement officer who, within the scope of their official duties, oversees or manages other officers, has completed all required trainings and continuing education trainings regarding the operation of robots, and has sufficient credentials to authorize a certified operator to operate a robot.

(5) "UAV" means an unmanned aerial vehicle operated without a pilot physically on board.

(6) "UGV" means an unmanned land or water-based vehicle operated without a driver physically on board.

(b) **Prohibited Uses.**

(1) No law enforcement officer shall, "whether on-duty or off-duty, authorize the use, attempted use, or threatened use of a robot,"[183] including, but not limited to, a UGV or UAV, that is either classified as a dangerous weapon or armed with any dangerous weapon.

---

[180] The word "capable" was used over the word "designed" (as used in RI Bill and NY Bill) because most things can be used as weapons, especially when attached to a heavy, mechanical robot moving at high speeds, regardless of whether it was designed for the purpose. *See* S.B. 409, 2023 Gen. Assemb., Jan. Sess. (R.I. 2023); S.B. 3097, 2023-2024 Reg. Sess. (N.Y. 2023). For example, a small metal rod attached to the arm of a robot that is capable of swinging said arm at high speeds may not have been designed to inflict serious injury, but it is capable of doing so. This is an attempt to broadly cover many objects.

[181] The words "mobile machine" were used over the words "machine or system" because the Robot Act does not seek to regulate artificial intelligence systems. The Robot Act is not intended to limit how law enforcement agencies utilize artificial intelligence to improve their administrative, operational, or other business-related capabilities.

[182] S.B. 409, 2023 Gen. Assemb., Jan. Sess. (R.I. 2023). This is the same sense-think-act definition of robot that is widely used by experts in the field. *See* Calo, *supra* note 34, at 529.

[183] R.I. S. 409.

(2) No law enforcement officer shall, "whether on duty or off duty, authorize the use, attempted use, or threatened use of a robot," including, but not limited to, a UGV or UAV, in any manner likely to inflict physical force, regardless of whether the robot is a dangerous weapon or armed with any dangerous weapon.

(c) **Exceptions.**

(1) The prohibited uses in (b)(1) and (b)(2) do not apply to situations where a robot is being used for:

(i) Trainings and simulations in a controlled environment;[184]

(ii) To mitigate an explosives-related incident where there is a high risk of death or serious injury to officers or civilians; or

(iii) In other dangerous situations where a certified operator receives permission to use a robot (whether or not it is classified as a dangerous weapon and whether or not is armed with a dangerous weapon) from a specialized supervisor who has determined on the record that a robot must be used because the risk of death or serious bodily injury to officers or civilians is imminent and outweighs any other option reasonably available to the police department.

Unlike San Francisco's ordinance, the Robot Act will likely withstand scrutiny under the Supreme Court's *Graham* standard of objective reasonableness.[185] Further, unlike the RI Bill and NY Bill, the Robot Act adequately addresses the interests of police robot supporters and opponents.[186] The Act permits officers to use robots only in two situations where human lives are involved: (a) explosives-related incidents and (b) other dangerous situations with no reasonable alternatives.

A. Using Robots to Mitigate an Explosives-Related Incident

Section (c)(1)(ii) of the Robot Act permits officers to use robots "[t]o mitigate an explosives-related incident where there is a high risk of death or serious injury to officers or civilians." This enables officers to continue using robots for explosive ordinance disposal ("EOD"), which is law enforcement's "most active application area[] for mobile robots."[187] In most situations, a bomb squad will respond to "the scene of a suspected, undetonated, destructive device." After evacuating civilians, they will investigate and safely neutralize the device either with or without using a robot.[188] Civilians are usually not present in these situations, so deploying

---

[184] Section (c)(1)(i) exists to encourage officers to use robots in trainings and simulations. If arming police robots with guns or other lethal weapons becomes the standard, this Section will be especially important to educate and train officers and test the reliability of robots. This will further prevent unexperienced officers from using robots in an improper way, thus reducing the number of excessive force claims.

[185] *See infra* Sections V.A, V.B

[186] *See infra* Section V.C.

[187] H. G. Nguyen, & J. P. Bott, *Robotics for Law Enforcement: Beyond Explosive Ordnance Disposal*, *in* NAT'L CRIM. JUST. REFERENCE SERV. TECH. REP. 1839 (Nov. 2000), https://www.ojp.gov/pdffiles1/Digitization/190348NCJRS.pdf [https://perma.cc/2TWB-TRNG]. If officers were not permitted to use robots in this way, they would need send a human bomb disposal expert into every situation where a bomb threat was made, which is an unreasonable burden to place on those individuals' lives. They must have the tools to effectively do their job while also staying out of harm's way; robots have been the solution in this area and should continue to be the solution.

[188] *See Bomb Threats, Clandestine Laboratories, Destructive Devices, Explosions, and Fireworks*, SAN FRANCISCO POLICE DEP'T (Jan. 7,

a robot instead of a human officer decreases the risk to officers' lives without increasing the chance of an excessive force claim.[189]

An excessive force claim may arise when officers suspect that an individual has a bomb on or near their person, such as a suicide bomber, and they use a robot to seize that individual.[190] However, using robots in these situations is likely reasonable under *Graham*. First, the crime at issue is severe: using or possessing a bomb is a felony,[191] it is a violent crime, and the suspect is a dangerous individual. Second, the suspect poses an immediate threat to officers and others. If there is a suicide bomber, not only can the individual detonate the bomb at their will, but they also can start running or moving towards officers or civilians. If the suspect has a bomb near them, officers cannot be sure when the bomb will go off, which creates a perpetual immediate threat for anyone in the vicinity. Even though officers may not be directly on the scene when they use a robot to deter the bomber, the seriousness of the individual's threats will create sufficient immediacy.[192] Third, so long as the bomber is having a standoff with police, it can be said that they are resisting or evading arrest.

A more complicated situation is when an individual is suspected of having a bomb or has made bomb threats, but officers are unaware whether a bomb exists. However, the words "high risk of death or injury" in Section (c)(1)(ii) forces officers and their supervisors to make an informed decision before deploying a robot.[193] If officers have received merely one report claiming an allegedly suspicious person has a bomb, they will not be permitted to use a robot to detain the individual. It is unlikely that those facts create a "high risk of death or injury," and officers will need to consider alternative methods of investigation or deterrence. On the other hand, if officers received multiple, credible reports of a bomb threat or have arrived at a scene and determined that there is a legitimate, dangerous threat, they may be authorized to use a robot to detain the individual.

B. Using Robots in Other Dangerous Situations with No Reasonable Alternatives

Section (c)(i)(iii) of the Robot Act permits officers to use robots in "other dangerous situations where a certified operator receives permission to use a robot—whether or not it is classified as a dangerous weapon and whether or not is armed with a dangerous weapon—from a

---

2015),
https://www.sanfranciscopolice.org/sites/default/files/2018-11/DGO8.08%20Bomb%20Threats%2C%20Destructive%20Devices%2C%20Explosions.pdf [https://perma.cc/K39Y-V8ZH].

[189] *See Bomb Squad*, THE CITY OF PADUCAH, KY., https://www.paducahky.gov/departments/police/bomb-squad [https://perma.cc/MNP7-JP7A].

[190] Importantly, if this situation does not create a "high risk of death or serious injury," then officers will not be permitted to use robots.

[191] *See* VA. CODE § 18.2–85 (2023); WASH. REV. CODE § 70.74.180 (2003); PA. STAT. tit. 18, § 2715 (2015).

[192] *See* Wanebo, *supra* note 79 (Wanebo determined that, in the Dallas incident, "sufficient immediacy between Johnson's excessive firing of a high-powered rifle and the serious gun and bomb threats that Johnson made to the officers and public," even though the officers had four hours to decide whether they would deploy a robot).

[193] Although there's no requirement for certified officers to receive permission from specialized supervisors, most if not all police departments have designated bomb squads who have their own procedures in place for handling these situations. Thus, an officer reporting to the scene of a bomb threat or investigating a bomb threat would not have access to such high-tech equipment like robots, nor will be a "certified officer."

specialized supervisor who has determined on the record that a robot must be used because the risk of death or serious bodily injury to officers or civilians is imminent and outweighs any other option reasonably available to the police department." This provision was drafted in light of the 2016 Dallas incident, where a lengthy standoff occurred with an extremely violent individual who barricaded himself in a building after killing five officers and wounding seven others. In those situations, officers only have three choices: wait until the shooter surrenders, send officers to confront him, or deploy a robot to neutralize the threat. The last choice is ideal. In other dangerous situations, although this provision may permit officers to inflict physical force using a robot, the language affords many protections to individuals and safeguards against the excessive use of force.

There are four elements to Section (c)(1)(iii)'s provision. First, there needs to be a "dangerous situation." This prevents officers from using robots to inflict physical force in ordinary police-civilian interactions such as traffic stops, citations, or questioning.[194] Second, a "certified operator" must "receive[] permission to use a robot . . . from a specialized supervisor." This prevents inexperienced officers from using robots on the subjective belief that it is justified. Third, the specialized supervisor must make a decision "on the record." This is derived from the rationale of the Fourth Amendment's warrant requirement, which is that officers applying for a warrant must commit "to a public record the information that is known before the search [or arrest] so that, after the search [or arrest] takes place, there is no confusion between the ex-post and ex-ante positions of the applicant."[195] Not only will this third element hold police accountable for their representations and decisions, but it will also assist courts in weighing how reasonable an officer's actions were under the *Graham* factors. Fourth, a specialized supervisor must have decided before authorizing a certified operator to use a robot "that [the] robot must be used because the risk of death or serious bodily injury to officers or civilians is imminent and outweighs any other option reasonably available to the police department." This element permits officers to use robots only as a last resort, much like the Dallas incident.

Ultimately, if officers use robots pursuant to Section (c)(1)(iii), it will likely withstand *Graham* scrutiny because it permits officers to use robots only to deter the most *severe* crimes where there is *imminent danger* and where a suspect is actively *resisting arrest*.[196] In addition, it requires police officers to use robots "based on specific, objective facts" and "pursuant to a plan embodying explicit, neutral limitations on the conduct of individual officers."[197] Police robot

---

[194] Arguments can be made as to why traffic stops and citations may become dangerous situations. Nonetheless, the other safeguards in this provision would prevent robots from being used in those common officer-civilian interactions.

[195] STEPHEN A. SALTZBURG, DANIEL J. CAPRA & DAVID C. GRAY, AMERICAN CRIMINAL PROCEDURE: INVESTIGATIVE CASES AND COMMENTARY 146-147 (W. Acad., 12th ed. 2022).

[196] It must be said that officers should not be permitted to equip robots with excessively dangerous military-grade weapons like machine guns or flamethrowers. Although using robots with that degree of force is almost certainty excessive, other statutes, policies, and regulations besides the Robot Act do and will govern the more specific details about what a robot can be armed with and what it can't. In addition, there is still risk under the act that a reasonable use of a robot under the act may cause death or physical injury to unintended targets leading to an excessive force claim. *See* In re City of Philadelphia Litigation, 49 F.3d 945, 962 (3rd Cir. 1995) (finding that city officials "exerted excessive force in attempting to arrest" criminals by dropping an "explosive on the roof….and by letting the fire burn" causing injuries to innocent civilians). However, this is very unlikely as in almost every situation where robots will be permitted, the public would have been evacuated away from the scene.

[197] Brown v. Texas, 443 U.S. 47, 51 (1979).

opponents may argue that because Section (c)(1)(iii) does not account for all future situations, it does not completely prevent officers from misusing robots in the same way that a ban would. To accommodate that concern, this Section was drafted in such a way that creates a law enforcement system where officers use robots to inflict physical force only after a *Graham* analysis has been conducted proactively.

C. Addressing the Interests of Police Robot Supporters and Opponents

The Robot Act strikes the proper balance between supporters and opponents of police robots. First, the Act addresses the concerns of police robot supporters. Officers may not use robots, including UAVs or UGVs, during routine operations or ordinary interactions with civilians, but they may use artificial intelligence systems that are integrated into their vehicle or equipment. The Act also avoids one of the Supreme Court's biggest concerns in *Graham*—the complexities of making a split-second decision—by preventing officers from using robots in situations where a split-second decision is required.[198] Also, it is unlikely that the use of robots as contemplated under the Act would exacerbate the issue of discriminatory policing because "most killings by police begin with traffic stops, mental health checks, disturbances, non-violent offenses and where no crime was alleged"[199]—all circumstances where officers will not use robots.[200] Finally, although the Act does not directly address the militarization of police, it does not aggravate the problem and it ensures that police cannot normalize the use of advanced, dangerous technology in place of standard equipment.

Second, the Robot Act addresses the arguments of police robot supporters. In extreme situations, like legitimate bomb threats or standoffs with an active shooter, officers will have the option to use a robot to neutralize the threat while staying out of harm's way. Unlike officers, robots are replaceable, so there seems to be a substantial human benefit in allowing them to be used as a last resort.[201] Although the Act does not directly improve police efficiency by permitting officers to use robots in routine crime scene investigations, it is doubtful that the tools and methods currently available (and their improvements over time) such as the "identification of blood and other body fluids," "field detection of drugs and explosives," and "preservation of evidence"[202] would need to be performed by robots to remain effective. Finally, the Act contributes to law enforcement's mission to "protect life and property, prevent and reduce crime, maintain order, and enforce the law."[203] If lawmakers ban police departments from adopting innovative technology, they will lose the flexibility to continue operating into the future. Thus, by safeguarding against

---

[198] *See Graham*, 490 U.S. at 387.

[199] Samuel Sinyangwe, MAPPING POLICE VIOLENCE, https://mappingpoliceviolence.us [https://perma.cc/WUK7-PQEK].

[200] The situations that would arise under the Act primarily include hostage and barricade situations, which are perpetrated by white criminals at a significantly higher rate.

[201] *See, e.g.,* Heather O'Neil, *How Robots Are Saving Livers and Extending Careers*, BOLD, https://www.bold.com/transformation-in-the-workplace/humanizing-workplace/automation-may-steal-jobs-robots-saving-lives-extending-careers [https://perma.cc/G3SU-4WQ5].

[202] *Crime Scene Examination*, NAT. INST. OF JUST., https://nij.ojp.gov/topics/law-enforcement/investigations/crime-scene [https://perma.cc/HTH4-AKHY] (last visited Oct. 16, 2025).

[203] *Mission & Values*, CITY OF ANNAPOLIS, M.D., https://www.annapolis.gov/419/Mission-Values [https://perma.cc/9WD6-A4XU] (last visited Oct. 16, 2025).

excessive force claims while giving law enforcement some degree of freedom, the Robot Act balances the interests of police robot supporters and opponents.

CONCLUSION

Police departments nationwide have been acquiring military-grade technology from the federal government for decades. However, as technology continues to develop, the debate about whether and how police officers should be permitted to use robots escalates. This issue cannot be resolved through the judiciary. The Supreme Court's leading excessive force case, *Graham v. Connor*, is "'notoriously opaque and fact-dependent,'" which will cause lower courts trouble as they analyze situations involving police robots. Therefore, the issue must be resolved through lawmaking and public policy. An effective police robot regulation should balance law enforcement's mission to protect public safety and society's interest in community-driven officers limited in their use of force. Some jurisdictions, like San Francisco, have attempted to adopt policies that permit officers to use police robots. Others, like Rhode Island and New York, have proposed legislation that seeks to restrict, or even ban, police robots. None of these approaches are adequate. The model Robot Act proposed herein strikes the proper balance between society's concerns and law enforcement's mission while also withstanding scrutiny under the Supreme Court's excessive force guidance. The Act has timeless and precise definitions, broad prohibited uses, and specific permitted uses only in justifiable circumstances. Although jurisdictions are free to design their methods of addressing the issue of police robots, the Robot Act is an excellent foundation.